

**DIFFUSION AND UTILIZATION OF INFORMATION  
AND COMMUNICATION TECHNOLOGIES BY MICRO  
AND SMALL ENTREPRENEURS IN THE TOURISM  
INDUSTRY IN KENYA**

**By**

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Degree of Doctor of Philosophy in Information Science (Library and  
Information Studies), School of Information Sciences**

**Moi University  
Eldoret  
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## DECLARATIONS

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## **DEDICATION**

To my wife Florence and my children: Mike and Yvonne, for their understanding and moral support during the preparation of this thesis, which denied them quality time with me. I am sincerely grateful to them.

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*Above all, thanks be to God for making all things possible through His grace.*

## ABSTRACT

Using a transformative qualitative research method based on interpretive philosophy, this study employed a conceptual model that integrates diffusion of innovation, change management, information needs, learning and sharing of knowledge theories and models to explore factors that influence diffusion and utilization of ICTs in accessing information by micro and small entrepreneurs in the tourism industry in Kenya. Specifically, it examined the ownership, ICTs application, influence and challenges on enterprises' access to information, and opportunities of ICT application in strengthening and developing information systems for micro and small-scale entrepreneurs in the tourism industry. Data was collected through semi-structured interview schedules, and supplemented by observation and document reviews. For qualitative data, framework analysis method that constitutes identification, summarization and coding of relevant key issues, concepts and themes to a study was used. The process of mapping and interpretation of the findings was influenced by the research objectives and the themes that emerged from the data. Quantitative data were presented through tables, graphs and charts. Quantitative data were presented through tables, graphs and charts.

The result indicates that ICTs have introduced opportunities for improving communication and access to information through quality information systems that are bound to enhance efficiency and effectiveness of most MSEs' processes and create new business opportunities. Further, it indicates that MSEs use ICTs to access information, for e-mail services, reservations of air flights, hotels and lodges and to market their products and services. Mobile phones are used for communication and money transfer services, computers for word processing and storage of business information, while the World Wide Web to access information and to market products and services. Upgrading and continuous expansion of ICT-based systems was regarded as critical to the future success of businesses. It was revealed, however, that most MSEs had applied and adapted such systems largely on an ad hoc basis. They lacked prerequisite knowledge and skills, security and trust, financial resources and support to derive full benefits of these technologies.

The study concludes that information needs and subsequent seeking behaviour influences diffusion and utilization of ICTs by micro and small entrepreneurs in the tourism industry. This is in addition to technological factors, organization factors, and learning and sharing of knowledge among MSEs. In this regard, the study recommends that the Ministry of Tourism through Kenya tourism Development Corporation (KTDC), who are mandated to provide advisory and financial services to investors in tourism, and the tourism stakeholders through Kenya Tourism Federation (KTF), intervenes and develop national capacity for ICT adoption, support online content generation for the tourism industry, develop short ICT courses specific to the industry, and establish policies and legislations that will enable MSEs to effectively adopt and utilize ICTs to meet their information needs. The ministry should also strive to identify business information needs of MSEs and work towards meeting these needs by developing effective information systems. Finally, the study proposes a model to enhance diffusion and better utilization of ICTs by the micro and small enterprises in the tourism industry to improve access to useful enterprise information and better delivery of business information.

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## LIST OF ACRONYMS AND ABBREVIATIONS

<b>ADCG</b>	African Development Consulting Group
<b>APC</b>	Association for Progressive Communications
<b>ARCC</b>	African Regional Computing Centre
<b>AT&amp;H</b>	African Tours and Hotels
<b>B2B</b>	Business-to-Business
<b>B2C</b>	Business-to-Consumer - the retailing part of e-commerce on the Internet
<b>BDS</b>	Business Development Services
<b>BTEC</b>	Business and Technician Education Council
<b>CAD</b>	Computer Aided Design
<b>CATIA</b>	Catalyzing Access to ICTs in Africa Programme
<b>CCK</b>	Communications Commission of Kenya
<b>CCOAK</b>	Cyber Café Operators Association of Kenya
<b>COP</b>	Communities of Practice
<b>CRS</b>	Computerized Reservation System
<b>CSK</b>	Computer Society of Kenya
<b>CSO</b>	Civil Society Organizations
<b>TDMS</b>	Tourism Destination Management Systems
<b>EDI</b>	Electronic Data Interchange
<b>EPB</b>	Export Promotion Bureau
<b>ERP</b>	Enterprise Resource Planning
<b>ESK</b>	Ecotourism Society of Kenya
<b>Fila</b>	A sports brand
<b>GDP</b>	Gross Domestic Product
<b>GII</b>	Global Information Infrastructure
<b>GDS</b>	Global Distribution Systems
<b>GNP</b>	Gross National Product
<b>GSM</b>	Global System for Mobile Communications
<b>ICT</b>	Information and Communication Technology
<b>IDRC</b>	International Development Research Centre
<b>IICD</b>	International Institute for Communication and Development

<b>IOC</b>	International Olympic Committee
<b>IP</b>	Internet Protocol
<b>IPRs</b>	Integrated Payment and Reporting system
<b>ISACA</b>	Information Systems Audit and Control Association
<b>ISDN</b>	Integrated Switched Digital Network
<b>ISP</b>	Internet Service Provider
<b>IT</b>	Information Technology
<b>ITSA</b>	Interactive Travel Services Association
<b>ITU</b>	International Telecommunication Union
<b>JICA</b>	Japanese International Cooperation Agency
<b>KA</b>	Kenya Airways
<b>KAHKC</b>	Kenya Association of Hotel Keepers and Caterers
<b>KALTO</b>	Kenya Association of Local Tour Operators
<b>KAM</b>	Kenya Association of Manufacturers
<b>KATA</b>	Kenya Association of Travel Agents
<b>KATO</b>	Kenya Association of Tour Operators
<b>KDN</b>	Kenya Data Networks
<b>KEBS</b>	Kenya Bureau of Standards
<b>KEPSA</b>	Kenya Private Sector Alliance
<b>KICTANet</b>	Kenya ICT Action Network
<b>KIF</b>	Kenya ICT Federation
<b>KIP</b>	Kenya ICT Policy
<b>KPTC</b>	Kenya Posts and Telecommunication Corporation
<b>KREP</b>	Kenya Rural Enterprise Programme
<b>KTB</b>	Kenya Tourism Board
<b>KTDB</b>	Kenya Tourist Development Board
<b>KTDC</b>	Kenya Tourist Development Corporation
<b>KTF</b>	Kenya Tourism Federation.
<b>KWS</b>	Kenya Wildlife Service
<b>LII</b>	Local Information Infrastructure
<b>MSE</b>	Micro and Small Enterprise
<b>NGO</b>	Non-governmental Organization
<b>NICI</b>	National Information and Communication Infrastructure
<b>NSE</b>	Nairobi Stock Exchange
<b>OECD</b>	Organization for Economic Cooperation and Development

<b>PC</b>	Personal Computer
<b>PoP</b>	Internet Point of Presence
<b>PSTN</b>	Public Switched Telephone Networks
<b>SME</b>	Small and Medium Enterprise
<b>SMS</b>	Short Messaging Service
<b>SPSS</b>	Statistical Package for Social Sciences
<b>TAM</b>	Technology Acceptance Model
<b>TC</b>	Telecentre
<b>TESPOK</b>	Telecommunications Service Providers Association of Kenya
<b>TILA</b>	Tourist Industry Licensing Act
<b>TOT</b>	Training-of-Trainers
<b>UNDP</b>	United Nations Development Programme
<b>VOIP</b>	Voice Over Internet Protocol Telephony
<b>VSAT</b>	Very Small Aperture Terminal (satellite communications terminal)
<b>WAN</b>	Wide Area Network
<b>WAP</b>	Wireless Application Protocol
<b>WSIS</b>	World Summit on the Information Society
<b>WWW</b>	World Wide Web

# **CHAPTER ONE**

## **INTRODUCTION AND BACKGROUND TO THE STUDY**

### **1.1 Introduction**

This chapter addresses key issues that formed the foundation of the study. It provides the background of the study, giving salient characteristics of the MSE sector in Kenya and its role in economic development, the relevance of ICTs to MSEs, information access by MSEs, the conceptualized problem statement, research objectives, research questions, significance, scope, limitations of the study, and definition of key terms used.

The importance of micro and small-sized enterprises (MSEs) in contributing to job creation and output growth is now widely accepted in both developed and developing countries (United Nations Conference on Trade and Development, 2004). Numerous reports have indicated that micro and small enterprises constitute almost 95 per cent of enterprises within the developed world, and directly serve as both the backbone and driver of national economies (Kotelnikov, 2007; Organization for Economic Cooperation and Development-OECD, 2002). Their contribution to overall economic and social development in developing countries is wide-ranging. Arguably, their most important contribution is employment creation and income generation for poor and disadvantaged populations. There are also wider macroeconomic benefits of a vibrant micro and small business community: providing stimulus for development of indigenous production of import-substituting goods and services, contributing to exports, and providing inputs for larger-scale industrial and commercial activity. Micro and small enterprises also make social contributions to development through self-improvement, enabling individuals to gain experience and confidence and to enhance

skills, and provide for collective improvement through community-based organizations such as cooperatives.

Like all enterprises, micro and small enterprises in Africa make use of information, have information-related problems, and make use of ICTs to access this information. However, micro and small businesses, compared to big businesses world-wide, face a wide range of constraints and problems, even in functioning market economies. These constraints mainly relate to access to markets, finance, business premises (at affordable rents), legal and regulatory environment, the acquisition of skills and managerial expertise, access to appropriate technology, quality of the business infrastructure in rural areas and, in some cases, the tax burden (Diale, 2009).

MSEs' mortality rate after successful start-up is high due to premature death caused by uncontrollable losses and inefficiencies. They face barriers to growth from poor or inadequate information regarding the wider market environment (pricing, demand, trends) and poor communication between suppliers and markets (O'Farrell, *et al.*, 1999). This is more so in the new global economic environment, where information and the knowledge it provides has become a key factor in economic competitiveness. But, at the same time, globalization and the information economy present African countries with an array of opportunities for increasing economic development in such areas as the creation of new industries, rural development and tourism promotion. Countries that do not facilitate this information revolution will likely fall further behind, both relative to the rest of the world and relative to other countries on the African continent. On the other hand, countries that confront these challenges through strategic planning and public/private partnerships can reap huge benefits in terms of economic growth and socio-economic development (O'Farrell, *et al.*, 1999).

The world tourism industry has been one of the first to make large-scale use of the new information technologies. Focusing on information and communication technologies, it appears that technological progress over the last few years has allowed the most innovative tourism enterprises to redefine not only their own organizational structure but their relationships with partner organizations, thus achieving the twin goals of optimizing operating costs and increasing ability to generate value for their customers. ICT adoption in tourism industries usually involves using advanced communication technologies such as email and the Internet. Having online presence creates an important new marketing channel for the MSEs. In 2004, over 30 per cent of US adults used the Internet for travel research or bookings (Travel Industry Association of America, 2009).

The advent of the Internet changed the business scenario: all categories of players are now directly accessible and have implemented their Internet strategy. The Internet provides all players with a means of reaching end users and being reached by the users. Shiels *et al.*, (2003) observed that the Internet is one of the most prominent technologies for business managers. The potential of the Internet and more specifically, the World Wide Web (WWW) has derived considerable attention as a commercial medium and a key to many new markets. The big tourist organizations have rapidly implemented Internet strategies and set up their own Internet business areas or, in some cases, specific divisions or companies. In addition, the Internet has extended this possibility to the end user, redefining the business system and the notion of the channel of tourism products, in that it gives large masses of potential consumers and tourism enterprises access to technologies. The services offered include training, marketing and linkages, counselling and referrals, and information gathering and dissemination. Using the Internet, MSEs are going online to find partners, locate suppliers, identify markets,



hook up with consultants, obtain industry knowledge, secure financing, lower costs and clinch sales. In the process, the Internet and other technologies are becoming not merely alternative distribution channels but are changing the way business is done (United Nations Conference on Trade and Development, 2004).

Research suggests that strengthening local capacities is crucial for enabling micro and small-scale enterprises to carry out necessary administration and business forecasting and to be able to act upon the new information delivered over ICTs (Fink & Disterer, 2006; Kim & Galliers, 2004). MSEs' demand for basic telecommunication services (the telephone and fax) is growing but awareness of, and demand for higher end services such as email and Internet are low (Barton and Bear, 1999). For example, in Botswana, telephone services were found to be the most popular initial investment for businesses (Duncombe and Heeks, 1999).

In many developing countries, the prohibitively high cost of Internet subscriptions and long-distance calls, and the lack of relevant business information content mean that in the short term, the benefits of information delivery systems and networks will not be exploited by MSEs. For example, 90 per cent of Thai SMEs still use basic communication technologies such as a fixed phone line and fax, and only 1 per cent use Customer Relationship Management (CRM) software. Meanwhile, their counterparts in developed countries are using advanced information technologies (Kotelnikov, 2007). On the other hand, although Korea is clearly the world leader in broadband infrastructure and has high levels of ICT consumer use, less than one half of small businesses have a computer and Internet access, and even when equipped, the smallest often do not use them in business operations and processes. Small businesses are not fully exploiting the advanced broadband environment, for reasons including lack of

awareness, lack of skilled personnel and lack of specialist services (Organization for Economic Cooperation and Development, 2004b). The slow adoption has been due to numerous major constraints that range from lack of skilled technical capacities to issues related to inadequate connectivity and infrastructure (United Nations Conference on Trade and Development, 2004). In addition, a weak understanding of the expectations and demands of the new digital economies has also placed many MSEs in the unenviable position of being unable to participate in the new digital knowledge economy.

Poor communication links have also been a major obstacle to micro and small enterprises in the services industry such as the tourism industry. This position is reinforced when the lack of local (ICT-based) information content is considered (Waibochi, 2002). Most digital web-based information about developing countries is compiled and published externally by large companies, donors, NGOs and other research and development organizations. At present, there are few local organizations (both public and private) producing detailed web-based information content that would be of direct relevance to local communities and enterprises in Africa (Waibochi, 2002).

In developed countries, because of well-developed information and communication technologies (ICTs) infrastructure and easy access to computer hardware and software, MSEs enjoy easy access to business information services (Fink and Disterer, 2006). On the other hand, in developing economies, there are many challenges regarding ICTs infrastructure and the cost of IT hardware and software (Chiwere and Dick, 2008; Fink and Disterer, 2006). This in itself has created many problems in the area of business information services for the MSE sector. As governments and business service providers try to address the many challenges facing the MSE sector, it is also important

that the present use of ICTs in accessing business information services be identified in order to provide more development support in this area (Chiwere and Dick, 2008). Thus, although micro and small enterprises form a substantial constituent of the global economy, there is limited knowledge available surrounding the adoption of information and communication technologies (ICTs) by MSEs. It is only recently that interest in the relationship between MSEs and ICT has begun to be explored in any great depth (Fink & Disterer, 2006).

### **1.1.1 Background to the Study**

It is widely recognized by policy makers that domestic markets for existing goods and services are saturated or not exploited in many African countries (Duncombe and Heeks, 2001). Thus, enterprises that wish to grow must consider diversified markets, local and export markets as an outlet for their products (Kenya, Ministry of Labour and Human Resource Development, 2004). The government's macro-economic policy in Kenya is, therefore, being directed towards sustainable economic diversification, emphasizing commercial investment based on economic viability and rising productivity. This 'new thinking' by the Kenya government has been summarized as follows: provide for a stable economic environment thereby fostering business confidence; encourage a vigorous industrial private sector through trade and industrial development; mobilize savings and availability of funds to be invested (Kenya, Ministry of Planning, National Development, 2008). Other policies include stimulating domestic and external trade, and introducing technological change to increase productivity and reduction of the dominance of parastatals in favour of private sector enterprises (Kenya, Ministry of Planning, National Development, 2008). To address the issues and problems constraining the growth of this sub-sector (MSEs or firms with fewer than 50 employees), the government has come up with the following strategies: review the legal

and regulatory framework governing small and micro-enterprises; promote and strengthen research and development; and make available export market information opportunities (Kenya Ministry of Labour and Human Resource Development, 2004).

It is considered that the future prospects for micro and small enterprises (MSEs) will be based on their ability to adapt and survive in a new economic climate subject to increased levels of domestic, regional and international competition (Kenya, Ministry of Planning and National Development, 2002). There will also be new opportunities, particularly where links can be forged with larger and more technologically-advanced and export-oriented companies. The new policy toward MSEs (Kenya, Ministry of Planning and National Development, 2002) emphasises the need to rapidly adapt to change. However, it recognizes that MSEs will require continued market-led assistance. Most significantly, it puts forward some particular recommendations concerning market opportunities – specifically empowering a Small Business Council to promote linkages between MSEs and larger enterprises and to promote purchasing by large organizations (including the government) through vendor development programmes (Kenya, Ministry of Planning and National Development, 1992).

The government of Kenya prepared the *Economic Recovery Strategy for Wealth and Employment Creation, 2003-2007 (ERS)*, which outlined a recovery centred on a reanimated private sector after past decades of economic decline and mismanagement that have increased the percentage of those living below the poverty line. Reviving private sector activity and investment (specifically Micro and Small Enterprises development) features prominently in the government's strategy for raising incomes and employment (World Bank, 2005). Kenya Vision 2030, a precursor of economic recovery strategy for wealth and employment creation 2003-2007, is the country's new

development blueprint covering the period 2008 to 2030. It aims at making Kenya a newly industrializing ‘middle income country providing high quality life for all its citizens by the year 2030’ (Kenya, Ministry of Planning and National Development, 2008: 1). The government has indicated that tourism will be a leading sector in achieving the goals of the vision.

The reason behind making tourism a leading sector in Vision 2030 is that it currently accounts for about 10 per cent of the Gross Domestic Product (GDP), making it the third largest contributor to the GDP after agriculture and manufacturing. It is also Kenya’s leading foreign exchange earner, generating about Ksh 65.4 billion in 2007, up from Ksh 21.7 billion in 2002 (Kenya Ministry of Planning and National Development, 2008). The sector’s contribution to the generation of employment has grown by over 3 per cent annually. Moreover, earnings per employees increased by 18 per cent over the last five years. Further, the sector is a major source of government revenue in the form of taxes, duties, license fees and entry fees, among others. This contribution has the highest multiplier effect due to its linkage with other sectors. The sector also benefits from lower capital/output ratio and import-content per unit of final output compared to most other sectors, thus attracting micro and small enterprise players (Kenya, Ministry of Planning, National Development and Vision 2030, 2008).

### **1.1.2 MSE Sector in Kenya**

The term Micro and Small Enterprise (MSE), in both developed and developing countries, is used to describe heterogeneous groups of production units of diverse size, organization, managerial capacity and technological level and sophistication. No official definition for MSE exists in Kenya, although it has been defined as businesses employing between 1-50 employees (Kenya, Central Bureau of Statistics, 1999). These

include firms employing between 10-50 people, regarded as small-scale enterprises, and firms employing 1-9 employees, referred to as micro-enterprises (Opiyo and K' Akumu, 2006). According to the Kenya Association of Manufacturers (KAM), almost all industrial establishments in the country are MSEs. Data on the micro, small and medium enterprises sector in Kenya is scarce; the 1999 National MSEs Baseline Survey (Kenya, Central Bureau of Statistics, 1999) found that there were about 1.3 million MSEs countrywide employing some 2.3 million people, with approximately two-thirds of them located in the rural areas (which have over 80 per cent of the population). The Kenya government estimates that the MSE sector has been growing at the rate of 11 per cent per year and, accordingly, this number had risen to 2.2 million by 2004 (Kenya, Central Bank of, 2008). A significant fact to note is that MSEs are concentrated in Nairobi and Mombasa as compared to other major metropolises and rural areas as Table 1.1 below shows.

**Table 1.1: Number of MSEs and their employment**

Stratum	% of National Population	MSEs		Workers		Mean
		Number	%	Number	%	
Nairobi and Mombasa	9.7	204,280	15.8	394,838	16,9	2.0
Other major towns	6.2	157,533	12.2	279,133	11.8	1.8
Rural towns	2.1	81,320	6.3	135,349	5.6	1.6
Rural areas	82.0	845,879	65.6	1,551,930	65.7	1.8
Total	100.0	1,289,012	2,361,250	2,361,250	100.00	1.8

*Source: Kenya National MSE Baseline Survey, 1999*

In 1999, the average size of an MSE was 1.8 persons. The proprietors of the MSEs accounted for almost seventy five per cent (75%) of the total MSE employment. Indeed, eighty per cent (80%) of the total MSE employment involved only owners and their family members (Kenya, Central Bureau of Statistics, 1999: 10). The group of

employees, referred to as “regular hired workers” accounted for only 11.6 per cent of the total MSE employment. About 96.7 per cent of MSEs employ no more than five employees, with another 2.6 per cent employing 6-10 persons, meaning that 99.3 per cent of MSEs have no more than 10 employees as shown in Table 1.2.

**Table 1.2: Distribution of MSEs by employment size, 1999**

<b>Enterprise size (number of employees)</b>	<b>Number of enterprises</b>	<b>Share of enterprises by employment size (%)</b>
1	899,787	70.1
2	229,759	17.9
3-5	111,671	8.7
6-10	33,374	2.6
<b>Subtotal</b>	<b>1,274,591</b>	<b>99.3</b>
11-15	6,418	0.5
16-25	1,283	0.1
26-50	1,283	0.1
<b>Total</b>	<b>1,283,575</b>	<b>100.0</b>

*Source: Kenya National MSE Baseline Survey 1999: 11*

Only 9,041 MSEs fell into the category of “small” (with 11-50 employees). These small firms accounted for an estimated 154,267 workers, or 0.7 per cent of the total MSE employment. The service industry, in which tour operators belong, accounts for only 21 per cent of the country’s MSEs. The service industry includes the bars/hotels/restaurants category and other services. Service activities include repair services, transport, real estate and professional services, and various types of personal services (Kenya, Central Bank of, 2008)

### **1.1.3 Tourism Industry in Kenya**

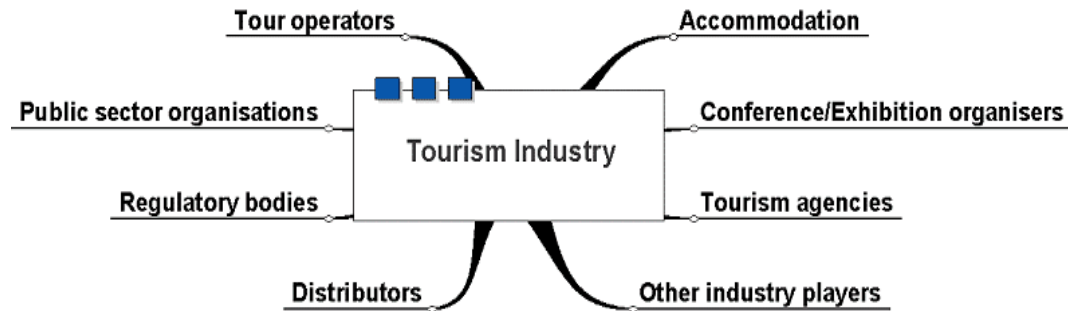
The tourism industry is a collection of service-based activities spread across a variety of industrial classifications and expenditure categories that are not generally grouped together. Tourism is usually defined as service for people travelling to and staying outside their usual environment for less than one consecutive year for leisure or for

business purposes (Odunga, 2005). Tourism is the term given to the activity that occurs when tourists travel. This includes everything from planning a trip, travel to the place, the stay itself, return and the reminiscence about it afterwards. Moreover, it includes the activities the traveller undertakes as part of the trip, purchases made, and the interactions that occur when a visitor travels (Warden and Williams, 2003). The following definition by Jon-Hans Coetzer has been adopted for the purpose of this study: “Tourism is a resource, action or activity, which derives all or part of its income from visitors and which is managed for the primary purpose of leisure and visitor enjoyment” (Coetzer, 2001: 6).

Tourism is one of the world’s largest industries and is also one of the most fragmented (BTEC National Travel and Tourism, 2004). Tourism activities involve transport, accommodation, restaurants, cultural activities and leisure and could be more effectively viewed and evaluated as a market rather than an industry (European Commission Enterprise Directorate General, 2003). It encompasses widely diverse firms and organizations from many industries that serve customers with a variety of incomes, tastes and interests (Odunga, 2005). The actors in the tourism industry are also varied, ranging from consumers, suppliers and facilitators to government agencies, all with diverse goals, objectives, and motivations. There are two aspects to the tourism industry that can be viewed separately. Many of the players are, however, involved in both aspects, namely tourism and travel industry. The tourism industry is quite heterogeneous when it comes to the types of players involved as shown in Figure 1.1.



**Figure 1.1: Tourism industry players**



*Source: BTEC National Travel and Tourism (2004: 3)*

Tourism is based upon tour operators, accommodation, public sector organizations, conference/exhibition organizers, regulatory bodies, tourism agencies, distributors and other industry players (BTEC National Travel and Tourism, 2004; Poon, 1998). Accommodation and tour operators represent the primary trade of the industry. They combine the services offered by the various suppliers: hotels (single and chains), villas, apartments, camping parks, other short stay accommodation; packages of travel tours to popular locations; and selling the travel product/service to individual and business consumers. They rely on travel agents as retailers of their services.

The travel industry acts as retailers (distributors) of services from the tour operators (wholesalers) and suppliers such as hotels and destination services. It is composed of people, groups or firms that deliver the products and services of travel to consumers. These include: travel agents (business and leisure), travel operators selling directly to the consumer; firms selling on the Internet; and call centres handling customer service (BTEC National Travel and Tourism, 2004; Poon, 1998).

Tourism in Kenya plays a major role in the economy of the country. It is the leading foreign exchange earner in the economy (Kenya, Ministry of Planning and National Development, 2008). In 2007, the tourism sector maintained an upward growth momentum despite challenges facing global tourism, such as terrorism, health scares and rising jet fuel prices. The enduring appeal of the country's scenery, the friendliness of Kenya's people, the wildlife, climate and tropical coastline have allowed the establishment of a large hotel industry and a sound tourism base. There is a fairly pronounced seasonal pattern, with a majority of tourists visiting during the northern hemisphere holiday period, July to September, and during the northern winter months, December to February. The rainy seasons in April/May and in November experience a reduced number of visitors.

The tourism sector recorded approximately 2 million visitor arrivals in 2007, up from 1.6 million arrivals in 2006, reflecting a 12.5 per cent growth. Consolidated tourism earnings expanded from Ksh 56.2 billion in 2006 to about Ksh 65.4 billion in 2007, reflecting an 11.6 per cent growth. It is now the leading economic sector in Kenya, recording the highest growth in the economy at 13 per cent. Tourism contributes about 12 per cent of the country's Gross Domestic Product and accounts for over 9 per cent of total wage employment, and is also a major source of government revenue in the form of taxes, duties, license fees, entry fees, etc (Kenya, Ministry of Planning and National Development, 2008). In addition, tourism, through its multiplier effect, has the capacity to promote regional development, create new commercial and industrial enterprises, stimulate demand for locally-produced goods and services and provide a market for agricultural products.

Kenya has the best-developed hotel industry in sub-Saharan Africa, with the exception of South Africa, offering on average some 31,400 beds per night (Odunga, 2005; Kareithi, 2003). This capacity is largely concentrated in Nairobi, the Coast and the parks. The high standards of service in Kenyan hotels are partly due to the Utalii College and the Kenya Tourism Development Authority. The latter is responsible for tourism facility development and indigenization of the sector through direct investment in tourism, improvement and/or expansion of new or existing tourist facilities, and indigenization of ownership of tourism facilities in the industry. Kenya Utalii College offers training programmes in all aspects of tourism; travel and tours, hotel and hospitality, and catering. The average yearly increase of visitors outstrips the available infrastructure, and significant opportunities exist for providers of more specialized resorts, health spas, water-sports facilities and novelty attractions, which develop the appeal of spectacular, but until now relatively little-visited parts of the country (Kenya Tourism Foundation, 2005).

The Ministry of Tourism generally coordinates all tourism activities in Kenya. In addition, a number of parastatal bodies also have a significant influence over the industry, including: Kenya Wildlife Service (KWS) which is responsible for wildlife management and conservation; Kenya Tourist Development Board (KTDB) which promotes local investment in tourism enterprises; African Tours and Hotels (AT&H), responsible for hotel management and tours but currently undergoing privatization; Bomas of Kenya, which promotes African culture and is also being privatized; Moi University and Utalii College (tourism and hospitality training); and Kenya Tourism Board (KTB), which is a marketing and promotions organization. The large number of institutions indicates the importance the government places on wildlife conservation, tourism promotion and marketing, personnel training, and cultural and enterprise

development. It is interesting to note, however, that tourism has not emerged as a key objective for the recently established Poverty Alleviation Commission.

Among the private sector players in tourism, a number of representative organizations have emerged to support tourism development, each representing the interests of particular groups of players. They include Kenya Airways (KA), Kenya Association of Tour Operators (KATO), Kenya Association of Local Tour Operators (KALTO), Kenya Association of Travel Agents (KATA), Kenya Association of Hotel Keepers and Caterers (KAHKC), Kenya Budget Hotels, Ecotourism Society of Kenya (ESK), and Mombasa and Coast Hotel Keepers Association (Kareithi, 2003). The Kenya Association of Local Tour Operators (KALTO) was registered in 2006 to represent the micro and small-scale companies of tour operators registered in Kenya and licensed by Kenya's Ministry of Tourism. This category of tour companies lacked representation. This was because the then existing Associations of Tour Operators were more friendly to the larger companies and set conditions of membership just out of reach of particularly newly registered companies.

Although increased participation of Kenyans in tourism has been a long stated goal of the government (Kenya, Ministry of Planning and National Development, 2002), the country has maintained an open policy to foreign investment and control to the disadvantage of local Kenyans (Jommo, 1987; Sinclair, 1990). Foreign investment is particularly strong in the development of accommodation facilities, tour operators and travel businesses. There have been attempts to assist local investors to increase investments in tourism enterprises, together with tax incentives for local investments (Kenya, Ministry of Planning and National Development, 2002). Such efforts have been crippled by political interests and state interference. For example, a proposal for the

Kenya Tourist Development Corporation (KTDC) to provide credit to small and medium entrepreneurs for domestic tourism met with resistance from KTDC, which prefers to minimize risk by dealing with larger, well-established businesses, rather than inexperienced entrepreneurs (Japanese International Cooperation Agency (JICA) and Republic of Kenya, 1995). It is worth noting that, apart from Kenyans of Asian origin, there is little participation of local indigenous people in the tourism industry in Kenya. Indigenous Kenyans tend to have small companies that obtain sub-contracts from the big tour operators at generally low contractual fees (Jommo, 1987). Sindiga (1999) argues that it is unlikely that the structure of ownership will change much without policy interventions, including instituting a limit to the maximum share ratios accessible to foreigners.

Notably, the Kenyan tourism development strategy does not recognize poverty reduction as a key objective; rather, it is geared towards wildlife conservation, personnel training, marketing and promotion. Where efforts to increase indigenous ownership of tourism enterprises have been made, they have not been successful, and foreign companies predominantly own the industry. Even small-scale enterprises that require minimal capital outlay and little technical expertise have encountered several problems in their attempts to expand and compete (Sindiga, 1999).

The focus of this study was the MSEs registered with the Ministry of Tourism. They comprised tour operators and travel agents (business and leisure); travel operators selling direct to the consumer, firms selling on the Internet, and call centres handling customer service.

Information communication and technologies facilitate information access and the opportunity to reach markets beyond Kenyan borders. The Ministry of Tourism has pointed out that among the key forces that will have the greatest influence on tourism in the years ahead are effective and efficient communication and Internet access. The two forces will stimulate increased travel, and place consumers in control (Kenya Ministry of Tourism and Wildlife, 2007). This is because the tourism industry in Kenya and in many other developing countries is biased towards foreign markets. Thus, there is need to look at information systems that are currently being used in support of the industry.

Possible areas where ICTs can be applied include: attracting more tourists and other visitors by offering high quality information and telecommunication services; reducing the costs of international promotion for attracting tourists; increasing the visibility of the attractions through the Internet, building national and regional tourism-related databases for destinations and facilities, providing a mechanism for virtual travel and information gathering utilizing the Internet, and provision of tourism-related information and indicators that encourage and facilitate investment (Economic Commission for Africa, 1999). The developed world has already implemented ICTs in these areas. Subsequently, they have been able to improve and facilitate the growth of their tourism industry (Organization for Economic Cooperation and Development, 2004a).

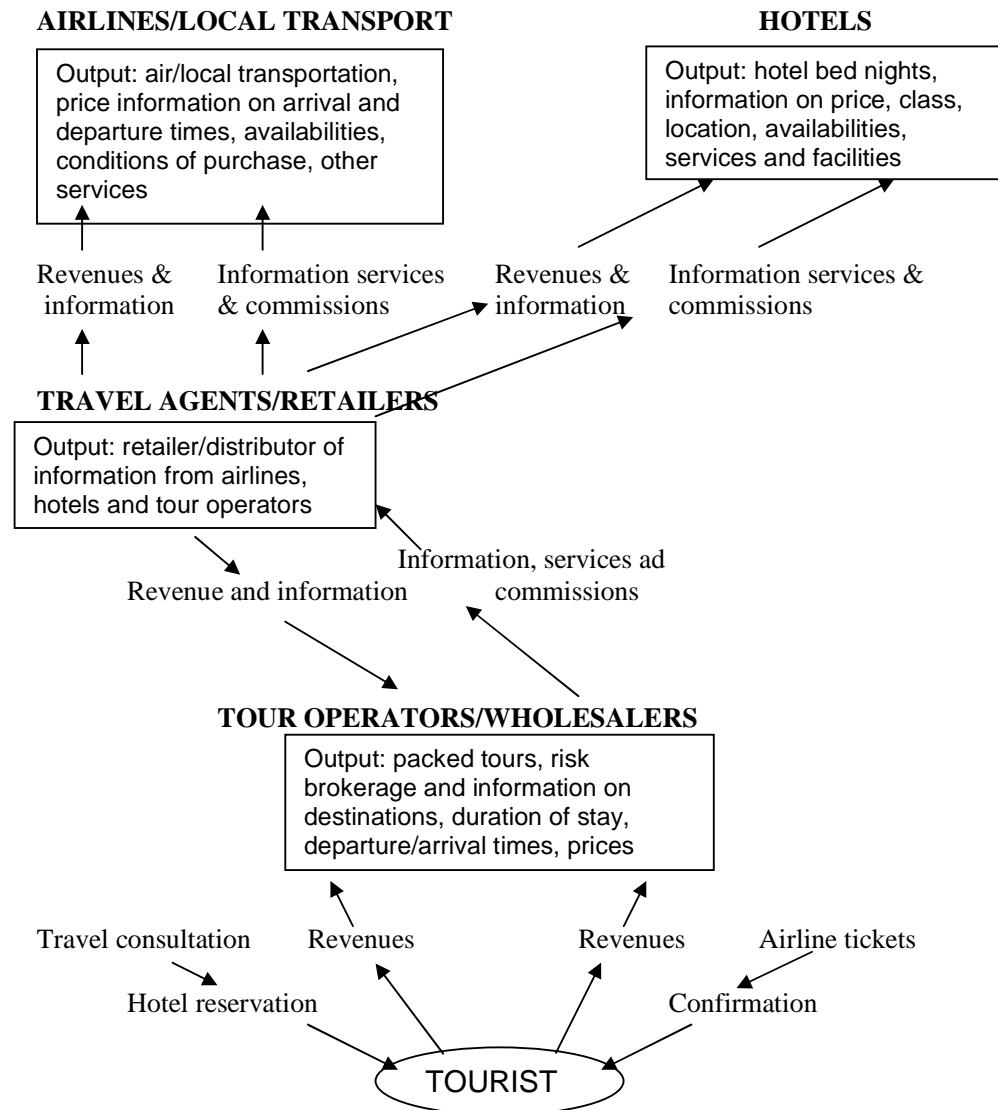
#### **1.1.4 Information Access by MSEs in the Tourism Industry**

Business success is about solving problems, taking advantage of opportunities, and identifying and exploiting competitive advantages. Information is at the heart of these processes, but the relationship between an enterprise's demand for information and information supply is not always equal. Too often, the enterprise cannot get the information it needs, especially information to do with markets, finance, and skills to

make a decision or take an action. This tends to harm an enterprise by reducing incomes and increasing costs. The speed at which this information is accessed can also determine the success of the business and whether an enterprise has an edge over its competitor (Heeks, 1999).

Micro and small enterprises primarily rely on informal information that is often of poor quality and is restrictive in its range (Heeks, 1999). Unlike other MSEs, the tourism industry is an information-intensive service made up of several producers who operate within a well-defined regulatory and institutional framework consisting of government bodies, travel associations and tourism boards as well as trade associations that rely on formal information (Poon, 1998). The producers fall into well-defined categories of suppliers (airlines, hotels, car rental and destination services); wholesalers (tour operators); and retailers (travel agents). The focal point of any tourism information system is the tourists, who are the end users. Figure 1.2 outlines the information flow in the tourism industry.

**Figure 1.2: Information flow in the Tourism Industry**



*Source: Poon, A. (1998: 536)*

From the illustration in Figure 1.2, it can be observed that information in the form of regulation, advertising, promotion and taxation plays an important role in linking the tourism suppliers with the overall socio-economic and institutional framework of the industry (Poon, 1998). Information flow provides a link between and among tourism producers and the distributors. This flow is represented not only by data but by flow of services and payment as well. Information thus plays a critical role as the key vehicle



for integration of the various players in the tourism industry. On the other hand, tourism products and services cannot be physically inspected or displayed at the point of sale, thus information becomes the only guide to product quality and availability (Poon, 1998).

Access to this information is important for the growth and development of this industry. The extent to which ICTs will have an impact on tourism will depend upon their effects on this key integrative element of information. That is, the utilization of ICTs will be dictated by the areas of the tourism production system where ICTs will have an effect on the enterprise information systems. ICTs used by MSEs include: telephone (fixed and mobile); facsimile; and computer (stand-alone, networked, e-mail, full Internet access and computer-based global distribution information systems such as Galileo, Amadeus, etc) (Poon, 1998).

ICTs can be used to improve on the existing enterprise information systems. However, they remain out of reach for the majority of micro and small enterprises in terms of cost and skills to utilize their potential (Kenya, Ministry of Planning and National Development, 2002). Some MSEs that do not use ICTs find them too expensive (acquisition and recurrent cost). Others find them too sophisticated for their enterprises. Surprisingly, many MSE entrepreneurs use ICTs, but not necessarily in their enterprises. Other challenges include lack of the ability to access business networks, the content of ICT-mediated information lacking local relevance, and they may also lack the trust, confidence and security that are gained through personal business networking and interpersonal communication. Poor communication links have also been a major obstacle to MSEs. Studies show that a significant percentage of MSEs are ignorant about ICTs and their importance in conducting business in this era of globalization

(Greenberg, 2005). They further show that learning within most MSEs is mainly through on-the-job exposure and informal training. There is a need to explore how ICT learning can best be provided through formal as well as informal means.

Micro enterprises, particularly the informal ones, which make the bulk of enterprises in Kenya, have high potential for dynamic growth. By improving access and the quality of information that micro enterprises need, they may be able to graduate from the informal to the formal status. Improving access to information in the country is not possible without first looking at the information infrastructure and content development. Heeks (1999) asserts that accessing ICTs-carried information requires a lot of overt resources, including a telecommunication infrastructure to provide network access, an electrical infrastructure to make ICTs work, and skills to keep all technology working.

## **1.2 Statement of the Problem**

Tourism has become one of the best performing sectors in the ICT-led economy. Globalization has brought a completely new competitive environment: new demand requirements, new players in the distribution sector and new roles for the traditional actors, all of which demand accurate, timely and relevant information. MSEs in the tourism industry are limited in their capacity to access information that is relevant to their businesses in many ways, either through lack of knowledge, technological limitations, and low levels of education or because of the nature of the businesses that they operate. MSEs also face challenges of accessing business information because they either do not understand what relevant information is needed or they do not know how to obtain it efficiently (Mutula and Van Brakel, 2006). Studies have shown that MSEs in general are under-performing due to the lack of relevant information that would

enable them to gain access to a wide range of resources such as finance, markets, and technology and training facilities (Kiplang'at *et al.*, 2005; Chiware and Dick, 2008).

The lack of effective information systems that can provide timely, accurate and relevant information to the needs of micro and small enterprises in the tourism industry is harming these enterprises by reducing incomes and increasing costs, affecting their competitive edge and their growth and development. Market failures have constrained MSEs' development in Kenya, as in many other developing countries, by limiting the necessary finance, labour skills, business development services (BDS) and access to information to increase competitiveness and productivity (World Bank, 2005). The lack of information and past experience with transactions is a common factor that limits the willingness of small firms to pay for services and potential suppliers to take risks (or calculate them reliably) or to adapt products to MSEs. Past dependence on government agencies for these services, often at highly subsidized rates, has in some way made MSEs not seek these services from private providers, who in turn have been crowded out (Kimuyu, 2001). Nevertheless, Kenya, with its long private sector tradition, has significant potential to establish sustainable financial, business and other service markets suitable for MSEs in the tourism industry.

Recent research in African countries indicates that the use of ICTs is growing exponentially, problems of access and exclusion notwithstanding (Warden and Williams, 2003; Kiplang'at, *et al.*, 2005; Wafula-Kwake and Ocholla, 2007). According to Middleton and Clarke (2001), the Internet empowers the leading edge of micro-businesses to make the most of their individuality and enterprise. It offers access to markets and to a supply of the lowest cost business necessities that was previously unthinkable. The Internet also provides micro and small enterprises in the tourism

industry with a means of reaching end users and being reached by them. This trend, therefore, means that ICTs have become an unavoidable reality for tourism enterprises worldwide as they endeavour to survive and develop new markets, redefining the business system and the notion of the channel of tourism products. Needless to say, since micro and small enterprises in the tourism sector play a vital role in many economies throughout the world, their ability to successfully adopt and utilize ICTs is of prime importance to ensure their survival in a global world (Warden and Williams, 2003). There is a very significant threat that countries that do not enter actively into the information age will be increasingly marginalized in the twenty-first century. This is especially important as modern society hinges more and more on ICT technology, on a societal level, on the level of organizations and the workplace and on the consumer level. These observations are a source of worry to Kenya's home-grown MSEs in that if they do not adopt and use ICTs, they may not survive the onslaught by cheaper tourism products from other countries, and thus spell doom for the governments' development agenda.

Similarly, apart from being subjected to competition, MSEs in the tourism industry are facing an increased demand for quality products and services, and a growing demand for customised services (Kiplang'at, *et al.*, 2005). Surviving in this competitive environment will require raising the overall productivity of micro and small enterprises, which in turn will require higher levels of management capacity. In this regard, the ability to acquire, process and effectively use business information becomes central. Emerging ICTs have the potential to transform access to information, to improve internal information systems, and to enhance the methods and scope of information dissemination. The extent to which MSEs in the tourism industry in Kenya have adopted the use of ICTs and the factors that influence the diffusion and utilization of

this potential in accessing information has been unclear, particularly in the area of information needs. This study set out to explore factors influencing diffusion and utilization of ICTs in accessing information by micro and small entrepreneurs in the tourism industry in Kenya.

### **1.3 Aim of the Study**

The purpose of this study was to explore factors that influence diffusion and utilization of ICTs by micro and small enterprises in the tourism industry in Kenya and recommend a model for improving their utilization in accessing information by entrepreneurs in the industry.

### **1.4 Objectives of the Study**

The specific objectives of this study were to:

- (i) Map and audit ICTs' in Micro and Small Enterprises (MSEs) in the tourism industry in Kenya;
- (ii) Establish information needs of MSEs in the tourism industry and challenges encountered in accessing information;
- (iii) Assess the extent to which existing information systems are addressing the information needs of MSE entrepreneurs in the tourism industry;
- (iv) Explore government and institutional ICT policies and their influences on use of ICTs by MSEs in the tourism sector;
- (v) Establish factors that influence the use of ICTs by micro and small entrepreneurs in the tourism sector in Kenya;
- (vi) Establish the challenges encountered in the use of ICTs by MSEs in the tourism sector in Kenya;

- (vii) Suggest and recommend a model for improving ICTs utilization in enhancing information access by MSEs in the tourism sector in Kenya.

### **1.5 Research Questions**

To achieve the objectives of the study, the following research questions guided the study:

- (i) What are the characteristics of MSEs in the tourism industry and how does this influence the adoption and use of ICTs?
- (ii) What are the information needs of MSEs in the tourism industry in Kenya?
- (iii) To what extent are the information systems in the tourism sector addressing the information needs of micro and small entrepreneurs?
- (iv) To what extent are micro and small enterprises utilizing ICTs to access information to meet their day-to-day activities?
- (v) What ICT policies and programmes have been put in place by government and institutions to facilitate ICTs' diffusion and utilization in the tourism industry?
- (vi) What challenges are encountered in use of ICTs by MSEs?
- (vii) What model can be proposed to enhance utilization of ICTs by micro and small entrepreneurs in the tourism industry in Kenya?

### **1.6 Assumptions of the Study**

- (i) MSEs in the tourism industry in Kenya experience considerable difficulties in adopting and utilizing ICTs to access information;
- (ii) Lack of ICT use by micro and small enterprises in Kenya deprives them of a competitive edge and thus sustainable economic growth;

- (iii) Lack of objective information on factors that influence ICT ownership and usage by MSEs in the tourism industry in Kenya makes it difficult for stakeholders to support their utilization.

### **1.7 Significance of the Study**

Like many other countries of the developing world, a large part of the economic activity in Kenya is directly linked to MSEs. As a key aspect of the economic development required for sustainable human development, support for MSEs is critical. Similarly, as a significant tool for production, growth, management and marketing, among others, ICTs can be adopted as an enabler for MSEs. While frequently ignored or under-utilized in this sector, their use by MSEs must be carefully tied in with appropriate support and assistance. On the other hand, the potential contribution of ICTs to micro and small enterprises development can only be assessed by first understanding current information practices and needs in such enterprises.

The research was necessary because it gives some insight into the factors that have inhibited use of ICT by micro and small enterprises in the tourism industry in Kenya. It is hoped to provide stakeholders in this sector with remedial measures that need to be undertaken in addressing the challenges facing MSEs in this era of globalization and information society.

The study is important because it provides empirical information on the utilization of ICTs to access and manage information by MSE entrepreneurs in the tourism industry. This information can be used by policy makers to come up with strategies to support use of ICT in the country. It will also enable policy makers to integrate MSEs into national and international information supply chains using modern communication technologies.

The research can contribute to additional literature on ownership and usage of ICTs by MSEs in Kenya. It can also indicate the extent to which ICTs contribute in MSEs' productivity and competitiveness. It is hoped that the outcome of the study will provide practical suggestions on policies and programmes that can help Kenya utilize ICTs for effective poverty eradication through the growth of economically sustainable enterprises. The study will be useful to researchers in the tourism industry and related industries and may be used as a basis for further research in the area.

### **1.8 Scope of the Study**

The study focused on diffusion and utilization of ICTs among MSEs in the tourism industry in urban areas of Kenya. It was limited to diffusion and utilization of ICTs in accessing information by MSEs in Eldoret, Mombasa and Nairobi. It explored their use and influence on information access, the development and strengthening of information systems and factors that influence ICT use by MSE entrepreneurs in the tourism industry.

The study was restricted to the tour operators in category A1 of Tourist Industry Licensing Act (Cap 381) of the Ministry of Tourism. Category A1 are enterprises (whether carried on alone or in conjunction with some other enterprise) that fall under tour/safari operators. Most of them were found to operate as both tour operators and travel agencies. The *Kenya National Development Plan (2002-2008)* has pointed out that some of the MSEs in the country are not registered with the relevant authorities. The study, therefore, restricted itself to MSEs registered with the Ministry of Tourism and issued with a licence under the Tourist Industry Licensing Act (Cap 381).



In addition, the research covers only recent and emerging ICTs comprising computers, mobile phones, faxes, Internet, and e-mail services. Similarly, the study was not focused on the general application of technology. Rather, it concentrated on the utilization of ICTs in accessing, processing, storage and dissemination of information, and communication practices of enterprises.

### **1.9 Limitations of the Study**

The research had some limitations that need to be acknowledged. First, due to the large number of MSEs in the tourism industry in Kenya, it was not possible to cover all of them. Thus, a few were selected as a representative sample. Furthermore, the sample of enterprises included as case studies was based on purposive sampling and they were not purely randomly identified.

Second, the study used the interpretive research paradigm, which assumes that the world is largely what people perceive it to be (Cavana, Delayahe and Sekaran, 2001) which is based on the assumption that reality is socially constructed through language, consciousness and shared meanings (Myers, 1997). It was interested in understanding the lived experiences of MSE entrepreneurs and sought to identify what was meaningful to them. Although this allowed for the understanding of the concept being investigated, it can be criticized for being subjective.

Furthermore, it was not possible to interview all the employees of the selected enterprises; therefore the choice of participants depended upon the availability and willingness to participate in the study. Nonetheless, every effort was made to ensure that a representative sample was chosen. Finally, the sample, as a whole, may not be exactly

representative of the total population of MSEs in the tourism industry in Kenya. This must be borne in mind in the interpretation of results.

The research methodology used for the study was a multiple case study. The case-study methodology has some limitations. It is disadvantageous when compared to quantitative research methodologies on two major issues; reliability or replicability and external validity. The first issue represents the difficulty of repeatedly observing the same findings if the same research procedures are followed, since personal and subjective observations are an integral part of this qualitative research methodology. The second issue focuses on the ‘generalizability’ of the results. Statistical generalization to a population is difficult owing to the low number of cases typically included in case study research, and the typical lack of a ‘random’ selection of samples. In fact, it is not always preferable in a case study research to randomly select interviewees (Eisenhardt, 1989; Yin, 2003).

The findings may not also reflect ICT diffusion and utilization trends in other sectors of the economy in the country or in developing countries, since the level of technology, use of ICTs and government intervention approaches are significantly different. Given that the study was conducted in MSEs within Eldoret, Nairobi and Mombasa, generalization of these findings will only apply to the affected MSEs. Generalization to other MSEs in other towns and countries with a background similar to Kenya’s can be done but only with caution due to differences in their characteristics in terms of social-economic settings.

## **1.10 Definitions of Key Terms and Concepts**

### **Micro and Small Enterprises (MSEs)**

Micro and small enterprises are firms with 1-9 employees and 10-49 employees, respectively. The term 'micro and small enterprise', therefore covers a range of establishments, including informal sector activities that employ one or more persons and enterprises in the formal sector, employing up to 50 persons (Kenya, Central Bureau of Statistics, 1999; Coetzer, 2001). The definition used in this study is based on employment level and describes micro enterprises as those with 1-10 employees and small enterprises as those with between 11 to 50 employees.

### **Business/Enterprise/Firm**

The terms 'business', 'enterprise', and 'firm' are used interchangeably to refer to an economic unit producing goods or providing services. They are entities under whose umbrella an establishment operates.

### **Information Communication and Technologies (ICTs)**

ICTs can be defined as the totality of the electronic means to collect, store, process and present information to the end-users in support of their activities, and consists of computer systems, data communication systems, knowledge systems, office systems and consumer electronics (Economic and Social Survey of Asia and the Pacific, 1999). They include computers, Internet, software, mobile telephony, broadcasting, SMS, World Wide Web, email, e-commerce and more. ICTs are tools that facilitate the production, transmission, and processing of information. All that these technologies do is provide new mechanisms for handling an existing resource: information.

## **Information**

Information is constructed from data. Data are bits or fragments of externalized awareness that can, when placed in context, acquire meaning and constitute information.

Information is defined as organized data that produces meaning. It is data that has been processed in some way and made useful to its recipient.

## **Information Society**

Information society means the social, business and educational environment where individuals and organizations communicate and access the world's commercial, educational and entertainment resources over a universal network linking them together.

The universal network is made possible through ICTs. Information society depicts a specific form of social organization, where information generation, processing and transmission are the fundamental sources of productivity and power.

## **Information Needs**

Information needs is defined as a gap in a person's knowledge that, when experienced at the conscious level as a question, gives rise to a search for an answer (Wilson, 1981). If the need is urgent, the search may be pursued with diligence until the desire is fulfilled.

## **Information-seeking Behaviour**

Information-seeking behaviour means the acquisition of information from knowledge sources (Järvelin & Ingwersen, 2004). It is any activity carried out by individuals or groups of persons in pursuit of a message or information to satisfy (a) perceived information need(s).

**Infrastructure**

Infrastructure refers to an integrated system of facilities used to provide one or more ICT services.

**Tourism**

This is defined as activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited. It is a resource, action or activity which derives all or part of its income from visitors and which is managed for the primary purpose of leisure and visitor enjoyment (Coetzer, 2001).

**Model**

According to Windhall and McQuail (1993), a model is a consciously simplified description in graphic form of pieces of reality. A model seeks to show the main elements of any structure or process and the relationships between these elements. Models are representations.

**ICT adoption**

ICT adoption is defined as using ICT to support operations, management, and decision making in the business productively (Thong and Yap, 1996). Another definition of ICT adoption by Sarosa and Zowghi (2003) is introducing new ICT solutions to replace the old existing ICT systems or non-ICT systems for achieving the same goals or solving the same problem. Adoption takes place at individual level.

## **ICT Diffusion**

ICT diffusion is defined as the process by which ICTs are adopted and gains acceptance by members of a social system. A number of factors interact to influence the diffusion of ICTs.

## **ICT Utilization**

ICT utilization in this study is taken to mean interaction with ICTs in order to communicate, or to make use of data for information, coordination and business use. This interaction with ICTs can occur to a lesser or to a larger degree depending on the individual using it. Utilization occurs when an organization invests in and uses an innovation.

### **1.11 Structure of the Thesis**

This study presents the findings from the literature review, theoretical and conceptual framework, data collection and analysis of the data collected as outlined in Chapter 2, 3 and 4. Chapter 6 discusses and interprets the analysis of the data as presented in Chapter 5 and compares with the results observed in similar studies reported in the literature review. Finally, Chapter 7 presents a summary of the findings, conclusion and recommendations of the study. It is also in this chapter that the proposed model for ICT utilization in accessing information based on the results of the study and other models is presented.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The literature reviewed in this chapter focuses on ICTs and micro and small enterprises in the tourism industry. In particular, the topics covered include: the influence of ICTs on MSEs in information access, challenges faced and the efforts of MSEs, the government and stakeholders in facilitating diffusion and utilization of ICTs in accessing information by micro and small entrepreneurs. The literature review was guided by the objectives of the study as outlined in Chapter 1.

Kenya is faced with enormous problems of information access in the tourism industry (Kenya, Ministry of Information and Communication, 2006). These problems especially that of low-level telephone and Internet penetration and uneven access, appear to be insurmountable. The penetration rate in Kenya in the twentieth century was less than one line per 5000 members of the population (Kenya, Ministry of Information and Communication, 2006). In spite of efforts by successive governments to improve the penetration rate, the results have not been encouraging due to challenges in terms of building information and communication technology (ICT)-related management and communication infrastructure (African Development Consulting Group-ADGC, 1997). This has resulted in almost negative benefits, both to the economy and the society as a whole. It is quite evident that Kenya at present lacks innovation, capacities and capabilities in information technology management and hardware maintenance. This notwithstanding, the country has been and will continue to import and use a wide range of durable consumer electronics, computers and telecommunication equipment. It must, therefore, begin to accumulate the capabilities to repair and maintain these vintages.

Indeed, if Africa is not to be left behind in global trade and development, it must be able to master certain basic capabilities in ICT. In addition, the rate of technical obsolescence is likely to be much faster with ICT, compared with the natural technologies (such as steel, textiles and petrochemicals). The technological followers in Africa may, therefore, face the difficulty of sourcing for parts, components and peripherals, unless they begin to accumulate the capacity for component manufacture.

Presently, many developing countries are engaged in massive modernization efforts; Kenya for instance, with the eminent arrival of Seacom and Teams broadband infrastructure, is spearheading a campaign for one million computers where beneficiaries will acquire loans to buy laptops and repay without interest. But it is important to note that technology absorption and mastery take more than importation of technology. Learning, which demands explicit investment, is a prerequisite for building the technical and managerial capabilities in the tourism industry. Given the foregoing, the diffusion of ICT will have widespread, albeit differentiated, impact on all countries, industries and sectors. Government policies and strategies must therefore begin to look at variables such as change in the structure of industry and services; employment structure, training and manpower; industrial organization and management; production processes and products; telecommunication infrastructure and revolution of service delivery of existing infrastructure, especially power systems; information technology supply and how the accelerating growth impacts on trade and long-term competitiveness and maturation of African industry (Dunn, 1997).

There have been major changes in the tourism and travel industry as a result of the application of new ICTs, according to Mansell *et al.* (1998). The travel industry has especially proved to be one of the fastest growing segments of the Internet. Poon (1998)



opines that there is now a strong impetus for a new tourism, brought about by heavy dependence on ICTs through consumer preferences for flexible travel and leisure services. These technologies (as stated in Mansell *et al.*, 1998) are associated with frequent flyer programmes, flexible holidays, ticketless travels, cyber offers, video brochures, websites and online travel agency services. The components of the system of interrelated computer and communication technologies employed in the tourism industry are: computerized reservation system (CRS), teleconferencing, videotext, videos, video brochures, management information systems, airline electronic information systems, electric funds transfer systems, digital telephone networks, smart cards, satellite printers, mobile communication, e-mail, and the Internet.

Computerized reservation systems (CRS) have emerged as the dominant technology, and the Internet is also a very powerful emerging technology in the industry. Taking an example of the USA, by 1988 (10 years after deregulation), 96 per cent of travel agencies were automated (a clear evidence of speed of diffusion).

A lot has been written on the potential of information and communication technologies (ICTs) to assist small enterprise development (Kiplang'at *et al.*, 2005; Soltane, 2001; Mansell and Wehn, 1998; World Bank, 1995). This potential has spawned a good deal of comment, much of it based on the technology aspects of ICTs and not as a tool to improve on current information systems in developing economies. There are a few research studies that have been undertaken and reported on ICTs as tools for developing and strengthening existing information systems of micro and small-scale entrepreneurs (O'Farrell, 1999; Heeks, 1999; Duncombe and Heeks, 1999).

Many of these studies, however, have made technology the starting point and the main focus. Such studies typically take a predetermined view that new technology is the solution to development problems; that it should be as liberally applied as possible, and that initial failures are due to technical issues or to the inability of the humans involved to appreciate and champion the wonders of ICTs. However, other studies have shown that access to technology does not necessarily lead to its use (Green, 2001). For instance, a study by Chowdhury *et al.* (2003) assessed the use of ICTs and their impact on the economic performance of small- and medium-scale enterprises of three East African countries: Kenya, Tanzania and Uganda. Findings of the investigation suggest that investment in ICT has a negative impact on labour productivity and a positive impact on general market expansion. The study asserts that investment in ICTs does not have any significant impact on enterprises' returns but it does not indicate the reasons for this. Issues such as planning for ICTs investment, training, technical support, compatibility with previous system/work procedures and organization commitment to ICTs were not factored in the research.

Other factors also play an important role in the actual use of ICTs. For example, Green (2001) argues that continuing motivation and sustained efforts are the key determinants of successful utilization, and that they are more important than access. On the other hand, utilization of ICTs to access information is to some extent determined by the information infrastructure in any given country. This calls for a discussion on the information infrastructure in Kenya, but first it is important to appreciate the economic context in which MSEs in the tourism industry in Kenya operate.

## **2.2 Economic Context in Kenya**

Kenya's population is just under 39 million, with an annual population growth of 2.6 per cent. The GDP in 2008 was reported to be US\$ 61.83 billion in purchasing power parity (PPP), resulting in a GDP per capita of US\$ 1,600 (2008 est.) in PPP. GDP contribution by sector has shown marked improvement in the services, which contribute 59.5 per cent as compared to agriculture 23.8 per cent and industry 16.7 per cent (2007 estimate) (Development Data Group, the World Bank, 2008). The economy has been deteriorating over the past two decades, with low economic and employment growth and a decline in productivity save for the period 2004-2007 when there was an improvement, but this was cut short by the 2007 post-election violence. The percentage of people living below the poverty line has increased steadily since 1990 and was estimated at 56 per cent in 2003 (Kenya, Ministry of Planning, National Development, 2003). This could have been as a result of weakened economic growth, low productivity and high unemployment brought about by poor governance, adverse effect of persistent droughts, increase in oil prices and insecurity. Two thirds of Kenyans live in rural areas and 75 to 80 per cent of employment is in the agricultural sector (Stevenson and St-Onge, 2005). Kenya's liberalization efforts began in earnest in 1994 following its move to a multi-party system. However, because of government downsizing and the retrenchment of many large private sector and foreign-owned firms, formal sector employment has been decreasing. Lack of employment alternatives has thrust a growing number of people into self-employment activities to eke a livelihood. Throughout the 1990s, the growth rate of the informal economy considerably outpaced that of the formal sector. From 1999-2002, the MSE sector was responsible for generating 675,000 jobs annually. Struggling to thrust the country into a state of economic recovery, the government has stated its commitment to 'integrating the MSE sector into the national

economic grid', causing the government to take a serious look at the potential of the informal and micro and small enterprise sectors for driving employment and economic growth (Kenya, Ministry of Labour and Human Resource Development, 2004).

### **2.2.1 MSE Sector in Kenya**

Kenya's business environment is characterized by a large number of micro and small enterprises, which account for roughly 75 per cent of total employment and an estimated 18 per cent of GDP. The definitions used to describe the MSE sector in Kenya are based on employment size (and include both paid and unpaid workers). A micro-enterprise is defined as having no more than 10 employees and small enterprise 11-50 employees (Kenya, Central Bureau of Statistics, 1999). Farm holdings are excluded from the definition of MSEs, except those farm-based enterprises that involve some sort of processing before marketing. For example, a farmer who sells roasted maize at the marketplace or at the roadside is seen as operating an MSE (Stevenson and St-Onge, 2005). Thus, the term micro and small enterprise covers a range of establishments, including informal economic activities that include one or more persons and enterprises in the formal economy employing up to 50 persons. The definition used in this study describes micro enterprises as those with 1-10 employees and small enterprises as those with between 11-50 employees. In spite of the critical role played by the informal sector, and particularly MSEs, in promoting employment creation, the sector continues to face challenges that include low productivity and limited technological transfer. Some of the measures to address MSE issues include *Sessional Paper No. 2 of 2005 on Development of Micro and Small Enterprises for Wealth and Employment Creation for Poverty Reduction*, which provides the policy framework to guide growth and development within the sector (Kenya, Ministry of Planning, National Development, 2005). Other interventions include provision of financial services through micro-finance

institutions (MFIs), training of entrepreneurs in the sector for skill upgrading and productivity improvement, increased marketing of their products and services, and knowledge sharing among entrepreneurs through exhibitions and facilitation to form SACCOs for improved savings and access to credit (Kenya, Ministry of Planning, National Development and Vision 2030, 2008).

In response to bold economic and structural reforms implemented by the government since 2003, the Kenyan economy recorded a remarkable recovery over the period 2003-2007, as real gross domestic product (GDP) grew steadily from 2.9 per cent in 2003 to 7.0 per cent in 2007. This was in spite of the adverse effects of droughts and continued increases in oil prices. On average, real GDP expanded by 5.3 per cent over the period 2003-2007, which compares well with growth rates achieved by most reforming countries in sub-Saharan Africa.

The services sector expanded at an average rate of 5.3 per cent over the period 2003-2007 and rose to 5.9 per cent in 2007. The continued expansion in this sector was largely driven by growth in the tourism sector, which registered remarkable gains with increased tourist arrivals in response to improved security and marketing by the Kenya Tourism Board (Kenya, Ministry Planning, National Development and Vision 2030, 2008). Given the adverse effects of droughts and continued increases in oil prices, global recession and the post-election disturbances that occurred in 2007/08 and adversely affected agriculture, industry and services, the economic growth has slowed down from 7 per cent in 2007 to about 2.2 per cent in 2008. In addition, investor confidence has also been adversely affected, leading to delayed investment that had peaked prior to the general elections in December, 2007.

### **2.2.2 Role of MSEs in Economic Development**

Data on the MSE sector in Kenya is scarce. Although the National MSEs Baseline Survey provides comprehensive and reliable information, it has not been updated since it was conducted (Kenya, Central Bureau of Statistics, 1999). The survey indicates that the contribution of the MSE sector to GDP increased from 13.8 per cent in 1993 to 18.4 per cent in 1999. Throughout the 1990s, the growth rate of the informal economy considerably outpaced that of the formal sector. From 1999 to 2002, the MSE sector was responsible for generating 675,000 jobs annually. Struggling to thrust the country into a state of economic recovery, the government stated its commitment to ‘integrating the MSE sector into the national economic grid’ (Kenya, Ministry of Planning, National Development, 2005: 8). This has forced the government to give a consideration to the potential of the informal and micro and small enterprise (MSE) sectors in spearheading employment and economic growth.

The increasing role of the MSE sector is confirmed by the *Kenya Economic Survey* of 2003. According to the survey, total employment recorded in the informal sector increased from 3.7 employees in 1999 to 5.1 million in 2002, while the formal sector increased only from 1.74 million to 1.76 million employees during the same period (Kenya, Ministry of Planning and National Development, 2003). This dramatic increase was largely due to retrenchment in both the public and private sectors. The informal sector employs about 70 per cent of the country’s workforce. The growth of the informal sector in the number of employees, however, does not necessarily reflect growth and high productivity, as the number of informal sector companies grew largely because of the depressed formal economy and underemployment in the formal firms (Kenya, Ministry of Planning and National Development, 2003). This notwithstanding, the MSE sector, including the *Jua Kali* sector, played a vital role in providing

employment opportunities to 74.2 per cent of the total employed population, and contributing about 18 per cent to the country's GDP over the period 2003 - 2006 (Kenya, Ministry of Planning, National Development and Vision 2030, 2008).

MSEs have characteristics that justify promoting them as part of development strategies. They create employment at low levels of investment per job, lead to increased participation of indigenous people in the economy, use mainly local resources, promote the creation and use of local technologies and provide skills training at low cost to society (Kenya, Ministry of Labour and Human Resource Development, 2004). This is reiterated by Kimuyu and Omiti (2000) who have pointed out that the MSE sector in Kenya is important for employment generation, wealth creation and welfare improvement. They observe that it is a repository for persons either unable to find jobs in the modern sector or retrenched from formal employment. They also represent a vibrant and increasingly important sector competing in the global marketplace (Barnola, 2004). However, MSEs in Kenya face certain unique problems that affect their growth and profitability, hence diminishing their ability to contribute effectively to sustainable development. Many of these problems have implications on technology choice.

On the other hand, many of the Kenyan MSEs are owned and managed by family units, and are usually limited to confined activities due to lack of resources and skilled manpower (Kenya, Central Bureau of Statistics, 1999). They also adopt a simple management structure and few administrative activities. They do not undertake high-risk jobs, and are usually involved in sub-contracting market (Kenya, Central Bureau of Statistics, 1999). According to Kituyi and Marani (2003), Kenya's MSEs are also characterized by a low level of energy efficiency and a high level of pollution due to:

employment of old and inefficient technologies, and lack of information on new energy-efficient and environmentally sound technologies; poor or absence of waste disposal and treatment systems that are more profit-oriented than environmentally conscious; poor industrial infrastructure; and existence of technical, economic, informational, social, and institutional barriers to the adoption and implementation of environmentally sound technologies. Thus, the *Sessional Paper No. 2 of 2005, on development of micro and small enterprises for wealth and employment creation for poverty reduction* (Kenya, Ministry of Planning and National Development, 2005) acknowledges that a number of constraints need to be addressed if the MSE sector in Kenya is to realize its full potential.

### **2.2.3 MSE Policy Environment and Constraints in the Sector**

The Kenya government's commitment to foster the growth of MSEs emerged as one of the key strategies in the 1986 *Economic Management for Renewed Growth* report. It was reinforced as a priority in the 1989 report: *The Strategy for Small Enterprise Development in Kenya: Towards the Year 2000*, a document that set out the mechanisms for removing constraints to the growth of the MSE sector. In 1992, the government published the MSE policy report, *Sessional Paper No. 2: Small Enterprises and Jua Kali Development in Kenya*. This report was reviewed in 2002, leading to a new policy framework that provides a balanced focus to MSE development in line with the national goals of fostering growth, employment creation, income generation, poverty reduction and industrialization (Kenya, Ministry of Planning, National Development, 2003). The overall goal was to create 500,000 jobs annually over the next four years (a total of 2 million jobs). The bulk of these jobs were expected to be created in the MSE sector, 88 per cent from new enterprises and 12 per cent from the growth of existing enterprises. The achievement of this goal became impossible due to the effects



of droughts, oil price increases and more recently by the post-election violence of 2007, and global recession.

*The Sessional Paper No. 2 of 2005, on development of micro and small enterprises for wealth and employment creation for poverty reduction* acknowledged that there were a number of constraints that needed to be addressed if the MSE sector was to realize its full potential. These include: deteriorating infrastructure which negatively impacts on MSE competitiveness; high cost of credit and unavailability of long and medium-term financing; burdensome and costly regulatory environment; an unfavourable tax regime; limited access to reliable market data and trade-related information, and poor access to markets; limited opportunities for international linkages and linkages with large enterprises; scarce IT resources; poor coordination of MSE association and institutions; inadequate access to business skills and technology; and insufficient business development service providers (Kenya, Ministry of Planning, National Development, 2005).

To address these constraints, a new policy framework was formulated to: promote the number of and competitiveness of MSEs by reducing the cost of doing business and creating a more favourable environment for them; encourage all kinds of linkages between MSEs in the formal and informal sectors, including small-scale agriculture; strengthen policy coordination, implementation, monitoring and evaluation of government efforts to promote the MSE sector, emphasizing the role of the government as a facilitator and encourager of growth (rather than one of direct intervention); and involve close coordination of all stakeholders, including entrepreneurs, the business community, civil society, NGOs and development partners through policy dialogue mechanisms (Kenya, Ministry of Planning, National Development, 2005).

#### **2.2.4 Tourism Sector**

The tourism industry plays a central role in the Kenyan economy and is a major source of potential growth and employment generation (Kenya, Ministry of Planning, National Development, 2003). Tourism currently accounts for about 10 per cent of the gross domestic product (GDP), making it the third largest contributor to GDP after agriculture and manufacturing. It is also Kenya's leading foreign exchange earner, generating about Ksh 65.4 billion in 2007, up from Ksh 21.7 billion in 2002. The sector's contribution to the generation of employment has grown by over 3 per cent annually. Moreover, earnings per employee increased by 18 per cent over the last five years. The sector as a major source of government revenue in the form of taxes, duties, license fees and entry fees, among others, has the highest multiplier effect due to its linkage with other sectors. Further, the sector benefits from lower capital/output ratio and import-content per unit of final output compared to most other sectors. The Tourism Recovery Programme, which started in 2003, resulted in tremendous recovery for the country, with international arrivals rising by an average of 12.5 per cent annually from about 1 million in 2002 to about 1.8 million in 2007. On the other hand, domestic tourism registered a remarkable growth from 656,100 bed nights in 2002, to 1,869,800 bed nights in 2007 (Kenya, Ministry of State for Planning, National Development and Vision 2030, 2008).

Kenya Vision 2030 is the country's new development blueprint, covering the period 2008 to 2030. It aims at making Kenya a newly industrializing 'middle income country providing high quality life for all its citizens by the year 2030'. The Kenya Vision 2030 is to be implemented in successive five-year medium term plans, with the first phase covering the period 2008-2012. The vision is based on three 'pillars', namely: the economic pillar, the social pillar and the political pillar. Tourism has been identified as a leading sector within the economic pillar in achieving the goals of the Vision. It is one

of the key growth drivers in the journey to 2030. The medium-term plans aim to make Kenya be among the 10 long haul tourist destinations in the world offering a high-end, diverse, and distinctive visitor experience that few of her competitors can offer. There are three specific goals to be achieved by 2012, including: quadrupling tourism's GDP contribution to over Ksh 80 billion; increasing international visitors from 1.8 million in 2006 to 3 million in 2012, while raising average spent per visitor from the present Ksh 40,000 to at least Ksh 70,000; and increasing hotel beds from 40,000 to about 65,000, combined with an emphasis on high quality service. The specific strategies for realizing the goals will involve an aggressive strategy to develop Kenya's coast (north and south) by establishing resort cities in two key locations; achieving higher tourist revenue yield by increasing the country's premium safari parks and extending facilities in other underutilized parks; creating new high value niche products (cultural, eco-, and water-based tourism); revamping business-visitor offerings by attracting high-end international hotel chains; and by investing in new conference facilities.

### **2.3 Information Infrastructure Landscape in Kenya**

Like many developing countries, the information infrastructure development in Kenya has been slow due to a combination of factors. This has been as a result of unusual socio-economic conditions that include poor economy, high foreign debt, alarming population growth, declining resources and social infrastructure, and degradation of the environment (Oyelaran-Oyeyinka & Adeya, 2002). Other factors include lack of liberal information policies, although this is set to change with the enactment of the information policy and freedom of information policy. These factors have direct impact on the implementation of the network and the kind of public policies that promote ICTs and connectivity. The Kenya government has recognized the importance of ICTs in economic development and has initiated major steps to promote their use. One of the

major initiatives is to improve ICT infrastructure in order to bridge the digital divide and lower the cost of communications. The government is also levelling the ground through development and implementation of policy and regulations aimed at attracting investment within the sector. In its Vision 2030 first-medium plan 2008-2012, the government recognizes information as a resource that must be generated, collected, organized, leveraged, secured and preserved to enhance national prosperity. Promoting ICTs use will enhance Kenya's economic competitiveness and development of a knowledge-based society.

A look at the information infrastructure strengths shows that Kenya is a relatively stable country (save for the period after the December 2007 election), which is vital for any country that is trying to advance. Kenya has one of the largest Internet sectors in Africa, with over 78 licensed ISPs. The Internet is available in universities, Internet cafes, community information centres, public libraries, rural areas via telecentres, etc. Electronic commerce has made progress in the country, particularly in the tourism industry. Government policy initiatives and programmes that will facilitate the development of a national information infrastructure in the country have been put in place. These include the ICT policy and freedom of information policy (Kenya Ministry of Planning and Development, 2002).

On the other hand, the information infrastructure sector suffers from: poor telecommunication infrastructure due to under-investment and political interference; lack of local information content development and bibliographic control; absence of an integrated national informatics policy; unreliable electric power, particularly in the rural areas; lack of research and development on ICT; lack of trained personnel in ICT; relatively high costs of Internet connection; inadequate public awareness of the

importance of a national information infrastructure; inadequate ICT education and training; over-reliance on donor funding, leading to low levels of sustainability in major information infrastructure development projects; and lack of a favourable environment for private sector participation in order to facilitate information infrastructure development in the country (Opala, 2004; Kiplang'at, 2004).

The Communications Commission of Kenya (CCK) is responsible for developing and coordinating the policies and strategies with respect to development and operation of telecommunications services in Kenya. CCK's target is to bring the telephone line density to 20 lines/100 people in urban areas and 1 line per 100 people in rural areas by the year 2015 (Communications Commission of Kenya, 2005). CCK has gradually opened up the telecommunications sector to limited competition in certain market segments, and enabled the private sector to complement in the sector's development. Important market segments are discussed below.

Telkom Kenya dominates in the fixed line market segment and manages the national telecommunication system. Between July 2001 and June 2004, Telkom Kenya increased its switching capacity from 507,652 to 531,442, only to decline to 516,993 by June 2005. Subscriber connections grew from 331,718 in June 2001 to 328,358 in June 2003, before going down to 299,255 by June 2004. In the 2004/5 financial year, the number of fixed subscribers declined by 6.8 per cent to stand at 281,764. As a result, the fixed line tele-density went down from 1.04 to 0.91 over the same period (Table 2.1).

**Table 2.1: Telephone services**

<b>Year</b>	<b>2001/2002</b>	<b>2002/2003</b>	<b>2003/2004</b>	<b>2004/2005</b>	<b>2005/2006</b>
<b>Mobile Subscribers</b>	900,000	1,600,000	2,242,249	4,611,970	6,484,791
<b>Fixed Exchange Capacity</b>	507,652	508,230	531,442	531,806	516,993
<b>Fixed Line Subscriber Connections</b>	331,718	328,358	299,225	281,764	306,802
<b>Local Loop Operators</b>	-	-	-	-	3,995
<b>Waiters</b>	108,761	107,938	107,260	85,177	64,618
<b>Total Payphones in Service</b>	9,618	9,964	9,798	8,967	7,232
<b>Community Payphones</b>	-	-	-	14,217	29,888
<b>Fixed Line Teledensity</b>	1.04	1.04	1.02	0.91	0.88
<b>Total Teledensity</b>	2.94	5.25	5.97	8.67	19.93

*Source: Communications Commission of Kenya Publications and Statistics, 2006*

During the 2005-2006 financial years, the number of fixed subscribers grew from 281,764 in June 2005 to 306,802 in June 2006. Out of the total 25,038 new fixed phone subscribers, the two active local loop operators, Flashcom and Popote Wireless, contributed a total of 3,995 subscribers, representing a contribution of 15 per cent.

The demand for telephone lines still remains high. Between June 1999 and June 2004, the number of waiters remained above 100,000 before going down to 85,177 as at June 2005. By June 2006, the number of waiters had gone down to 64,618.

In 2001, Telkom Kenya had 9,618 payphones. By June 2003, the figure had grown to 9,964. In June 2004, the number of installed payphones stood at 9,798, before decreasing further to 8,967 by June 2005. As of June 2006, the number of Telkom Kenya payphones stood at 7,232 (Communications Commission of Kenya, 2006). The number of public payphones has continued to decrease over the years. By the end of December 2008, the number had declined to 5,210 (Communications Commission of Kenya, 2009). The decline in fixed line subscribers and payphone services is as a result of the convenience and availability of mobile telephony and the low penetration of the

fixed network. International services are satellite-based through the Atlantic and Indian Ocean Intelsat satellites through two earth stations situated at Longonot and Kericho. Over the network, Telkom offers a range of services—leased lines, VSAT, packet switching, Internet backbone, etc.

There are several private data communication carriers in Kenya, which include Kenya Data Network and Access Kenya, among other players that are currently engaged in laying down fibre optic cable within and between urban centres. Kenya Data Network (KDN) as of 2006 was the country's largest private data carrier and operates on a similar scale as the government-owned Telkom Kenya. KDN started business when it was licensed as a Public Data Network Operator by the Communications Commission of Kenya (CCK) in 2003. KDN operates a combination of microwave radio and fibre optical links, over which it provides layer 2 carrier services (Ethernet, Frame Relay) to corporate customers. The CCK has also licensed KDN as a local loop operator, and to provide fixed line services. KDN also owns an International Gateway License, under which it sells Internet connectivity to local ISPs. Currently, Kenya Data Network has laid fibre optic cable in over 115 towns across the country, and provided 400 buildings in Nairobi and 50 in Mombasa with fibre connections, covering about over 70 per cent of the Kenyan population.

### **2.3.1 Mobile Services**

Kenya has four licensed cellular operators, Safaricom, Zain, Econet Yu and Telkom Kenya Orange, which provide national GSM (Global System for Mobile communication) services. Telkom Orange and Econet (now Essar Telkom Kenya) made an entry into the market in September and November 2008, respectively. Forecast projection had predicted that the cellular market would increase to slightly over 3

million by 2005. This translates to a teledensity of 11.93 per hundred inhabitants against a world average of 21 (Communications Commission of Kenya, 2005). The government has been encouraging more entrants in the provision of cellular services with a view to lowering costs.

Both Safaricom and Zain Kenya have realized tremendous growth in subscriber rollout over the last six years, which has seen the combined subscriber base of the two operators reach 6.48 million as at June 2006. The combined network capacity for the two mobile operators grew from 640,000 in June 2001 to 10.6 million in June 2006 (Communications Commission of Kenya, 2006). The mobile network is now over twenty times the size of the fixed network in subscriber numbers. Mobile subscription registered 17.2 per cent growth between September 2007 and December 2008. The growth of subscribers was further enhanced by the roll-out of mobile services by the two operators who entered the market during this period. This is as shown in Table 2.2.

**Table 2.2: Mobile telephony subscription (cumulative)**

Indicator	Sept -07	Dec-07	Sept-08	Dec-08	Change (%)
Number of mobile subscribers	10,777,102	11,349,412	14,503,964	16,233,833	17.2
Mobile penetration (%)	28.97	30.51	41.7	43.64	9.9

*Source: Communications Commission of Kenya, 2009*

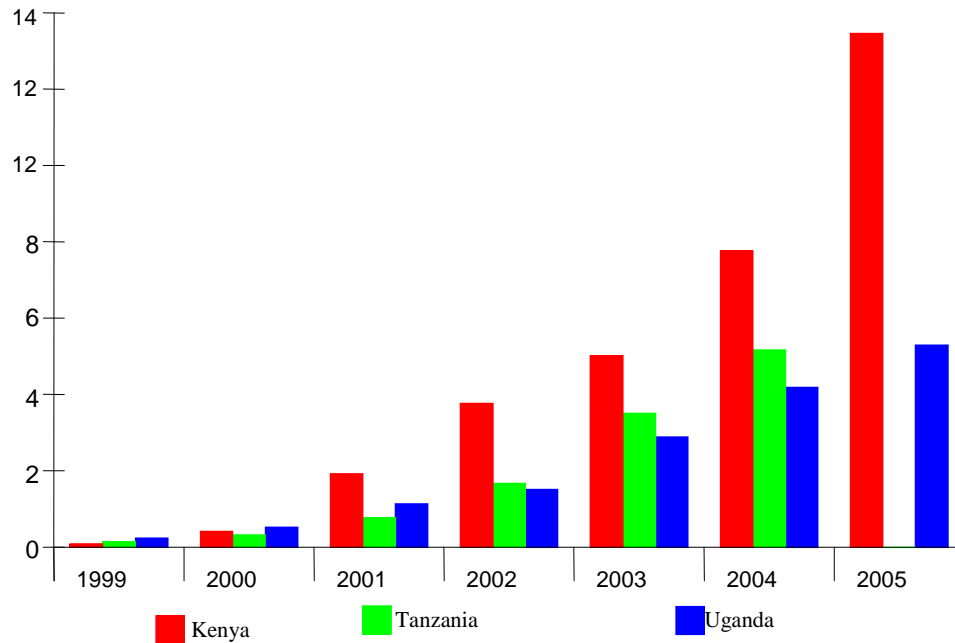
The subscriber base for the four mobile operators has grown from 10.77 million in September 2007 to 16.23 million as of December 2008. Mobile penetration increased by 9.9 per cent in the same period. The increase in mobile penetration can be attributed to the increase in the number of mobile operators, increased mobile coverage and availability of low denomination calling cards. Currently, some mobile operators offer



calling cards of denominations as low as Ksh 10, which continue to provide affordable reach to most income users.

By the end of December 2008, the population coverage increased to 83 per cent from 82 per cent in September 2007. Land coverage also expanded from 30.7 per cent to 32 per cent during the same period. The entry of the two new mobile operators in September and November 2008 compelled the existing operators to expand their network coverage to solidify their market positions. Nonetheless, the critical issue is to ensure that the rural areas are equally served and mobile tariffs are affordable to the majority of the population. Presently, less than 20 per cent of infrastructure serves 80 per cent of the population in the rural areas. Equally, there is need to address the construction of wide band infrastructure nationally to serve the increasingly high volume of information needs. Present policy restrictions will not support a private enterprise in this sector. Kenya has seen tremendous growth in mobile ownership and usage as compared to other East African countries (Figure 2.1).

**Figure 2.1: Mobile cellular telephone subscribers per 100 inhabitants**



*Source: Kashorda and Wagacha (2007)*

By the year 2005, Kenya mobile telephone subscription per 100 inhabitants had doubled that of Uganda. This growth in subscription was as a result of the privatization of the telecommunication sector, which allowed other players into the Kenyan market.

The mobile phones have gained importance because they have become the accepted mode of communication, have increased access to information and provide money transfer services through MPESA for Safaricom and ZAP Pesa Mkononi for Zain. Telkom Kenya is yet to roll out its banking services. MPESA and ZAP are much more than money transfer. They enable their subscribers to enjoy services that allow them to pay for goods and services, receive money and send money, top-up airtime, withdraw from their bank accounts and pay for their shopping. MPESA and ZAP Pesa Mkononi are reshaping the future of banking in Kenya and East Africa, particularly for the many who had never had access to formal financial services. M-banking and M-payments can

help lower transaction costs of money transfer. Of importance is that the service is supported on all handsets, including the ultra low-cost handsets (ULCH). The volume of Short Message Services (SMS) has drastically increased since introduction of the service by the two mobile operators. From almost no SMS in 1999, the volume has increased to over 699 million messages by end of 2008 (Communications Commission of Kenya, 2009). A key driver of this has been the low cost of SMS. The cost of the SMS has come down from Ksh 10 in 2000 to the current level of Ksh 3 and in some instances it is offered free by the mobile service providers. Beyond the low cost, SMS is now widely used for commercial and social information dissemination (Kenya, Export Processing Zones Authority, 2005).

Duncombe and Heeks (1999) stress the utility of the telephone, relative to the Internet. They argue that for most small firms, the costs of accessing the Internet exceed the benefits. Instead, it is the telephone which is:

...the information-related technology that has done the most to reduce costs, increase income and reduce uncertainty and risk. Phones support the current reality of informal information systems, they can help extend social and business networks, and they clearly substitute for journeys, in some cases, for brokers, traders and other business intermediaries. They therefore work 'with the grain' of informality yet at the same time help to eat into the problems of insularity that can run alongside. Phones also meet the priority information needs of this group of communication rather than processing of information (Duncombe and Heeks, 1999: 18).

Recent research has highlighted the increased use of mobile phones by MSEs. Donner (2006b) indicates that micro and small entrepreneurs use mobile phones both to intensify personal ties with friends and family, and to broaden instrumental business ties with new customers and suppliers. Other studies on ICT use have shown more enthusiasm for the mobile phone than for the Internet and tempering all assessments with a caution about the continued importance of the interpersonal, face-to-face interactions in building and maintaining trust between business traders (Donner, 2006b;

Samuel, Shah, and Hadingham, 2005). Research findings from Samuel, Shah, and Hadingham (2005) indicate that many of the small businesses surveyed use mobiles as their only means of communication. The value of mobile phones to the individual is greater because other forms of communication (such as postal systems, roads and fixed-line phones) are often poor. Mobiles phones also have value-added services such as money transfer services (MPESA and ZAP) that are relatively cheap compared to mainstream banks. In addition, farmers can access market information through their mobile phones courtesy of the Kenya Agricultural Commodity Exchange (KACE) 'Soko nuru'. Thus, mobile phones provide a point of contact and enable users to participate in the economic system. Many people who cannot afford to own a cell phone can access mobile services through informal sharing with family and friends or through community phone shops.

### **2.3.2 Internet**

The development of a modern telecoms infrastructure capable of delivering voice and data services is a critical prerequisite for Kenya's economic growth. According to the Kenya Tourist Board (KTB), about 80 per cent of tourists visiting the country do so as a result of Internet and communication technology referrals. This upsurge could be an indication that ICTs, and more so the Internet, can play an alternative role in promoting local tourism. Most countries have taken the cue and are getting the right returns on investments. However, most MSEs in the tourism industry in the country still rely on brochures and seminars in selling their products and services. Existing sites only have basic pages, are static and lack the right content. This state of affairs led to the concept of e-tourism for developing countries, which was initiated in 2004 by the United Nations. This was an initiative created to give the developing destinations the technical means for marketing and selling tourism services on-line.

Kenya's telephone infrastructure and associated services are such that public access to the Internet is increasingly widespread. Most towns in the country now have privately-owned Internet cyber cafes (known locally as bureaus), allowing increasingly affordable public Internet access. However, very few entrepreneurs in the MSE sector in the tourism industry are accessing the Internet themselves, either through Internet cafes or elsewhere. Similarly, there is very little local content to invoke demand because ISPs have focused on Internet access rather than Internet services and applications. Internet penetration remains low at a rate of 9 per cent (Communications Commission of Kenya, 2009).

The history of Internet development shows that the Internet was introduced in Kenya in the early 1990s, largely led by Kenyans returning from overseas studies, Western expatriates, and non-governmental organization (NGO) personnel. Commercial ISPs, led by FormNet and Africa Online, entered the Internet market by the mid-1990s, primarily offering dial-up services and content services. With the increasing number of ISPs and Internet users, the need for an Internet backbone became evident and KPTC introduced Jambonet by 1998. The key challenges in the 1990s were the limited and high cost of international Internet bandwidth, the high cost of both dial-up and domestic leased lines, the limited penetration of PCs, limited capacity and poor ICT infrastructure, lack of an Internet policy and regulatory environment and the lack of appropriate ICT skills (Communications Commission of Kenya, 2006).

The situation only changed after Kenya Telkom's exclusivity period came to an end in 2004 and CCK licensed new operators to compete in both Internet backbone gateway and domestic leased line services. Since then, 78 more Internet Service Providers (ISPs) had been licensed as of April 2004, although not all were operational. The number had

reduced to 51 ISPs as of 2006. There were over 1,000 cyber cafes and telephone bureaus by April 2004 (Communications Commission of Kenya, 2006). This unleashed competition, which has brought down prices, increased the Points of Presence (PoP) in all major towns and generally raised Internet awareness. The rate of growth in the Internet user population is expected to level off within a couple of years, once the early adopters (broadly defined) have joined up. Further penetration of the Internet will depend on increased investments in the necessary infrastructure and the application of policies and regulations that are favourable towards the spread of Internet services. However, Internet charges are extremely high, as shown in Table 2.3.

**Table 2.3: Key trends from 2000/2001 to 2006/2007**

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
<b>Number of licensed ISPs</b>	34	66	72	76	78	51	51
<b>Users by ITU (estimate)</b>	100,000	200,000	400,000	1,000,000	1,054,920	1,111,000	2,770,296 (Internet study)
<b>Telecom's 64 Kbps leased line tariffs</b>	14,400	14,400	14,400	14,400	14,400	14,400	7,200
<b>Telecom's 2 Mbps leased line tariffs</b>	96,477	81,457	81,457	81,457	81,457	81,457	40,728.5

*Source: Communications Commission of Kenya, 2006*

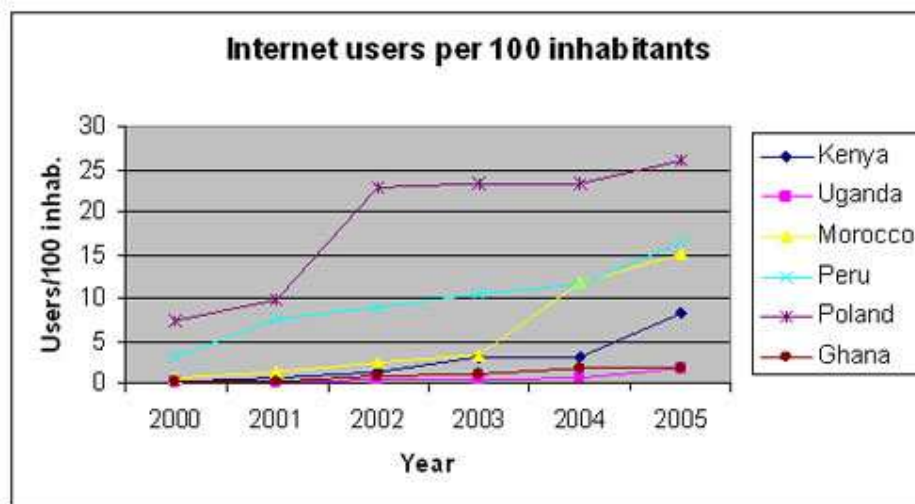
Full Internet cost per month range from Ksh 3,000 – Ksh 5,000 to the customer. Typical service packages offered by ISPs include dial-up and leased lines services, web design and hosting as well as training and consultancy. The Internet is also accessible through mobile telephones, which is much cheaper but not convenient. The industry has yet to establish a regular means of collecting data and, therefore, track Internet development as well as its impact in various sectors, including e-commerce. The key challenges facing Internet growth from the year 2000 have been the costs of Internet services. They have

remained high in comparison to the income levels of Kenyans. The other challenges are the availability and reliability of the local access network, very little local content to invoke demand, and focus on Internet access by ISPs rather than Internet services and applications. The licensing framework has also not been in line with convergence of technologies and interconnection processes (Communications Commission of Kenya, 2006).

In addition to the connectivity provided by the ISPs, another new industry is emerging. Content creation through web design, creation and implementation on intranets and extra-nets, web hosting, training and consultancy, have become a fast growing industry in the country. While the bulk of the Internet work coalesces vertically around the ISPs, there is a notable horizontal development in the industry. Independent specialized companies have been established, including universities, and are entering the Internet industry market. This is an indication of a maturing industry and, in the next few years, the industry will see specialization in hosting services, connectivity, countrywide intranets, e-mail services, and consultancy services.

The Kenyan population is yet to fully embrace Internet technologies and therefore has not taken advantage of this technology for information dissemination and/or communication and for business activities on a large scale. Among the telecommunication services, the Internet has been among the least accessible service in the country (Communications Commission of Kenya, 2009). The low uptake of this service is attributed to lack of infrastructure and relevant local content. This is clearly seen when Kenya Internet penetration is compared to other countries such as Ghana, Uganda, Morocco, Peru and Poland (Figure 2.2).

**Figure 2.2: Comparison of Internet users per 100 inhabitants**



*Source: ITU database and Internet Analysis Study (for 2005/2006 value for Kenya)*

These countries were comparable to Kenya in terms of Internet penetration by the end of the 1990s but by the beginning of 2000, some of them had achieved much higher penetrations. The high growth was as a result of these governments' deliberate intervention, which involved bandwidth subsidies (to digital centres and business parks), national broadband infrastructure development and leveraging on ICTs in education and research. A case in point is Korea, where early introduction of competition through liberalization in the early 1980s led to healthy competition among the operators and the new entrants were forced to innovatively target the un-served market rather than compete for the existing users. Broadband Internet services provided the best growth option for the new entrants. This led to deployment of competitive and reliable technologies as well as lower prices to the end users. The government of Korea also played a key role in stimulating demand by engaging in an Internet literacy programme in early 2000, something that the Kenyan government should strive to emulate.



In summary, there has been significant growth in the telecommunication sector, particularly in the use of mobile telephony, and a decline in the fixed line subscribers. Competition among the operators, unification of the licenses and the application of new technologies in the mobile market segment has witnessed diversification of services by the operators, reduced tariff rates and increased affordability of communication services by a large population. This is further seen as a movement towards closing the digital divide. Whereas the number of Internet users seems to be increasing, this is not in tandem with other telecommunications services. The growth in the Internet sub-sector has been hampered by poor infrastructure. A study done by the Communications Commission of Kenya (2006) identified the following as key factors that have affected the growth of Internet services: lack of: regulatory and licensing framework; affordability of Internet services; limited access to locally relevant content; and limited ICT penetration in academic, commercial, health, government and other sectors.

When the government becomes a major user of the Internet, many psychological barriers will be overcome and the ensuing customer base will further force down prices based on economies of scale. One of the most significant steps the government needs to take is the formulation and pronouncement of an official policy of Internet technologies and its adoption as a tool for communications internally and externally. The government needs also to invest heavily in ICT infrastructure to facilitate Internet penetration. From the foregoing, the primary motivation for growth in ICT has come from the private sector, with the role of the government being that of a facilitator for creating an enabling environment. The challenges to incorporate ICT in various aspects of economic development centres on five major areas, which are: support to small and medium business; education; attracting high technological industry; access to technology

infrastructure; and a business–friendly government (Kenya, Export Processing Zones Authority, 2005).

The government has accepted the premise that private sector capital in a competitive environment will vastly expand the telecommunications sector faster and allow the government to channel its resources to other social development goals. Liberalization of the mobile cellular market has seen mobile subscription rising to over 16 million. The government has also decided to reduce its direct involvement in provision of telecommunication services by privatizing Telkom Kenya. Availability of trained manpower in the ICT sector is an important resource. The Kenya government has recognized this by introducing computer education in schools and other learning institutions, while the private sector has responded to the demand for skilled computer operators by setting up commercial computer training colleges in major urban centres all over the country.

Realizing that ICT is a primary instrument for realizing economic growth, Kenya offers attractive incentives and presents various investment opportunities for potential investors as it prepares to leverage ICT in its national priorities of growth and poverty reduction (Kenya, Export Processing Zones Authority, 2005). Currently, fibre optic cable is being laid by private companies to link urban centres in the country in anticipation of a new dawn in the telecommunication sector, which would herald cheaper Internet connections and long distance calls. It would also make wire-tapping more difficult and help to prevent electrical interferences. Countries in the Eastern African region are completely dependent on satellite communications, which are blamed for the high cost of telecommunication. This dependence has led operators and governments to lay the submarine cable systems, the main objective being to improve

the quality of bandwidth available for global connectivity by linking the East African region to the Global Submarine System. The East Africa Submarine System (EASSy), The East Africa Marine system (TEAMs) and East Africa Sea Cable System (SEACOM) are expected to bring about affordable bandwidth that could open up markets for cheaper connectivity. The East African Marine Systems cable (TEAMs), which is partly funded by the Kenya government, landed at the coast of Mombasa on 16 June 2009. Linking this cable to the country's fibre optic network ring will herald a drop in Internet connection charges once fully functional. With cheap Internet and mobile connectivity, MSEs could be more successful because they would be able to sell more products on-line. The big advantage is that nobody would know how big the enterprise is when on the web.

#### **2.4 Government and ICT Institutional Policies in Kenya**

The Government of Kenya, recognizing the global growth in Information and Communication Technology (ICT), decided to make Kenya an active participant in the age of information technology. This is in recognition of the fact that ICTs are important agents for transformation of every facet of human life, with a huge potential of bringing about a knowledge-based society in the twenty-first century (Kenya, Ministry of Planning, National Development and Vision 2030, 2008). The economic recovery strategy for wealth and employment creation 2003- 2007 identified the following goals in its policy document: establishing an inter-ministerial committee to incorporate ICT into government operations; investing in adequate ICT education and training; implementing tax reduction and tax incentives on both computer software and hardware so as to make them affordable to MSEs and low-income earners; and reviewing the legal framework to remove impediments that have discouraged the adoption and use of e-commerce. The e-government strategy was developed with the aim of using

information technologies to improve service delivery, transform government operations and promote democracy. This was going to be achieved through the development of websites, networking all ministries, developing computer literacy among government staff and computerizing office operations. The development and implementation of a national ICT policy will see Kenya attain a strategic framework for approaching ICT as a development tool in government, in the private sector and in underserved rural areas at all levels (Outa *et al.*, 2006).

One of the major initiatives that the government is pursuing is to improve ICT infrastructure in order to bridge the digital divide and lower the cost of communications. The government is also levelling the ground through development and implementation of policy and regulations aimed at attracting investment within the sector. It must be emphasized that the government recognizes information as a resource that must be generated, collected, organized, leveraged, secured and preserved to enhance national prosperity (Outa *et al.*, 2006). With this in mind, in 2007, the government launched the ICT Board to oversee the development of ICT in Kenya. There are several institutions with responsibility for ICT in Kenya. In addition to the Ministry of Information and Communication, there are four other institutions: the Communications Commission of Kenya, which acts as the regulator; the Government Information Technology Service (GITS), which provides ICTs support for ministries; the National Communications Secretariat (NCS), which advises the government on telecommunications policy; and the Directorate of E-government, which oversees the implementation of e-government strategy and assists the government to deliver more effective services to Kenya's population (Outa *et al.*, 2006).

The private sector and the civil society have also played a significant role in the ICT arena, in particular the ICT policy process. The notable ones include the Telecommunications Services Provider Organization of Kenya (TESPOK), Kenya ICT Federation (KIF) and the Kenya ICT Policy Action Network (KICTANET). All these entities are working more closely under the coordination of the ICT Board to ensure mainstreaming of ICT in Kenya. On the other hand, the civil society and the private sector are involved in building government capacity in this sector. A few government services can be accessed on-line, digital villages are to be set up in every constituency, telecommunication services now cover more than 80 per cent of the Kenyan population and Internet services are now available in most rural centres in the country. This notwithstanding, government operations remain entirely manual, particularly at provincial and district level. A study on the institutional structures and models for implementing the Kenya National ICT Plan observed that the current functioning of the institutional structures for ICT in Kenya has a number of adverse consequences that include: uneven computerization of ministries, lack of trained ICT personnel, poor distribution of resources, duplication of ICT resources across ministries, lack of publicly available information on what is happening regarding ICT in government, uncoordinated donor initiatives in various ministries, and lack of integrated ICT strategy (Outa, *et al.*, 2006). The Kenya Vision 2030 medium-term plan has identified the following challenges within the communications sector:

- Lack of an institutional and legal framework to implement automated services, including electronic transactions;
- Lack of standardization of components and systems being procured and applied across the government;
- Limited countrywide ICT awareness that hinders cultural and attitudinal change;

- A wide internal digital divide between rural and urban areas as well as low bandwidth;
- Financial and human resource constraints;
- Bridging the 'islands of automation' by allowing sharing of information among agencies;
- High costs of ICT utilization and maintenance;
- High costs of migrating from analogue to digital broadcasting; and
- Challenge of obtaining a better integration of ICT solutions into company and public policies.

#### **2.4.1 Kenya National ICT Policy**

Kenya's socio-economic challenges include poverty, ignorance, disease, hunger, and gender inequality. These challenges are well covered in the national development objectives, including the Millennium Development Goals (MDGs). The Economic Recovery Strategy for Employment and Wealth Creation 2003-2007 has recognized that ICTs have a role to play in addressing these challenges. Countries that have harnessed the potential of Information and Communications Technologies (ICTs) have attained significant social and economic development. In addition, they are rapidly transforming into information and knowledge-based economies. ICT promotes economic growth and social opportunity at the same time that it renders many traditional economic approaches less viable. ICT can serve as a critical enabler to achieve many of the development goals agreed to by world leaders at the UN Millennium Summit. ICT has the potential to create earning opportunities and jobs, improve delivery and access to health and education, facilitate information sharing and knowledge creation, and increase the transparency, accountability and effectiveness of government, business and

non-profit organizations (UNDP, 2003). All these contribute to an enabling environment for development.

The service industry, in which tourism falls, is one of the fastest growing sectors in the global economy. This growth is more pronounced and driven by information and communication technologies (ICTs). Governments all over the world have now realized the crucial role of information and knowledge in national competitiveness among nations and also as a major economic sector in its own right. Governments are putting in place measures to harness national resources to build information infrastructures to exploit information and knowledge for development. In Kenya, the potential of ICTs, even within the service industry, remains largely untapped and, as already observed, the country lacks an integrated policy and a comprehensive legal regime to address the institutional framework, issues and challenges facing the sector (Outa, *et al.*, 2006). ICT policies are important in the transformation from industrial societies to information societies. Countries that are slow to act, or are not in a position to respond, are likely to find their ability to participate in the global economy and society diminished, thus exacerbating existing inequalities. Countries need to develop comprehensive ICT and e-development strategies and put in place and support the necessary policy, human and physical infrastructure. They also need to adopt measures to ensure equitable access and widespread capacity to make use of ICT. The challenge for Kenya is to put in place policy frameworks that foster the growth of ICTs so as to ensure that the country transforms itself into an information-based economy ready to reap the benefits of ICTs (Outa *et al.*, 2006).

The national ICT policy mission statement is to improve the livelihoods of Kenyans by ensuring the availability of accessible, efficient, reliable and affordable ICT services

(Kenya, Ministry of Information and Communications, 2006). Outa, *et al.* (2006) has pointed out that the policy is founded on four principles, namely infrastructure development, human resource development, stakeholder cooperation, policy and regulatory framework. The policy objectives include to:

- (i) Facilitate sustainable economic growth and development, wealth creation and poverty eradication;
- (ii) Address development gaps as they relate to women, youth, rural and other disadvantaged groups;
- (iii) Address progress towards socio-economic inclusion of all citizens through provision of universal access;
- (iv) Stimulate investment in the ICT sector;
- (v) Stimulate innovation in the ICT sector through research and development;
- (vi) Provide for increased access to ICT services.

The policy covers the following broad areas: information technology services, telecommunication services, postal services, broadcasting services, radio frequency spectrum management, universal access, and policy and regulatory framework. It is important that the implementation of the national policy addresses the five main policy issues: infrastructure, content and applications, human capital, ICT industry, and governance.

Focusing on the IT component of Kenya's national policy, the policy objectives include to:

- (i) Improve social welfare of the population: improving the quality of teaching and learning, improving healthcare and empowering women, youth, rural



communities, people with special needs, and the illiterate and disadvantaged groups.

- (ii) Improve economic welfare of the population: creating additional employment, supporting entrepreneurship, promoting sports and tourism, and developing investments and growth in IT hardware, software, Internet, training, IT-enabled services, telecommunications and electronic commerce, while protecting Kenyan social values, culture and environment.
- (iii) Improve efficiency and quality of public service delivery: helping to combat corruption, providing on-line access to services, providing adequate infrastructure and security for the IT sector, and facilitating the development of sectoral IT policies and strategies (Kenya, Ministry of Information and Communications, 2006).

The national policy highlights the following sectorial strategies relevant to this study that need to be implemented to achieve the IT policy objectives. They include:

- E-Commerce: E-commerce will be utilized as a means of integrating Kenya into the global economy. A comprehensive policy, legal and regulatory framework will be developed in collaboration with the international community that will support, through the enactment of legislation, the development of e-commerce and e-business. Support will also be provided for promotional campaigns to raise public awareness on the potential opportunities presented by e-commerce.
- E-Government Services: The overall goal of e-government is to achieve a more citizen-centred, results-oriented and efficient government. The focus of this strategy will be on redefining relationships between citizenry and government.

This will be achieved by empowering citizens through increased and better access to government services. E-government services will improve cooperation between government agencies, enhance efficiency and effectiveness of resource utilization, enhance competitiveness and reduce transaction costs for government, citizens and the private sector through the provision of timely information and government services, and provide citizens with a forum for participation in government activities. The e-government initiative will be planned, designed and implemented through a partnership between the government, private sector and civil society.

- E-Learning: The ICT policy will promote the growth and implementation of e-learning. To do this, the government will employ the following strategies:
  - (i) Promote the development, sharing and integration of e-learning resources to address the educational needs of primary, secondary and tertiary institutions; facilitate public-private partnerships to mobilize resources in order to support e-learning initiatives; develop integrated e-learning curricula to support ICT in education; and promote distance education and virtual institutions, particularly in higher education and training.
  - (ii) Enhance the dissemination of e-learning initiatives: provide affordable infrastructure to facilitate dissemination of knowledge and skill through e-learning platforms, promote the establishment of a national ICT centre of excellence, create awareness of the opportunities offered by ICT as an educational tool to the education

sector, and exploit e-learning opportunities to offer Kenyan education programmes for export.

The policy notes that to attain all the objectives of this policy, the government will require the support of community stakeholders and development partners. In this case, the government's role will include, among other things, development, implementation and coordination of policy, regulation and licensing, dispute settlement and resolution, and provision of an enabling environment for investment in the sector. The development partners will play a complementary role towards the development of the goals and objectives of this policy. Within the ICT policy framework, the government will cultivate linkages with various development partners to provide financial, material and technical assistance and to build capacity for sustainability.

The role of the civil society will be to inform the policy making process by making relevant contributions in regard to ICT access, e-education, poverty reduction and e-governance. Investors, operators and service providers play an important role in policy implementation and will be required to participate in the provision of universal service/access; developing structures with efficiency, credibility, commercial integrity and good corporate governance; providing quality and sustainable service with pluralism of choice to consumers; and keeping abreast with and participating in ICT, both regionally and internationally.

Consumers and users will be expected to participate in ensuring: universal access and affordability of ICT services, quality of services is maintained and continued review of government policy in accordance with technological and consumer trends. And, lastly,

the national ICT professional bodies that are registered under the laws of Kenya will be expected to foster professional ethics, standards and human resource development.

In an effort to integrate the ICT policy in the East African Community, in July 2008, East African states met in Nairobi to discuss plans for regional ICT policy harmonization and to determine if and how a single regulation policy can be applied uniformly. ‘Our ultimate aim is to ensure that the policy must not favour one country or its businesses and citizens over another,’ said Dr Bitange Ndemo, Permanent Secretary in Kenya’s Ministry of Information and Communication. It was noted that the East African Community, which includes Rwanda, Burundi, Uganda, Tanzania and Kenya, lagged behind in its quest to unite the region due to a sentiment among members that policy plans favour Kenya.

Noting the need to expand regional e-commerce regulation, the Permanent Secretary observed that a harmonized East African Community ICT policy would enable cross-border trade that benefits even the landlocked partner countries equally. The meeting discussed a draft harmonization framework for ICT policies in the region, and the findings were expected to guide national stakeholders in their discussions on the best and most practical way to achieve national and regional ICT policy objectives. The draft framework identified interconnection costs, innovative technology and finance, open access, Internet governance, and ICT-related environmental concerns (e-waste) as the major issues that need to be addressed.

## **2.5 Utilization of ICT by MSEs in the Tourism Industry**

In today’s economy, micro and small tourism enterprises face enormous difficulty in competing with their larger counterparts, particularly the foreign-based ones, both in

terms of their operational capacity to run business as well as their technological capability to operate in a global market (Sarosa and Zowghi, 2003). The advent of ICT and Internet has had a strong impact on the tourism industry, especially in its capacity to respond to the growth of mass travel by increasing capacity, flexibility and connectivity (Bravin and Hollick, 2006). Through ICTs, a business is able to obtain the necessary information, process and disseminate within a reasonable timeframe (Mittman, 2001). However, MSEs in Kenya and to a large extent in Africa have been slow to adopt and realize the benefits of ICT for their business and in many cases have yet even to utilize e-mail for customer interaction and booking and create a basic website for marketing purposes unlike in the developed world. In a study on the business information needs, information-seeking patterns and business information services for small, medium and micro enterprises (SMMEs) in Namibia, Chiware and Dick (2008) have observed that, apart from the foreign-based larger enterprise, MSEs have not yet integrated ICTs into daily management to streamline operations such as sales, marketing and distribution.

Many micro and small enterprises (MSEs) try to adopt ICT to support their business, but due to their limited resources they are not able to fully make use of them. MSEs' ICT adoption is different from larger business (Sarosa and Zowghi, 2003). The literature shows that despite all the benefits that can be achieved by using ICTs, many micro and small tourism enterprises have failed to embrace ICT and the Internet (Bravin and Hollick, 2006). They do not engage in formal skills and information gathering and they rarely use external consultants due to resource constraints, lack of specialist expertise and size versus their perceived impact in the marketplace (Bravin and Hollick, 2006). In most MSEs, particularly the micro enterprises, training is considered a cost value rather than an investment. Despite the fact that MSEs fall short in ICT skills and have remained reluctant to move away from informal information systems that rely on

manual processes, ownership of technology and Internet access is on the rise and, when introduced at the right time and in the right way, may encourage MSEs' owners/managers to embrace ICT for innovative uses, such as access to information.

Information and communication technologies (ICTs) are proving to be an effective mechanism to transmit information on the intangible tourism product as the functionality of this industry depends upon the transmission of accurate and reliable information. They have taken over from published materials such as brochures to convey information on price, quantity, transport, quality, supplements and conditions of purchase due to the dynamic and perishable nature of the tourism product (Kiplang'at *et al.*, 2005).

Until the advent of ICTs, the methods used to seek, store and transmit information were both cumbersome and inefficient. The methods included the telephone, snail mail, brochures, leaflets, directories and face-to-face meetings. However, the Internet and mobile telephony have become major business instruments for MSEs. However, research findings show that MSEs first consulted other sources of information such as a colleague and printed media before consulting the Internet (Kiplang'at *et al.*, 2005). It shows that Internet usage is not a major source of information to them and is used as a last resort. Most MSEs rely on telephone and fax services to communicate and disseminate information because they are the most accessible, unlike the Internet.

Mutula and Brakel (2006), in discussing e-readiness of MSEs in Botswana, observed that the ICTs used by MSEs included computers, Microsoft Office applications, Internet, email telephone, photocopiers, printers and websites. Computers in the workplace, for the majority, were used for Microsoft Office applications, storage,

printing of letters and reports (Chiware and Dick, 2008). Electronic mail is the application most adopted by firms followed by web technology.

### **2.5.1 Potential Role of ICTs in Micro and Small Enterprises**

Before examining the potential role of ICTs in MSEs, it is necessary to give a brief overview of ICTs covered in this study. In general, information communication technologies (ICTs) are tools that facilitate the production, transmission, and processing of information. Thus, a broad definition of ICTs ranges from traditional technologies, such as the radio and television, to the most modern communications and data delivery systems, such as cellular mobile communications that can download digital data to a laptop or a desktop computer (Shadrach and Summers, 2002). For the sake of analytical clarity, this study focuses on ICTs—telecommunications (mobile telephony, fax networks) and the Internet (computers, software programmes, including databases). The variety of technologies incorporated under the term ‘ICT’ operate differently and have unique effects based on the manner in which they are used. Nevertheless, their relationship to economic and social development all stem from several basic characteristics related to improved information production and sharing.

The introduction of ICTs in mainstream societies affects the way in which the societies interact, communicate, produce, assess, adapt and access a vast amount of information at reduced costs. ICTs are not just about technologies, they are more about information transfer and communication (Shadrach and Summers, 2002).

The effective use of ICTs by enterprises can result in greater productivity, leading to greater competitiveness and thus sustainable economic growth. This is a precondition

for poverty reduction (UNDP, 2003). The danger of not participating in the development of ICTs is highlighted by the World Bank in addressing African issues:

The information revolution offers Africa a dramatic opportunity to leapfrog into the future, breaking out of decades of stagnation or decline. Africa needs to seize this opportunity, quickly. If African countries cannot take advantage of the information revolution and surf this great wave of technological change, they may be crushed by it (World Bank, 1995, summary, paragraphs: 3–4).

ICTs are expanding the possibilities of developing economies to participate in international markets. For example, the Internet is dramatically changing the way goods and services are produced, delivered, sold and purchased (Chacko and Harris, 2002; Jiqui, *et al.*, 2006). It leads to an ever-growing number of people and businesses connected digitally, ready to participate in and contribute to the knowledge economy. The use of the Internet empowers weak players in the global economy, such as the MSE owners in developing countries, by providing them with information, communication and knowledge they could not access before.

In an attempt to identify sectors that are likely to be responsive to technological change and promise high return on investment, MSEs have become one potential target sector to harness new ICTs for development. This is because they form the bulk of enterprises that support the developing countries' economies (Ikoja-Odongo and Ocholla, 2004). In developing countries, MSEs are often considered to be the key source of productivity, growth and job creation, and hence their performance and the environment in which they perform are seen as an important factor for economic development (Kenya, Ministry of Planning and National Development, 2002). The potential impact of ICTs on an enterprise's efficiency and productivity explains why the use of the technology presumably has a strong linkage to the enterprise's competitiveness.



When utilized properly in processing, accessing and disseminating information, ICTs bring about: improvement of internal business procedures; lowering of transaction costs; better understanding of the operating environment with regard to both demand and supply; new business opportunities through market information; creation of new business platforms; and information sharing and networking facilities. Results from a study by Kijo-Ringo (2003) showed that enterprises that utilized ICTs, and especially relatively modern and cheap technology like mobile phones and Internet, are the ones that access market information and thereby increased their chances of expanding their markets regionally. This was especially seen in enterprises that are from the tourism sector. Similarly, a study by Kiplang'at *et al.* (2005) found that ICTs increase productivity and facilitate communication of tourism information. Warden and Williams (2003) in their study on 'Benefit's for small, medium and micro enterprises (SMME'S) in the Western Cape in the tourism industry for adopting electronic commerce', observe that ICTs provided new opportunities to companies of all sizes to expand their markets, launch new products, improve communication, gather information and identify potential business partners, create specialized businesses and improve the quality and speed of processes. Another study on micro, small and medium-size enterprises in Central America (Barnola, 2004) also shows that ICTs can enhance the competitiveness of MSEs by improving the marketing of their products and services, and facilitating business management, leading to greater employment and broader participation in local economies. The diffusion and utilization of ICTs in accessing information by micro and small entrepreneurs in the tourism industry in Kenya is not very clear, a gap that this study intends to address.

For any economy, organization or individual to be competitive, the application of new ICTs is critical. However, unlike other MSEs, the tourism industry is almost completely

dependent upon representations and descriptions in printed and electronic formats. Communication and information transmission tools are thus indispensable to the tourism industry. Recent debates on the digital divide and its impact on emerging markets appreciate that the growth and application of technology in all facets of life is inevitable. Interaction between large and small companies is shifting from electronic data interchange (EDI), initiated by large companies, to a symbiotic relationship among organizations. These changes affect information access, business practices and management. Large organizations can now provide services they could not have offered before to MSEs for rapid decision making. In a paradigm-breaking mode, institutions in both the private and public sectors are establishing new ways of working with diverse organizations (Farkas-Conn, 1999).

In Kenya today, the micro and small enterprises must embrace ICTs to survive. *The UNDP Human Development Report (2001)* strongly supports technology as an essential ingredient in any development effort, and it proposes that subsequent interventions include technology of some kind. Employment in the private sector and non-governmental organizations (NGOs) requires an appropriate level of understanding of ICT, because of the growing use of the skill in conducting business. Development, as an individual or corporate, entrepreneur or employee, private or public body is becoming more dependent on the knowledge base of units. The 'knowledge worker' is rapidly replacing the labourer as basic activities are automated and consolidated by economies of scale because of globalization. Any economy, organization or government that misses this paradigm shift in human resource development will find it difficult to sustain growth and remain competitive (Waibochi, 2002). Thus, it is important to improve the efficiency and competitiveness of MSEs in the face of an increasingly globalized and knowledge-based economy, and there is no better way than to embrace

ICTs. How far MSEs in Kenya's tourism industry have embraced ICTs in their business activities is one of the areas that this study will be addressing.

### **2.5.2 Factors Influencing the Use of ICTs**

The factors attributed to the failure of MSEs to exploit the potential of ICT effectively include lack of adequate e-commerce infrastructure, lack of skills to develop and maintain interactive websites, and the use of obsolete technologies. Other factors that can either impede or enhance use of ICTs include the owner/manager, employees and the government.

In the majority of micro and small enterprises, the owner provides capital while the manager is the person who is responsible for carrying out managerial functions such as planning, organizing, executing, and controlling the MSEs. The owner/manager needs to allocate resources and devote significant time and effort to manage the ICT adoption process. Therefore, owner/manager support is vital to successful ICT adoption (Venkatesan and Fink, 2002; Mehrtens *et. al.*, 2001). The support from the owner/manager comes in the form of his/her knowledge of ICTs and the perception of the benefit obtained from using ICTs (Attewell, 1992). The perceived benefit of ICTs could be a motivation for the owner/manager to invest in ICTs, even for those who have limited ICT knowledge and skills. On the other hand, limited knowledge of IT could be a barrier in investing in ICTs.

Micro and small enterprise employees are the end users of ICTs; they can either impede or enhance use of ICTs. Their acceptance has a positive impact towards ICT adoption within MSEs (Fink and Disterer, 2006; Sarosa and Zowghi, 2003). Employees are likely to accept and support IT adoption if they can be convinced of the relative advantage and

perceive ICTs as easy to use (Davis, 1989). Similarly, the rate of adoption and utilization of ICTs by employees is affected by the training provided (Attewell, 1992; Love *et al.*, 2001). Better ICT knowledge would help employees in adopting the new technology. However, it is often the case that the employees refuse to adopt the ICTs due to various reasons, such as dangers of job loss and the fear of change (Love *et al.*, 2001). It is the responsibility of the owner/manager to influence and motivate them to accept and use the new technology. The study intends to investigate the various factors that impede adoption of ICTs by micro and small entrepreneurs in the tourism industry, and the influence that the owner/manager has on ICTs utilization.

The government's role can either encourage or discourage ICT adoption and utilization, depending on what kind of policy is implemented to assist MSEs. It can provide assistance in form of credit through micro and small enterprise development funds directly to MSEs or formulate policies and provide access to an enabling environment that will facilitate ICT adoption (Institute of Policy Analysis and Research, 2000). MSEs are obviously incapable of sourcing, evaluating, and adopting technologies effectively (Ngahu, 1992). The government policy should, therefore, aim to develop these capabilities in MSEs through supportive institutions. Policy can encourage the development of assistance programmes to facilitate MSEs' access to resources, information, training, and technology. Policies should aim to encourage and promote the development of local technologies. Emphasis should be on the promotion of the local tool industry to reduce reliance on imports. This would save scarce resources, boost innovation and increase business opportunities for citizens. On the other hand, the problem of access to information may be attributed to the inadequacy of MSE support institutions. The study also intends to address the government and institutions' role in influencing the utilization of ICTs among MSEs in the tourism industry in Kenya.

### **2.5.3 Challenges of Using ICTs in MSEs**

In developing countries, MSEs face various challenges, such as lack of adequate ICT infrastructure, high cost of Internet connectivity, security issues concerning electronic transactions, ICT skills, development of secure sites and suitable payment systems, slow connection times and ICT set-up costs. To begin with, accessing ICT-carried information requires a lot of resources, including an ICT infrastructure to provide network access, an electrical infrastructure to make the ICTs work, technical skills to keep all the technology working, finances to buy or access ICTs, skills to use the ICTs, and literacy skills to read the content.

Kimuyu and Omiti (2000) have observed that more than one third of the enterprises die young due to inadequate working capital. Lack of credit is the most severe problem faced by MSEs, the most important being lack of markets and competition. They further observed that own funds and family resources form the most important sources of initial and additional capital. Considering the very low income and saving rates in the country, MSEs fall back on these sources out of desperation.

Attewell (1992) and Love *et al.* (2001) point out that the rate of adoption and use of ICTs by employees is affected by the training provided. Attewell (1992) also suggests that internal technological knowledge and expertise can influence the technology diffusion process. That is, better ICT knowledge and skills would help employees in adopting and using the new technology. However, this is not enough because technology changes frequently and requires regular retooling of employees to be productive.

Lack of relevant local data in the tourism business, from materials, suppliers and market prices to government regulations form another challenge. MSEs need access to information that is generated locally and that focuses on the local situation more than access to existing information from an alien context that is freely available on the Internet and other sources of information. The content of these sources does not specifically address the needs of micro and small enterprises. For empowerment to take root via information and communication technologies, information generated by MSEs in developing countries should be blended with foreign knowledge in ways that do not alienate local MSEs. The study intends to investigate whether the information available addresses the needs of the micro and small entrepreneurs in the tourism industry and propose strategies that need to be put in place to enhance availability of local content.

For successful utilization of ICTs, MSEs need to be aware of those factors that impede and enhance adoption and be able to address challenges of ICT use. By recognizing what kind of positive and negative influence may exist, MSEs could prepare a plan to adopt ICTs successfully. MSEs should strive to enhance the facilitating factor and avoid or reduce the factors that restrain ICT diffusion and utilization. The passing of the Micro and Small Enterprises Bill is hoped to go a long way in addressing some of the challenges faced by MSEs, including access to information and utilization of ICT. The availability of micro and small enterprise development funds and the appointment of field officers will go a long way in enabling MSEs to adopt ICTs. The challenge is to explore the opportunities provided by the ICT revolution to ensure a vibrant, responsive, sustainable and productive tourism industry. Whereas a lot of research has been done on MSEs and factors affecting their performance, including the utilization and diffusion of ICTs, there is no available literature on the information needs being a factor that drive MSEs in the tourism industry to adopt and use ICTs in order to access

information. The scenario prompted this study to investigate information needs of micro and small entrepreneurs in the tourism sector and the extent to which they use ICTs to meet these needs.

#### **2.5.4 Adoption of ICTs and Size of the Enterprise**

Prior research in the diffusion of innovations literature has consistently shown a positive relationship between organization size and innovativeness (Frenzel, 1996). The most common reasons offered for this relationship are economies of scale (Kimberly and Evanisko, 1981), slack resources (Eveland and Tornatzky, 1990), access to outside resources (Attewell, 1992), and ability to bear adoption risks (Hannan and McDowell, 1984). Recent work on ICT adoption has continued to show a positive relationship between firm size and adoption. Large-scale government studies have shown that even as late as 2000, adoption of basic Internet technologies such as e-mail varied with establishment size, and that small establishments rarely adopt complex technologies such as e-commerce (Forman and Goldfarb, 2005). Academic research has also shown a positive relationship between size and ICT adoption (Astebro, 1995; Forman and Goldfarb, 2005).

Measures of size are typically included as a control in recent research on firm adoption of ICT. However, the theoretical reasons for why size influences adoption is not widely understood. Empirical research has been unable to inform theory because of the difficulty in separately identifying the various explanations for this phenomenon. This prevents researchers from making strong statements about why size influences technology adoption. One notable exception is Astebro (1995 and 2004), who demonstrates that faster adoption of computer-aided design and computer numerically-controlled machine tools among large manufacturing plants is due to the large non-

capital investment costs, such as learning, that are required to use these technologies. This study also sought to understand how and why size influences technology adoption.

### **2.5.5 Benefits of Adoption and Utilization of ICTs**

There are four dimensions of the positive impact of ICTs on economic growth. First, ICTs allow process innovation (new ways of doing old things), which increases productivity and creates new value-added products and services. Second, innovative economic activities (new ways of doing new things) may be generated. Third, ICTs represent a new factor of production, along with land, labour and capital, which can lead to economic restructuring. Finally, it represents a new means of organizing activities through its synergies with other technologies. The recent advances towards smaller, faster and cheaper ICTs have led to a considerable decline in the cost-to-performance ratio of its application, which raises productivity. The potential for growth has been expanded by the use of ICTs to promote and market MSE goods and services and more efficient communication between MSEs, their customers and other stakeholders in the tourism industry. Some new applications of ICTs, such as the Internet, have made transaction processes more flexible.

Advances in telecommunications enable enterprises that are geographically separated to communicate, both within a country and across borders. ICTs have provided new opportunities for MSEs in developing countries to participate in regional and global economic ventures. Timely and detailed information about markets, point-of-sale information, and electronic linkages to clients and distributors have enhanced the capability to provide tailor-made products and services to consumers and create market niches. ICTs have revolutionized the marketing systems for widely traded standardized goods through the diffusion of market-determined prices instantaneously around the



world. Micro and small enterprises (MSEs) have the opportunity to become an integral part of the marketing chain as they can have their products and services accessible on national and international markets to potential clients on a real-time basis through mobile phones, the Internet etc. This makes them visible to the tourism global market and enhances their competitiveness in marketing their products and services against the large enterprises, particularly the international tourist firms.

ICT and e-commerce offer benefits for a wide range of business processes in the tourism industry. At firm level, ICT and its applications can make communication within the firm faster and make the management of the firm's resources more efficient (Wellenius, 1993). Seamless transfer of information through shared electronic files and networked computers increases the efficiency of business processes such as documentation, data processing and other back-office functions (organizing incoming orders and preparing invoices). Increasingly, sophisticated ICT applications such as Knowledge Management System (KMS) and Enterprise Resource Planning (ERP) allow firms to store, share and use their acquired knowledge and know-how. For example, customer databases with a history of client-specific correspondence help managers and employees to respond more effectively to customers. A company-wide electronic data source aims to disseminate employees' professional experience, for example tips for winning a contract, from which others in the firm can learn (Elsevier, 1996).

At inter-firm level, the Internet and e-commerce have great potential for reducing transaction costs and increasing the speed and reliability of transactions. They can also reduce inefficiencies resulting from lack of coordination between firms in the value chain in the tourism sector. "Internet-based business-to-business (B2B) interaction and real-time communication can reduce information asymmetries between buyers and

suppliers and build closer relationships among trading partners” (Moodley, 2002). In fact, adopters of e-commerce tend to reduce transaction costs, increase transaction speed and reliability, and extract maximum value from transactions in their value chains (Organization for Economic Cooperation and Development, 2002).

Information and communication technology and e-business applications provide many benefits across a wide range of intra- and inter-firm business processes and transactions in the tourism industry. ICT applications improve information and knowledge management inside the firm and can reduce transaction costs and increase the speed and reliability of transactions for both business-to-business (B2B) and business-to-consumer (B2C) transactions in the tourism sector (Martin and Matlay, 2001). In addition, they are effective tools for improving external communications and quality of services for established and new customers. Martin and Matlay (2001) observe that the rise of B2B across national and geographical boundaries has sharpened the need for MSEs to understand how to reach national markets electronically in order to either increase or avoid the loss of market share.

Despite these advantages, rapid growth in tourism businesses’ purchases and sales over the Internet has yet to materialize. E-commerce is increasing but still accounts for a relatively small share of total commerce. Broad definitions of e-commerce (including established EDI as well as Internet transactions) suggest that in 2000, total on-line transactions were generally 20 per cent or less of total business sector sales and are mainly business-to-business, and business-to-consumer sales are even lower, generally less than 9 per cent of the total retail transactions. On-line transactions are mainly B2B and domestic, rather than B2C or cross-border (Moodley, 2002). The situation is similar

for small and medium-sized enterprises (MSEs), although they lag behind larger firms in Internet transactions in the tourism sector.

## **2.6 MSEs and Access to Information**

Information is regarded as an important aspect of an informed decision making process (Mutula and Brakel, 2006). For MSEs to benefit from the value of information, they need high quality and effective systems to deliver information. Mutala and Brakel (2006) point out that the ability of MSEs to survive in an increasingly competitive global environment will be determined by their capacity to leverage information as a resource. However, one of the most notable obstacles limiting their capacity is access to timely, current, relevant and adequate information for decision making. Relevant information is essential to any business decision, which in the hands of an informed individual leads to better business decisions. In Kenya, MSEs face many challenges to gain access to important information. This is because either they do not understand what relevant information is needed and/or they do not know how to obtain it efficiently. They may not have the means to access information that they need. Moyi (2003) points out that MSEs experience problems in accessing information. Kimuyu and Omiti (2000), on the other hand, point out that MSEs are generally under-capitalized due to operational difficulty in accessing credit.

Findings from both micro and small enterprises showed that there was a great diversity of information demands that needed to be fulfilled, which included, among others, information on enhancing business growth, marketing trends, training opportunities, new products, consumer needs and expectations, taxation and tariffs, potential investment opportunities, and legislation. Mutula and Brakel (2006) observe that MSEs in general obtain information from various sources, including: the Internet; brochures;

other ICT companies; consultants; training seminars; trade catalogues; visits to relevant offices; international databases such as trade and product maps; and the worldwide networks of business information.

Research has shown that, to satisfy their information needs, all MSEs rely greatly on informal networks of family and friends, the local business community and own knowledge and experience. Direct contact with customers through face-to-face meetings is considered the single most effective method of business communication (Pigato, 2001). Therefore, communication with customers and other MSEs is mainly through word of mouth using the telephone or face-to-face. Moyi (2003) and Donner (2006a) observe that MSEs have a strong preference for personal contact with customers. A majority of the enterprises regarded face-to-face contact as being very effective for promotion. Donner further observes that face to face interactions dominate customer interactions even among those with access to ICTs. This is attributed to the trust accrued through face-to-face interactions, which triumphs over the conveniences of any ICTs. Similar results are observed by Duncombe and Heeks in their study on assessment of ICT behaviour of micro and small enterprise in Botswana (Duncombe and Heeks, 1999). Other studies on access to communication services in Kenya indicate that a considerable proportion of the business transactions are conducted using the fax (68%), courier (48%), email (35%), and the Internet (24%), all of which are reported as relatively unavailable or limited. Similar trends are observed with regard to sending of emergency messages. Interestingly, communication facilities that are relatively available are often used to pass messages of a social nature (Omosa and McCormick, 2004). It was observed that one of the key limitations to engaging fully available communication services is the cost involved vis-à-vis the MSE economy. Currently, the volume of money that goes into various communication services is small. Tourism

being information-intensive, MSEs in this industry handle and generate a lot of information that require storage. In this regard, MSE staff store information on paper/cards or in their heads and process it manually. Use of computers in information storage and processing is highly uneven among micro and small enterprises (Chiware and Dick, 2008).

## **2.7 Summary**

From the literature review, it is evident that a dependable information system is essential for efficient management and operation of the tourism sectors. However, there is a shortage of locally generated information needed for the efficient performance of these sectors. To meet this objective, ICT use in every tourism sector shall have to be accelerated in terms of information generation, utilization and applications. However, this can only be realized if there are procedures put in place to facilitate adoption of relevant ICTs in every tourism sector of the economy.

For small firms to adopt e-business and e-commerce strategies and tools, benefits must outweigh investment and maintenance costs. Commercial considerations and potential returns drive adoption. Beyond a certain level of connectivity (Internet access, on-line information or marketing), not all MSEs will necessarily 'catch up' with large firms, simply because e-commerce may not bring large benefits and MSEs will stay with traditional business processes in the tourism sector. Other barriers include the unavailability of ICT competencies within the firm, and unavailability and cost of appropriate inter-operable small-firm systems, network infrastructure and Internet-related support services. Lack of reliable trust and redress systems and cross-country legal and regulatory differences also impede cross-border transactions.

From the literature review, it is clear that policies that will affect the adoption and use of e-business strategies include those designed to expand and improve the quality of the network infrastructure and the legal and regulatory environment, foster technological diffusion and create a favourable business environment. Beyond these general framework policies, specific policies for MSEs have focused on ICT and e-business awareness programmes, business consultation services and employee and management training to enhance ICT and managerial skills.

The literature review shows that policies have shifted over time as tourist firms and economies have moved from concentrating on e-readiness and connectivity to utilization, and are moving towards mature e-business strategies, which blend broad policies for the business environment with policies for particular areas such as the Tourism Destination Management Systems (TDMS) and competition. Policy in the developed countries has moved beyond a narrow concept of e-commerce (on-line transactions) to a wider view of e-business integration of internal and external processes (Organization for Economic Cooperation and Development, 2004b). Policy initiatives in some cases aim at facilitating MSE participation in product and tourism sector value chains, and providing them with information to assess the opportunities and costs of e-business. However, the literature indicates that there is no one-size-fits-all approach to policy, and the policy mix and priorities will depend on national circumstances. This calls for need of formulation of ICT policies, both at the organizational level and the national level with a bearing to international developments, and a clear mechanism for utilization of the same.

Overall, the literature review has tried to address all the issues raised in the research questions that were posed in the study. This included the MSE sector in Kenya and

policy environment, constraints in the MSE sector, and the tourism sector in Kenya. It has also looked at the information infrastructure in the country, and government and ICT institutional policies that govern the operations of MSEs in Kenya. The literature review also focused on diffusion and utilization of ICTs by MSEs in the tourism sector, factors influencing the use of ICTs and challenges of using them in accessing information.

What has emerged is that research on ICT diffusion and utilization in accessing information by MSE entrepreneurs in the tourism industry in Kenya is limited. In fact, very little has been published on MSEs in the tourism industry in Kenya. It also reveals that while many MSEs pride themselves on having and making use of ICTs, they still face many problems in accessing information that is relevant to their operations or are not aware of its existence. Many are still using informal systems to access business information. Information systems and services that are supposed to address their information needs are scattered, which makes it difficult for MSE entrepreneurs to access information.

However, the literature has indicated that information infrastructure has featured prominently in the Kenya government agenda, be it in the Vision 2030, the Ministry of Tourism's own strategy or in the national ICT policy that is currently being implemented. The Kenyan government is also in the process of putting in place structures that will address information systems and access concerns of MSEs in the tourism industry. These include establishing tourism information portals, security and reliability of e-commerce systems, suitable payment systems, legal frameworks and the all-important area of financing.

While the importance of agriculture in Kenya is generally accepted, the services sector (tourism) has not always received as much attention, despite being a major financier of the economy. There is very little in terms of systematic study on ICT diffusion and utilization by micro and small entrepreneurs in the tourism sector in Kenya, particularly with respect to information access, hence, the decision to explore the utilization of ICTs by micro and small entrepreneurs in the tourism sector in accessing information.

The next chapter presents the main theoretical perspectives on diffusion of innovations, exploring different aspects of diffusion research. Factors that influence the process of ICTs utilization in accessing information are identified and a conceptual model of the relationships among these factors is presented.



## **CHAPTER THREE**

### **THEORETICAL AND CONCEPTUAL FRAMEWORK**

#### **3.1 Introduction**

The theoretical framework shows the relationship between variables that influence the diffusion and utilization of ICTs in accessing information for micro and small enterprises in the tourism industry in Kenya and directs attention to variables that should be examined within the scope of the study. The conceptual model developed in this section was used as a lens to guide the research as to what issues are important to examine, and not to validate the framework. This is with the understanding that there is always an initial list of relevant concepts with which the researcher is concerned and without which it is difficult to know what questions to ask or to explore.

Emerging information and communication technologies (ICTs) have introduced opportunities for improving access to information and communication to enhance efficiency and effectiveness of many enterprise processes, and create new business opportunities (Chacko and Harris, 2002). Thus, perceived ICT benefits have motivated numerous MSE entrepreneurs to adopt and invest in this technology. However, understanding the benefits of ICTs is confused by the difference between adoption and usage (Forman and Goldfarb, 2005). Many firms adopt a technology on the surface, but unless it is frequently and properly used, it will not have a positive impact and may even have a negative one. One drawback of traditional adoption studies is the use of a binary variable to describe usage of ICTs. In most survey-based research, organizations report whether they have ICTs or a particular application installed, without getting to know how it is being used and for what purpose. Such focus on a binary installation decision may be misleading (Forman and Goldfarb, 2005). Before examining the gaps in

utilization of ICTs in the tourism industry, it is necessary to give a brief overview of diffusion research studies.

### **3.2 ICT Diffusion Models**

This section provides an overview of ICT diffusion models, highlighting some of the common themes that appear in analysis of ICT utilization. Adoption is the individual-level decision to use a new technology. Diffusion is the aggregation of a number of adoption decisions. Rogers (1995: 5) defines it as ‘the process by which an innovation is communicated through certain channels over time among the members of a social system’. Diffusion research is then concerned with finding patterns across a large number of individuals’ adoption decisions.

The earliest models of ICTs diffusion were epidemic models (Forman and Goldfarb, 2005). These models assumed that the diffusion of new technology is like that of an infectious disease; the process is self-perpetuating. Non-adopters adopt a new technology when they come into contact with adopters and learn about the new technology. Over time, the number of users’ increases, leading to an increased probability of any given non-adopter learning about the technology. This increases the rate of diffusion. As more people adopt, the number of non-adopters declines, which decreases the rate of diffusion. The process is self-propagating and once started will only finish when all potential users have the technology (Stoneman, 2002). This pattern of diffusion leads to the common S-shaped curve on the rate of technology diffusion with respect to time.

Bass (1969) uses an epidemic model to help predict the rate at which a product will diffuse. The central themes of these models—communications and social networks—

are also prominent in recent economic research on technology diffusion. For example, Conley and Udry (2005) measured epidemic effects in agriculture using spatial econometric techniques in Ghana. They found that pineapple farmers in Ghana adopt the successful techniques of their neighbours. That is, a farmer increases (decreases) his use of fertilizer after someone with whom he shares information achieves higher than expected profits when using more (less) fertilizer than he did. As noted above, epidemic model technology spreads through interpersonal contact and information dissemination. Forman and Goldfarb (2005) point out that these models do not explicitly indicate the adoption decisions of individual users, nor do they allow for differences in the costs and benefits of adoption by different members of the population. That is, they assume that the population of potential adopters is homogeneous and unitary, and that interpersonal contact is the only source of information. As a result, these models omit many important aspects of economic behaviour. Later models explicitly include these elements.

The probit (or rank) model emphasizes population heterogeneity. The model assumes that the entire population has perfect information about the technology. Individuals (or firms) adopt the technology when the net benefit of adopting is positive. Khan (2003) noted that, due to high sunk costs of adoption, adoption is usually an absorbing state. That is, it is rare to observe organizations ‘unadopting’ a new technology, and analysts rarely worry about this decision in their econometric modelling. The basic probit model underlies any diffusion modelling that explicitly considers agents’ tradeoffs between the costs and benefits of adopting. However, in contrast to epidemic models, the probit model examines exclusively how internal firm factors shape the benefits to adoption and utilization, and assigns no role to the behaviour of other users.

Clearly, this may be too limiting. Recent economic models of ICT diffusion in the tourism industry have extended the probit model to allow a role for other users' behaviour. Karshenas and Stoneman (1993) consider two ways in which other users' behaviour may influence technology adoption in the tourism industry, which they term 'stock and order effects'. Stock models argue that if new technologies are cost-reducing, they will increase the output that a firm produces. As a result, increasing adoption of new technologies eventually decreases the profits of adopters and non-adopters alike. Under certain conditions, the difference in profits between adopters and non-adopters declines over time (Reinganum, 1981), leading to decreasing net benefits from new technology adoption.

Stock models assume that the profits among all adopters are identical, as are the profits among all non-adopters. In contrast, order models assume that the benefits of new adoption decrease with the number of prior adopters. Despite this, early adopters continue to benefit disproportionately from the technology (Fudenberg and Tirole, 1985). The perception behind why early adopters enjoy higher profits than later adopters is that there may be first-mover advantages to adoption, due to the ability of early movers to capture scarce inputs such as labour (Ireland and Stoneman, 1985).

Order and stock effects are examples of negative 'network externalities'. That is, the benefits of adopting a new technology decline as the number of other users increases. However, the benefits of adopting a new technology can also increase as others adopt, generating positive network externalities. Positive network externalities can further be categorized as direct or indirect. The telephone provides an example of a 'direct' positive network externality: the value of adoption relies explicitly on the value of communicating with other users (Forman and Goldfarb, 2005).

Roger's (1995) general theory of diffusion of innovation suggests several factors that affect the spread of innovation. They offer ways on how to analyze the diffusion of new technologies by emphasizing different sets of factors. First, the diffusion theory provides a framework that helps to understand why ICTs are adopted by some individuals or enterprises and not by others. The diffusion theory assisted in identifying qualities such as relative advantage, compatibility and complexity that make ICTs more appealing to potential adopters. It also provides a closer look at the communication channels used to spread the word about ICTs, how much time it should take, and the characteristics of the adopters.

Second, ICTs are constantly changing and introducing new capabilities and components. Therefore, it is important to have a solid understanding of how to introduce these new changes into the MSEs, bearing in mind that every person adopts innovations at different rates. Third, the diffusion theory provides several models that can be used to develop a successful diffusion campaign for ICTs within the tourism industry in the MSE sector. By emphasizing communications and sociology, Rogers focuses on the role of communication networks in technology diffusion. He details the process through which innovations move from one population to another and discusses the role of five key factors in the individual decision to adopt: relative advantage, complexity, compatibility, trialability, and observability. Rogers emphasizes that these factors are only relevant after informative contact with the innovation, and much of his work focuses on the roles of different communication networks in initiating this contact. This contact is achieved by a 'change agent'. The change agent brings an innovation into a new social network and can effectively communicate its benefits. Managers aiming to generate technology adoption should think of themselves as change agents. In their emphasis on how characteristics of the adopter or technology shape the value of

adopting, the five key factors are similar to the emphasis on heterogeneous adoption benefits and costs in the probit model. Moreover, Rogers' emphasis on communication and change agents are analogous to the importance of information transmission in epidemic models of diffusion.

### **3.2.1 Gaps in ICT Diffusion Modelling**

This study attempted to establish factors that influence ICT diffusion and utilization by focusing on its access and use by MSEs. Its primary objective was to understand the nature of ICT diffusion within the MSEs in the tourism industry, and key factors that influence their utilization in the process of access, storage and dissemination of information. Diffusion of innovations theory by Rogers (1995) was used to inform this study in order to better understand ICT utilization in the MSEs in the tourism industry.

A review of literature, however, reveals gaps in the diffusion of innovation theory. First, the traditional innovation diffusion theory is focused on the adoption of ICT innovation by independent users, who can decide whether to adopt or reject it. The situation is different from the diffusion of ICT within an enterprise in which the enterprise adopts ICT innovation and then encourages and facilitates its use to potential users. In this case, user response to diffusion of innovation will depend upon the enterprise decision. Second, most research on which innovation diffusion theory has been used focused on large firms in the developed world (Peansupap and Walker, 2005b). Where research has been undertaken in Africa, the focus has been on factors influencing the adoption of innovations (Migiro and Ocholla, 2005; Duncombe and Heeks, 2001). But as Green (2001) points out, 'access to technology does not necessarily lead to its use'. Minishi-Majanja and Kiplang'at (2005) have gone further and observed that the theory does not adequately provide a basis for predicting outcomes or for providing guidance for

accelerating ICT adoption rates. Thus, very little research has been conducted on factors and processes that influence the utilization after the adoption decision has been made by MSEs in the developing countries of Africa, particularly in Kenya. This region could be having some unique environmental and organizational characteristics such as funding, expertise, politics and culture that have not been factored in the diffusion theory, explaining why many ICTs start-ups fail, particularly after the initial purchase (Minishi-Majanja and Kiplang'at, 2005). Some of these characteristics are highlighted by Troshani and Doolin (2005), and Peansupap and Walker (2005a) and they play a significant role in innovation diffusion, adoption and utilization.

To effectively attempt to fill ICT utilization gaps, there is need to integrate the application of diffusion of innovation theories with other theoretical bodies of knowledge. Several essential variables will be developed from the integration of the following four main theoretical bodies of knowledge: innovation diffusion, change management, learning and knowledge sharing, and information needs. By integrating these four bodies, it will be possible to identify factors and processes that influence diffusion and utilization of ICTs in accessing information. The study intends to fill this gap by the use of three theoretical models; information needs (Wilson, 2006), diffusion of innovation (Rogers, 1995) and Peansupap and Walker's (2005a) model of diffusion and utilization of ICTs at implementation, which form the ultimate drive for entrepreneurs in the tourism industry to use ICTs.

### **3.3 Review of the Four Theoretical Bodies of Knowledge Influencing ICT Diffusion and Utilization**

This section discusses four theoretical bodies of knowledge that have been found to influence ICT utilization. They include: diffusion of innovation by Rogers, change management, learning and knowledge sharing suggested by Peansupap and Walker

(2005a) to influence diffusion of ICT innovation within an organization at implementation, and information needs factors.

### **3.3.1 Diffusion of Innovation**

Diffusion theories suggest that there are several factors affecting the spread of innovations. Emphasizing different sets of factors, theoretical perspectives provide ways to analyze the dissemination of new technologies, ideas, reforms or products. The recent spread of new ICTs in society has raised new aspects in diffusion research.

The most widespread theory of innovation diffusion is presented by Everett M. Rogers (1995). According to this general theory, *diffusion* is ‘the process by which an innovation is communicated through certain channels over time among the members of a social system’ (Rogers, 1995: 5). *Innovation* is defined as an ‘idea, practice or object perceived as new by a unit of adoption’ (Rogers, 1995: 11). An innovation must be new to the adopter and the innovation can take many forms from ideas, such as a new customer service approach to devices such as the cellular phone. The adopting unit of an innovation can be an individual, a group, a business or an organization. Innovations must go through communication channels. Communication is the process by which participants create and share information with one another in order to reach a mutual understanding. The channels are the means through which an individual, group, or organization communicates the innovation to other individuals, groups, or organizations. The channels can be either mass media or interpersonal (Rogers, 1995). Mass media channels are more effective in creating knowledge of innovations, whereas interpersonal channels are more effective in forming and changing attitudes toward a new idea, and thus in influencing the decision to adopt or reject a new idea. Most individuals evaluate an innovation not on the basis of scientific research by experts, but



through the subjective evaluations of near-peers who have adopted the innovation. A social system in this theory is defined as ‘a set of interrelated units that are engaged in joint problem solving to accomplish a common goal’ (Rogers, 1995: 23). The members or units of a social system may be individuals, informal groups, organizations, and/or sub-systems. The social system constitutes a boundary within which an innovation diffuses.

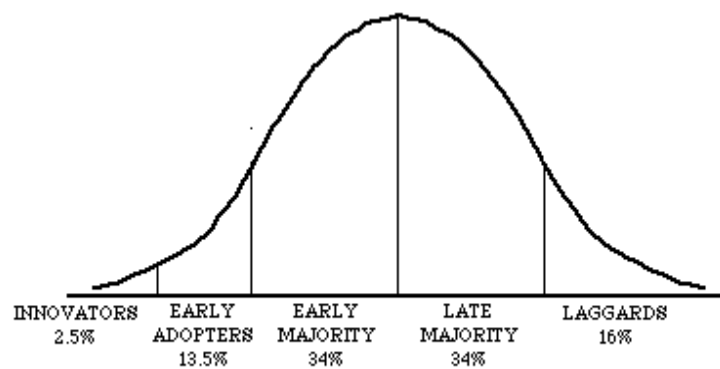
Rogers (1995) in his book *Diffusion of Innovations* points out that diffusion is not a single, all-encompassing theory; rather it is several theoretical perspectives that relate to the overall concept of diffusion. He presents four perspectives of the theory of diffusion: innovation decision process; individual innovativeness; rate of adoption; and perceived attributes.

The innovation decision process states that diffusion is a process that occurs over time. That is, the time involved in the diffusion and, sometimes, adoption of an innovation involves five stages; knowledge, persuasion, decision, implementation, and confirmation (Rogers, 1995). According to this theoretical perspective, potential adopters of an innovation must learn about the innovation, be persuaded as to the merits of the innovation, decide to adopt, implement the innovation, and confirm (or reject) the decision to adopt the innovation. The adopter continues to use the new innovation because it has a positive outcome as a result of its use. An individual seeks information at various stages in the innovation-decision process in order to decrease uncertainty about an innovation’s expected consequences.

The individual innovativeness theoretical perspective implies that every person adopts innovations at different rates. Persons who are predisposed to being innovative will

adopt an innovation earlier than those who are less predisposed. There are five categories of adopters: innovators - persons eager to try or use new ideas; early adopters - persons who are respectable and are revered within the social system, often seen as leaders; early majority - persons who interact with peers often but are not often leaders; late majority - sceptical persons, who adopt innovations because of necessity or peer pressure; laggards - traditionalists, near isolates, who often use the past as a reference point. Figure 3.1 shows the bell shaped distribution of individual innovativeness and the percentage of potential adopters broken down into five different categories, based on their tendency to adopt an innovation as illustrated by Rogers (1995).

**Figure 3.1: The Bell-Shaped distribution of individual innovativeness**



*Source: Rogers, 1995*

The innovators and early adopters tend to be better educated, have higher social standing, belong to larger organizations, have upward social mobility, more mass media and interpersonal communication channels, take greater risks, and seek information more readily than the early majority, late majority, and laggard adopters (Rogers, 1995). Innovators in a social system are characterized as risk-takers who invest money in innovations before considering the five attributes. Being an innovator has several prerequisites, viz: to control substantial financial resources; to absorb the possible loss

from an unprofitable innovation; to understand and apply complex technical knowledge; and to cope with a high degree of uncertainty about an innovation at the time of adoption.

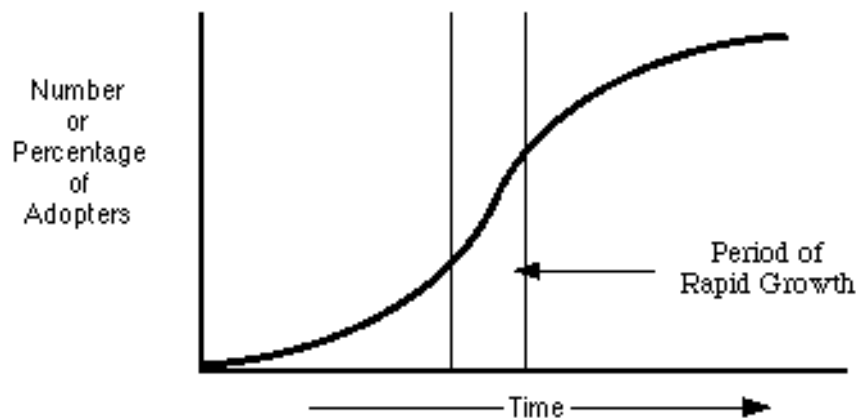
While an innovator may not be respected by the other members of a social system, the innovator plays an important role in the diffusion process; that of launching the new idea in the system by importing the innovation from outside of the system's boundaries. The early adopters follow the innovators and have a certain respect for innovations and the potential benefits they have to offer. This adopter category, more than any other, has the greatest degree of opinion leadership in most systems. They are more in touch with the members of the social system, unlike the innovators. Potential adopters look to early adopters for advice and information about the innovation. This adopter category is generally sought by change agents to influence and speed up the diffusion process. Because early adopters are not too far ahead of the average individual in innovativeness, they serve as a role-model for many other members of a social system. The early adopter decreases uncertainty about a new idea by adopting it, and then conveying a subjective evaluation of the innovation to near-peers through interpersonal networks.

The early majority are often respectful of the benefits but must deliberate on the cost versus benefit factor. The early majority interact frequently with their peers, but seldom hold positions of opinion leadership in a system. The early majority's unique position between the early adopters and the relatively late to adopt makes them an important link in the diffusion process. They provide interconnectedness in the system's interpersonal networks. The early majority are one of the two most numerous adopter categories, making up one-third of the members of a system. The late majority are characterized as sceptical of change through innovation. Like the early majority, the late majority make

up one-third of the members of a system. Adoption for them may be as a result of the increasing network pressures from peers. They do not adopt until most others in their system have done so. The weight of system norms must first favour an innovation before the late majority are convinced. The pressure of peers is necessary to motivate adoption. Their relatively scarce resources mean that most of the uncertainty about a new idea must be removed before the late majority feel that it is safe to adopt. The laggards simply prefer the traditional way of doing things and are not very willing to try innovations for any reason. The point of reference for the laggard is the past. Decisions are often made in terms of what has been done previously. Laggards tend to be suspicious of innovations and change agents. Resistance to innovations on the part of laggards may be entirely rational, as their resources are limited and they must be certain that a new idea will not fail before they can adopt. The time of diffusion and, sometimes, adoption of an innovation depends on the adopter and the rate of adoption.

The third perspective of diffusion theory is the rate of adoption. This theoretical perspective states that 'innovations are diffused over time in a pattern that resembles an S-shaped curve' (Rogers, 1995). The adoption of an innovation starts slowly, gains speed, and eventually plateaus as shown in Figure 3.2.

**Figure 3.2: Typical pattern of Diffusion**



*Source: Rogers (1995)*

Finally, the fourth theoretical perspective of diffusion theory is the perceived attributes of an innovation (Rogers, 1995). An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. This perspective of diffusion theory states that potential adopters judge an innovation based on their perceptions with regard to five characteristics of the innovation. These characteristics, which determine an innovation's rate of adoption, are: relative advantage, compatibility, complexity, trialability, and observability. Relative advantage is the extent to which an innovation is seen as better than ideas that it replaces. The degree of relative advantage may be measured in economic terms, but social prestige, convenience, and satisfaction are also important factors. It does not matter so much if an innovation has a great deal of objective advantage. What matters is whether an individual perceives the innovation as advantageous. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption will be.

Compatibility is the degree to which an innovation is seen as being consistent with already existing values, experiences, and the needs of the people adopting it. An idea

that is incompatible with the values and norms of a social system will not be adopted as rapidly as an innovation that is compatible. The adoption of an incompatible innovation often requires the prior adoption of a new value system, which is a relatively slow process.

Complexity is the degree to which an innovation is seen as difficult to understand or put into practice. Some innovations are readily understood by most members of a social system; others are more complicated and will be adopted more slowly. New ideas that are simpler to understand are adopted more rapidly than innovations that require the adopter to develop new skills and understandings.

Trialability is the degree to which an innovation may be experimented with on a limited basis. New ideas that can be tried on an instalment plan will generally be adopted more quickly than innovations that are not divisible. An innovation that is tried on a limited basis represents less uncertainty to the individual who is considering it for adoption, who can learn by doing.

Observability is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt it. Such visibility stimulates peer discussion of a new idea, as friends and neighbours of an adopter often request innovation-evaluation information about it. In summary then, the theory holds that an innovation will be adopted more rapidly than other innovations if potential adopters perceive that the innovation: has an advantage relative to other innovations or what is currently being used; is compatible with existing practices and values; is not too complex; can be tried on a limited basis before adoption; and that it offers observable results. Adoption is the individual-level decision to use a

new technology, while diffusion is the aggregation of a number of adoption decisions. Diffusion research is then concerned with finding patterns across a large number of adoption decisions. It focuses on five elements: (1) the characteristics of an innovation, which may influence its adoption; (2) the decision-making process that occurs when individuals consider adopting a new idea, product or practice; (3) the characteristics of individuals that make them likely to adopt an innovation; (4) the consequences for individuals and society of adopting an innovation; and (5) communication channels used in the adoption process.

In trying to understand diffusion and utilization of ICTs, it is important to find out why an individual would want to use them, and the factors that would ensure sustainability of ICT utilization, bearing in mind that an individual is a member of a social system. The individual is subject to the system's social structure, norms - the established behaviour patterns for the members of a social system and opinion leadership, the degree to which an individual is able to influence informally other individuals' attitudes or behaviour in a desired way. Within systems there are change agents. These are individuals who attempt to influence members of the social systems' innovation-decisions in a direction that is deemed desirable by a change agency. It is also important to realize that there are two types of innovation decisions, whether individual adoption decisions or organizational decisions, and whether they are made by an authority or by consensus. For ICTs to diffuse and be used by MSEs, change must take place within the enterprises either through authority or through consensus. MSEs therefore need to manage this change.

### **3.3.2 Change Management**

Adopting ICT is a difficult task for companies of all sizes, whether they are in developed or developing countries. In fact, a lot of management literature focuses on the organizational changes that firms must go through in order to effectively adopt ICT because they change the way firms do business. While the changes may be beneficial in the long run, they often hurt one department and strengthen another. Therefore, the issue of change is one of the greatest challenges in the workplace today (Fralix, 1998). For many companies, organizations, or institutions to stay competitive in their fields and meet the needs of their customers, they must be prepared for change and the effects of that change. Change management helps organizations predict, institute, guide, facilitate, and evaluate change. Odini (1990) in 'the Management of Change in Library Services' points out that managing change means 'taking control of and shaping the direction, then influencing in some way the outcome of change'. Kleiner and Kudray (1997: 19) define change management as:

...the continuous process of aligning an organization with its marketplace - and doing it more responsively and effectively than its competitors. For an organization to be aligned, the key management levers - strategy, operations, culture, and reward - must be synchronized continuously. Since change is an inevitable, ongoing process, these management levers must constantly be altered also.

The concept of 'change management' is a familiar one in most businesses today. However, how businesses manage change varies enormously depending on the nature of the business, the change and the people involved. A key part of this depends on how far people within it understand the change process.

Gardner and Ash (2003) point out that the relatively low level of organizational benefits realized by typical strategic information technology interventions over the past decade is often a product of poor adoption and implementation practices on the part of senior



managers and IT practitioners who have failed to understand the non-linear and emergent nature of change in complex organizations.

From the literature, there would appear to be two main approaches to change management: planned and emergent. Planned change has dominated the theory and practice of change management for the last half a century and is principally based on the work of Kurt Lewin (cited by Bamford and Forrester, 2003). This approach views organizational change as a process that moves from one 'fixed state' to another through a series of pre-planned steps and can, therefore, be analyzed by a construct such as Lewin's (1958) 'three-step model'. The model describes the three learning stages of freezing, which refers to clinging to what one knows; unfreezing refers to exploring ideas, issues and approaches; and lastly refreezing refers to identifying, utilizing and integrating values, attitudes and skills with those previously held and currently desired. This approach recognizes that before any new behaviour can be adopted successfully, the old one has to be discarded. Only then can the new behaviour be fully accepted.

By recognizing these three distinct stages of change, one can plan to implement the change required. It starts by creating the motivation to change (unfreeze). Then it moves through the change process by promoting effective communications and empowering people to embrace new ways of working (change). And finally, the process ends when the organization returns to a sense of stability (refreeze), which is so necessary for creating the confidence from which to embark on the next inevitable change (Baekdal, *et al.*, 2006).

While planned change has many followers, it also has a number of critics. Bamford and Forrester (2003) argue that change cannot occur from one stable state to another with

the turbulent business environment that exists today. They see organizational change as less dependent on detailed plans and projections than on reaching an actual understanding of the complexity of the issues involved and identifying the range of possible options. The planned approach is based on the assumption that everyone within the organization agrees to work in one direction, with no disagreement. Unfortunately, this is not always the case. Within any group of individuals, differences of opinion on important matters will always exist.

Recent research has indicated that individual reactions to and perceptions of change are frequently determined by personal agendas that are not always in agreement with those of the organization (Bamford and Forrester, 2003). In addition to the individual, an organization's culture, history, values and capacity for change are potential obstacles for change management.

Dawson (1994), cited by Bamford and Forrester (2003), claims that change must be linked to developments in markets, work organization, systems of management control and the shifting nature of organizational boundaries and relationships. He emphasizes that in today's business environment, one-dimensional change interventions are likely to generate only short-term results and heighten instability rather than reduce it.

Critics of 'planned change' have proposed the 'emergent change' that fronts the argument that the uncertainty of the environment makes 'planned change' inappropriate and 'emergent change' more pertinent. The fact is that organizations are affected by the environment in which they operate or come into contact with. Therefore, it is important when discussing change management to note the extent to which the environment drives changes within a system (i.e. organization) and to what extent the system is in control of

its own change processes. Obviously, the environment, in organization terms, includes both internal and external influences. The responsibility for change is, therefore, more devolved and, as a result, requires great changes in the roles played by senior management in the change process. They change from being controllers to facilitators. This is clearly illustrated by the ADKAR model (Figure 3.3).

**Figure 3.3: A description of ingredients for change management process**

↓	<b>A</b>	Awareness of the need for change	<ul style="list-style-type: none"> <li>▪ Management communications</li> <li>▪ Customer input</li> <li>▪ Marketplace changes</li> <li>▪ Ready access to information</li> </ul>	Enablers
	<b>D</b>	Desire to participate and support the change	<ul style="list-style-type: none"> <li>▪ Fear of job loss</li> <li>▪ Discontent with current state</li> <li>▪ Imminent negative consequence</li> <li>▪ Enhanced job security</li> <li>▪ Affiliation and sense of belonging</li> <li>▪ Career advancement</li> <li>▪ Acquisition of power or position</li> <li>▪ Incentive or compensation</li> <li>▪ Trust and respect for leadership</li> <li>▪ Hope in future state</li> </ul>	
	<b>K</b>	Knowledge on how to change	<ul style="list-style-type: none"> <li>▪ Training and education</li> <li>▪ Information access</li> <li>▪ Examples and role models</li> </ul>	
	<b>A</b>	Ability to implement required skills and behaviours	<ul style="list-style-type: none"> <li>▪ Practice applying new skills or using new processes and tools</li> <li>▪ Coaching</li> <li>▪ Mentoring</li> <li>▪ Removal of barriers</li> </ul>	
	<b>R</b>	Reinforcement to sustain the change	<ul style="list-style-type: none"> <li>▪ Incentives and rewards</li> <li>▪ Compensation changes</li> <li>▪ Celebrations</li> <li>▪ Personal recognition</li> </ul>	

*Source: ADKAR model by Hiatt (2006)*

Figure 3.3 represents a description of ingredients for the change management process: Awareness, Desire, Knowledge, Ability, and Reinforcement (ADKAR) - from work by an organization called Prosci. The model proposes that effective management of the

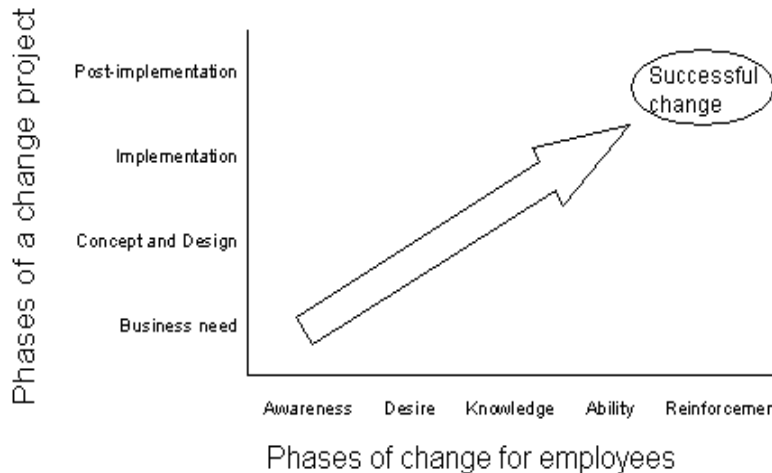
people dimension of change requires managing five key goals that form the basis of the ADKAR model (Hiatt, 2006):

1. **Awareness** of the need to change (why the change is needed) represents a person's understanding of the nature of the change, why the change is being made and the risk of not changing. Awareness also includes information about the internal and external drivers that created the need for change, as well as 'what's in it for me'.
2. **Desire** to participate in and support the change represents the willingness to support and engage in a change. Desire is ultimately about personal choice, influenced by the nature of the change, by an individual's personal situation, as well as intrinsic motivators that are unique to each person.
3. **Knowledge** of how to change (and what the change looks like) represents the information, training and education necessary to know how to change. Knowledge includes information about behaviours, processes, tools, systems, skills, job roles and techniques that are needed to implement change.
4. **Ability** to implement new skills and behaviours on a day-to-day basis represents the realization or execution of the change. It is turning knowledge into action.
5. **Reinforcement** to keep the change in place or to sustain the change represents internal and external factors that sustain a change. External reinforcements could include recognition and rewards that are tied to the realization of the change. Internal reinforcements could be a person's internal satisfaction with his or her achievement or other benefits derived from the change on a personal level.

ADKAR is a goal-oriented change management model that allows change management teams to focus their activities on specific business results. The model was initially used as a tool for determining if change management activities such as communications and

training were having the desired results during organizational change. The model has its origins in aligning traditional change management activities with a given result or goal. For example, awareness of the business reasons for change is a goal of early communications related to a business change. Desire to engage and participate in the change is the goal of sponsorship and resistance management. Knowledge about how to change is the goal of training and coaching. By identifying the required outcomes or goals of change management, ADKAR becomes a useful framework for change management teams in the planning and execution of their work. The goals or outcomes defined by ADKAR are sequential and cumulative. An individual must obtain each element in sequence in order for a change to be implemented and sustained as shown in Figure 3.4.

**Figure 3.4: Successful change based on the Akdar model**



*Source: Model adopted from Hiatt, J.M. (2006)*

The diagram demonstrates that successful change based on the AKDAR model is a sequential and cumulative process; one level builds on the next level. ADKAR is a people-focused model that is important in any change management project because it

recognizes that change in an organization cannot take place without taking people along this route. When engaging with a change project and implementation, an awareness of why change is needed, and the knowledge of how to change, among other things, are important elements in the management of organizational change (Hiatt, 2006). The model helps managers and employees understand and monitor the degree to which individual people have changed and what needs to happen next. The model has the ability to identify why changes are not working and help managers take the necessary steps to make the change successful.

Kotter (1996) in his book 'Leading Change' describes another model for understanding and managing change that is flexible enough to cater for emergent change. Each stage acknowledges a key principle identified by Kotter relating to people's response and approach to change, in which people see, feel and then change. Kotter's eight-step change model can be summarized as:

1. **Increase urgency** – by inspiring people to move, making objectives real and relevant. This involves: identifying potential threats and developing scenarios showing what could happen in the future; examining opportunities that should be, or could be, exploited; starting honest discussions, and giving dynamic and convincing reasons to get people talking and thinking; and requesting support from customers, stakeholders and industry people to strengthen the need for change. Kotter suggests that for change to be successful, 75 per cent of a company's management needs to 'buy into' the change. In other words, you have to really work hard on Step One, and spend significant time and energy building urgency before moving onto the next steps.
2. **Build the guiding team** - get the right people in place with the right emotional commitment, and the right mix of skills and levels - job title, status, expertise,

and political importance. Once formed, the guiding team needs to work as a team, continuing to build urgency and momentum around the need for change. It is important to check the team for weak areas, and ensure that it is made up of a good mix of people from different departments and different levels within the organization or enterprise.

3. **Get the vision right** - get the team to establish a simple vision and strategy to focus on emotional and creative aspects necessary to drive service and efficiency. A clear vision can help everyone understand why you are asking them to do something. When people see for themselves what you are trying to achieve, then the directives they are given tend to make more sense.
4. **Communicate the vision and build buy-in** - involve as many people as possible, communicate the essentials, and appeal and respond to people's needs. This entails: talking often about the organization's change vision; addressing openly and honestly people's concerns and anxieties; applying the organization's vision to all aspects of operations - from training to performance reviews - and lastly, the manager should lead by example.
5. **Empower actions** - remove obstacles, enable constructive feedback and lots of support from leaders - reward and recognize progress and achievements.
6. **Create short-term wins** - set aims that are easy to achieve, manageable numbers of initiatives. Finish current stages before starting new ones. This is achieved by creating short-term targets that are achievable, with little room for failure. Each win that is produced motivates the entire staff further.
7. **Don't let up** - foster and encourage determination and persistence – build on the change, encourage ongoing progress reporting, highlight achieved and future milestones. Each success provides an opportunity to build on what went right

and identify what you can improve. Set goals that will continue building on the momentum you have achieved. Kotter argues that many change projects fail because victory is declared too early. Real change runs deep. Quick wins are only the beginning of what needs to be done to achieve long-term change.

8. **Make change stick** - reinforce the value of successful change via recruitment, promotion, and new change leaders. Weave change into the organization's corporate culture. Make continuous efforts to ensure that the change is seen in every aspect of your organization. Include the change ideals and values when hiring and training new staff. This will help give that change a solid place in your organization's culture.

In the latter two models, change management deviates from traditional projects in that it is more about people. Higher efficiency comes not from working harder, but from within. Higher efficiency comes from inner-energy, self-motivation, self-worth, and complete understanding for the entire process (Baekdal, *et al.*, 2006). The organization needs to focus on its human resource if there is to be any meaningful change or improvement.

Change management is the focus of the change initiative to bring about change at the individual, group or organizational level (Powell, 2005). The concept behind change and change management is that these changes refer to proactive organization improvements. Unfortunately, the underlying assumption that all change is good (Ojala, 1997: 1) is incorrect. Therefore, enterprises must understand the forces that drive change, how their employees will react to change, and the underlying principles of change, and use them to develop a comprehensive change management framework that will ensure a successful change initiative. Therefore, it is important for enterprises to



identify any destabilizing forces that bring about change. There are external and internal forces of change for every enterprise, which affects either the individual or the group.

ICTs have been identified as an external force of change in that they can either enhance or destroy the competence of enterprises (Carson, 1998). In other words, advancements in technology can either help an organization progress or can leave them lagging behind the competition that has been able to learn and utilize newer technologies to their benefit. Other external forces include economic, political, customer requirements, competitors, and the international perspective. Some of the internal forces include: (1) alteration of strategies and plans - an enterprise may decide to improve productivity and this has the effect of making workers to change and be more productive; (2) ethical difficulties arising from employee behaviour - an employee might have an ethical problem with a given situation that arises; (3) group pressure may force the individual to change to the norm of the group or leave the group if the change is unacceptable; (4) reorganizations - changes in the methods of doing things result in groups and individuals adapting; (5) technological advances - changes occurring from automation of the services in an organization. This has the effect of requiring the group or persons to adapt by learning how to operate the new system.

The foregoing are but a few internal and external forces that contribute to change within an organization. Part of change management is to predict these forces in an organization. ICT's utilization related problems are viewed as change management constraints relating to organizational behaviour and processes and/or users' behaviour. Change management constraints occur because ICT management often focuses only on technical problems rather than organizational problems (Humphrey, 1989).

The change management concept highlights three main issues. First, the concept of change management is required as an additional ICT utilization process. Second, it is a dynamic activity that facilitates and maintains continuous change. Third, it involves interaction between strategy, structure/process, technology and people. The interaction of each factor provides the basic understanding of how change occurs. However, it is also necessary to focus on how to manage and control change. In addition, change-related to ICT utilization is inevitable. Thus, it is essential to understand how change should be managed in relation to the introduction of ICTs within an enterprise (Regan and O'Connor, 2000).

Senge *et al*, (1999) identified the learning concept as a key part of sustaining momentum of change management within organizations and proposed four key management issues: (1) motivation, (2) training and technical support, (3) supervisor support and rewards, and (4) open discussion or communication and learning environment. Odini (1990) identified four key factors that need to be considered when managing change in organizations: psychological; communication; motivation; and administrative. This is also supported by Green (2001) who points out that keenness to interact with the technology of information cannot be assumed. There is need to have high levels of motivation and sustained effort in order to ensure actual utilization of ICTs for the purpose of effective interaction in the information society.

### **3.3.3 Learning and Knowledge Sharing**

The third theoretical body of knowledge involving ICT utilization is learning and knowledge sharing. As mentioned earlier, ICT's utilization needs users to learn how to operate new ICT tools. Learning may occur as self-learning, learning from an expert, or learning from peers. Self-learning often involves access to written sources or through

experience—trial and error. Self-learning is dependent on personal characteristics and ICT experience. Learning from experts is a viable alternative way of learning that is dependent upon knowledge, expert availability and quality of communication between experts and novices. This is traditionally provided through formal or informal training, short courses, or university courses. Informal learning results from daily life activities of the entrepreneurs related to work, family, or leisure. It is often referred to as experiential learning and can, to a certain degree, be understood as accidental learning. Learning from peers occurs when users share personal experiences, when peers have high confidence levels in using ICTs. Learning from peers is a useful source of ICT utilization support where people have specific operational questions that require a rapid and effective response to address a specific problem.

Formal learning occurs when enterprises formally provide knowledge resources that facilitate delivery of ICT knowledge within the enterprise, for example, training and technical helpdesk ICT support. Learning occurs within an organized and structured context (formal education, in-company training) and is intentional. Informal learning occurs during social interaction. Communities of practice (CoPs) generate knowledge networks that enhance and sustain competitive advantage and they are also used to help CoP members actually use ICTs. Wenger and Snyder (2000: 139) define communities of practice as ‘groups of people informally bound together by shared expertise and passion for a joint enterprise’. Learning, whether formal or informal, takes place through knowledge sharing, the means by which a firm obtains access to its own and other firms’ knowledge (Cummings, 2003). At its most basic level, knowledge sharing involves the processes through which knowledge is channelled between a source and a recipient. Cummings (2003) identifies five primary contexts that can affect such successful knowledge-sharing implementations. This include: the relationship between

the source and the recipient; the form and location of the knowledge; the recipient's learning predisposition; the source's knowledge-sharing capability; and the broader environment in which the sharing occurs.

Learning and knowledge sharing were observed to be important factors in ensuring utilization of ICTs after the initial acquisition. For continuous utilization, the entrepreneurs need to internalize the knowledge shared. Knowledge internalization refers to the degree to which a recipient obtains ownership of, commitment to, and satisfaction with the transferred knowledge (Cummings, 2003). Taking ownership of the knowledge is influenced by the number of interactions involving the knowledge. When entrepreneurs invest in knowledge (ICTs) in terms of energy, time, effort, and attention, they tend to develop ownership of the knowledge.

Commitment is the second aspect of knowledge internalization. It is strengthened when entrepreneurs see value of the knowledge, develop competence in using the knowledge, maintain a working relationship or interaction with the knowledge, and are willing to put in extra effort to work with the knowledge.

The third aspect of knowledge internalization is satisfaction. Entrepreneur satisfaction with the knowledge is important because it can reduce the stress and resistance levels in adapting and using the knowledge. Cummings (2003) posited that only when a recipient internalizes knowledge can it be sufficiently understood and adapted by the recipient to allow for its effective re-creation and, ultimately, its use. To foster knowledge internalization, interactions among MSEs and other relevant bodies that promote the uptake of ICTs needs to be encouraged through seminars, workshops, visitations, and training. While communication of knowledge is important, it is the process through

which knowledge is shared that determines whether an organization or individual learning occurs. It is in the interest of MSEs to learn and share knowledge among them so that they can build on their business knowledge base.

### **3.3.4 Information Needs Concept**

The fourth theoretical body of knowledge involving ICT diffusion and utilization is the information needs of the entrepreneurs. ICTs are the electronic means of capturing, processing, storing, and disseminating information. All that they do is to provide a new mechanism for handling an existing resource, information (Duncombe and Heeks, 2001). ‘We can, therefore, understand nothing about ICTs unless we first understand information and its role, and the institutional and factorial environment’ (Heeks, 1999: 4). If information practices and needs are the key to understanding ICT diffusion and utilization, then the starting point for analysis must be an overview of the purpose of information within the enterprise processes. Lack of information and the knowledge it provides have been highlighted as primary impediments to the growth and development of developing countries:

Information is the lifeblood of every economy. In more traditional economies, information may be less codified, more often conveyed in personal interaction, but it is vital nonetheless ... The ways people get information, and the incentives they have to gather and provide it, are affected by the way society is organised: legal rules and social conventions, institutions and governments, all determine how much information people have and the quality of that information ... Without reliable information markets do not work well (World Bank, 1998 cited by Duncombe and Heeks, 2001).

Information is the key ingredient in support of enterprise growth and development. Lack of information prevents MSEs from knowing what choices are possible and thus restricts them to decisions that are inefficient. Providing information increases the range of potential choices available. On the other hand, poor entrepreneurs are often cut off from access to information relating to supply of enterprise inputs and demand for

enterprise outputs. Sometimes, this is because of geographical isolation, but it also arises from lack of social capital—a constrained social network of information providers (Duncombe and Heeks, 2001).

The potential contribution of information and communication technologies (ICTs) to micro and small enterprise development in the tourism industry can only be assessed by first understanding current information practices and needs in such enterprises (Heeks, 1999). It is information that has a direct impact on the livelihood of the people that matters most, and any application should be developed only after an accurate assessment of these needs (Cecchini and Raina, 2002). Kiplang'at (1999) also pointed out that for ICTs to have any significant impact in development, they must be needs-driven rather than technology-driven. An information need arises from a recognized anomaly in the user's state of knowledge concerning some topic or situation and, in general, the user is unable to specify precisely what is needed to resolve that anomaly (Belkin, Oddy, and Brooks, 1982). These gaps in knowledge are categorized as expressed or articulated needs, unexpressed needs that the user is aware of but does not like to express, and the dormant need that the user is unaware of (Devadason and Lingam, 1996), where a need is a positive motivating hunger that compels action for its satisfaction. A need is specific and generally time bound, either immediate or deferred. If the need is urgent, the search may be pursued with diligence until the desire is fulfilled. Persons with information needs often end up seeking that information either from a friend, colleagues, library, the Internet, etc (Wilson, 1981). For the purpose of this study, an information need is a situation that arises when an entrepreneur encounters a work-related problem that can be resolved through some information. According to Crawford (1978), information needs depend on: work activity; discipline/field/area of interest; availability of facilities; hierarchical position of

individuals; and motivation factors for information needs - need to take a decision; need to seek new ideas; need to validate the correct ones; need to make professional contributions; need to establish priority for discovery, etc. Information needs are affected by a variety of factors such as: the range of information sources available; the uses to which the information will be put; the background, motivation, professional orientation and other individual characteristics of the user; the social, political, economic, legal and regulatory systems surrounding the user; and the consequences of information use (Devadason and Lingam, 1996).

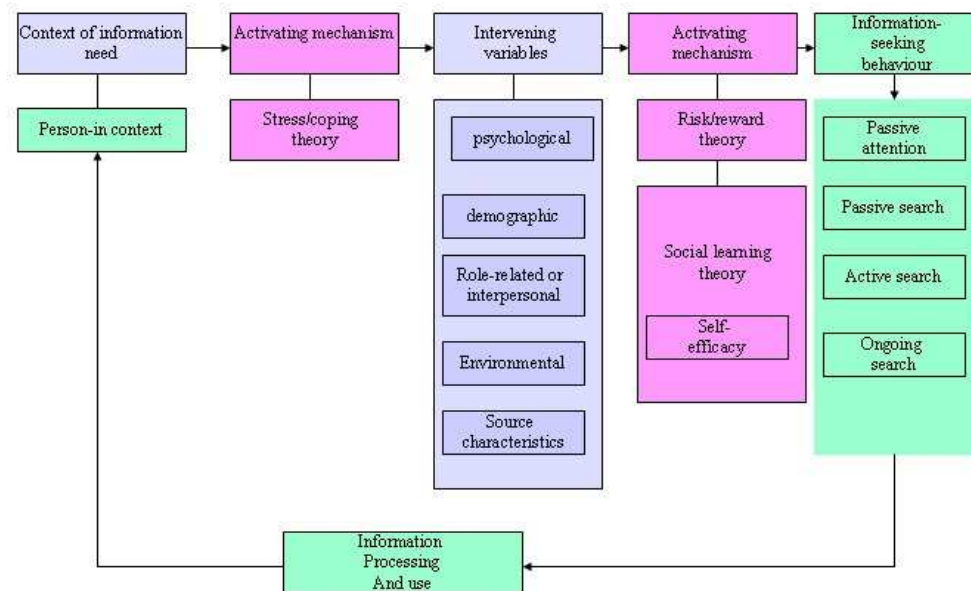
### **Information-seeking**

Information-seeking is a process through which an individual goes about looking for information. It is a complementary process to information need (Ikoja-Odongo and Ocholla, 2004). According to Xie (2000), information users normally employ their general cognitive skills and knowledge to: represent their problems and tasks; establish a set of sub-goals to fulfil the overall goals; and develop techniques and strategies to seek the required information. There are already a number of models and schemes describing information-seeking behaviour (Foster, 2004; Wilson, 2000). Most of them present a scientific explanation of the steps of information-seeking.

Wilson's revised model (Wilson, 2000), shown in Figure 3.5 provides a picture of the cycle of information activities, from the rise of information need to the phase when information is being used. It includes various intervening variables, which have a significant influence on information behaviour, and mechanisms that activate it. The model stipulates that by studying the needs underlying information-seeking behaviour, you get to understand better the needs that exist, which press the individual towards information-seeking behaviour (Wilson, 2000). Better understanding of those needs

enables us to focus on what meaning information has in the everyday life of people; and through all of the foregoing, we should have a better understanding of the user and be able to effectively use ICTs and design more effective information systems.

**Figure 3.5: Wilson's general model of information behaviour**



*Source: Wilson, T.D. (2000)*

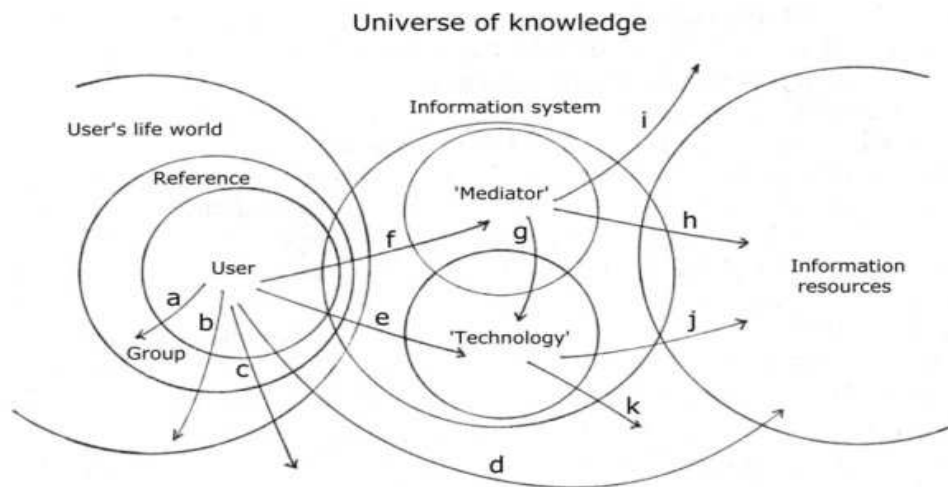
The issue that comes out clearly from this model (Figure 3.5) is that the need for information is tied up with information-seeking behaviour, and that information needs are the driving force of the information-seeking behaviour. Wilson also assumes two propositions. First, that information needs are secondary needs, caused by primary needs, which in accordance with definitions in psychology can be defined as physiological, cognitive or affective (Wilson, 2000). Cognitive needs arise as an attempt to find sense and order in the world, and are the realization of a need to explain and make sense out of phenomena, but also can be simulated by mere curiosity. The rise of a particular need is influenced by the role the person plays in work and life, or the



environments (social, political, economical, and technological, etc) in addition to knowledge, attitudes and abilities.

Foster (2004) in his non-linear model emphasizes that information-seeking behaviour is not linear but non-linear, dynamic, holistic, and flowing. That is, information-seeking must be looked at from the internal and external context. There is the user's world, the information system and the information resources. He goes further to stress that information-seeking occurs throughout in looped cycles, and is concurrent, continuous, and cumulative. This phenomenon was earlier partly captured by Wilson (1981) in his universe of knowledge model as shown in Figure 3.6.

**Figure 3.6: The context of information-seeking**



*Source: Wilson, T.D. (1981)*

The lettered paths on the diagram are intended to show some of the possible search paths that may be used by the information seeker directly or used on his behalf by the information system and its sub-systems:

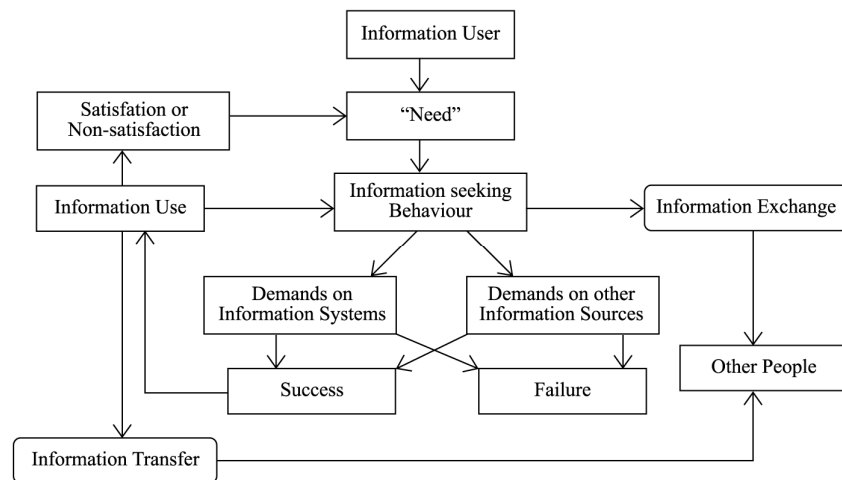
- paths a, b, c and d identify search strategies by a user independent of any information system, and will be referred to as 'Category A' paths;

- paths f and e identify search paths involving either a mediator or an information systems technology (manual card file, computer terminal etc) – Category B paths;
- paths i, g and h identify search strategies employed by a mediator to satisfy a user's need for information – Category C; and
- Paths k and j identify strategies employed by a sophisticated technology on behalf of either the user or the mediator – Category D.

As an example of this latter category, a system could be envisaged in which a computer network could be searched at the initiative of any computer that is a member of that system. The network might include files of knowledge in the process of creation, such as research data files, computer conference files etc.

Wilson (1981) points out that if we choose to investigate any of these categories of search strategies, we are clearly investigating information-seeking behaviour rather than the user's need for information. But by addressing the issue of information-seeking behaviour, we may be able to make inferences about need or uncover facts relating to other variables related to the design, development or adaptation of information systems as shown in Figure 3.6. Later, he came up with a model, Figure 3.7, which explicitly shows that information seeking behaviour is as a result of an information need by the user (Wilson, 2006).

**Figure 3.7: A model of information behaviour**



*Source: Wilson, T.D. (2006)*

The figure suggests that information-seeking behaviour results from the recognition of some need, perceived by the user. That behaviour may take several forms: for example, the user may make demands upon formal systems defined as information systems (such as libraries, Internet services, information centres), or upon systems that may perform information functions in addition to a primary, non-information function (such as tourism agents and organizations, government offices, hotels, airlines and local transport). Alternatively, the user may seek information from other people, rather than from systems, and this is expressed in the diagram as involving ‘information exchange’ (Wilson, 2006). This implies that information need is the driving force behind information-seeking behaviour. A user will seek out the convenient system or source of information to satisfy an information need. The convenient system or source could involve or be facilitated by the use of ICTs as shown in Figure 3.6, path e category B.

### 3.4 Conceptual Framework

The four theoretical bodies of knowledge influencing ICT diffusion and utilization, namely theories of innovation diffusion, change management, sharing and learning and

information needs bring out factors that play a significant role in utilization of ICTs in accessing information. It is not sufficient, however, to study the factors that influence ICT diffusion and utilization as such, in isolation. To be able to predict the utilization of ICTs, there is need to have models that help to understand how these factors influence each other. It is the opinion of the researcher that Peansupap and Walker (2005a) model could also be used with the addition of information needs to influence diffusion of ICTs beyond implementation to utilization.

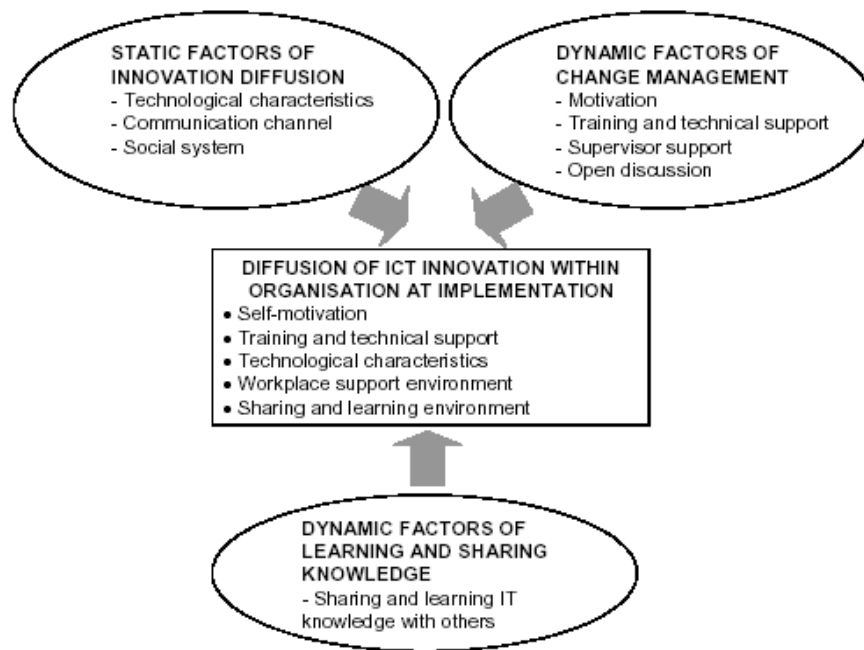
#### **3.4.1 Integration of the Four Theoretical Bodies of Knowledge**

Through analysis of the intersection of these bodies of knowledge, gaps in current knowledge about ICT diffusion and utilization in the tourism industry can be identified. Theories of innovation diffusion, supplemented with change management, sharing and learning and information needs concepts have been used to inform this study. Diffusion success is determined by factors that influence technology adoption and by the way in which potential users within enterprises adopt the technology. Roger's (1995) diffusion model identified technological characteristics, communication channels, social systems and diffusion rate as factors affecting innovation adoption. The innovation diffusion rate depends on the first three factors (Rogers, 1995). However, ICT utilization within an enterprise requires its management to facilitate and encourage people to adopt an ICT initiative. An enterprise can do this through: motivating staff; providing appropriate training and technical support; and ensuring supervisor support and open discussion (Senge *et al*, 1999). This is supported by Peansupap and Walker's (2005a) model, as shown by Figure 3.8, on integration of factors influencing ICT diffusion.

Peansupap and Walker's (2005a) model (Figure 3.8) on the integration of factors influencing ICT diffusion, illustrates static factors of diffusion of innovation that

include factors that influence the ICT adoption decision. First, the characteristics of technological innovation (i.e. relative advantage, ease of use, compatibility) are the primary criteria that influence the individual's adoption decision. Second, communication channels (i.e. mass media and personal communication) facilitate ICT diffusion by disseminating information regarding the application and by pooling individual experience. Third, the social context (i.e. type of users, leader opinion and culture issues) can also influence an individual's adoption decision on technological innovation by personal and social behavioural interaction (Peansupap and Walker, 2005a). These factors are used to determine the primary individual's adoption decision. However, they fail to explain the dynamic nature of the adaptation processes that drives continuous implementation of technological innovation into an enterprise (Peansupap and Walker, 2005a). They do not adequately provide a basis for predicting outcomes or for providing guidance for accelerating adoption rates (Minishi-Majanja and Kiplang'at, 2005). Peansupap and Walker (2005a) propose additional factors of change management and knowledge sharing and learning that provide a dynamic change phenomenon, which can strengthen or weaken the innovation diffusion process. This is supported by Jinqui's *et al.* (2006) findings on 'The Diffusion of the Internet and Rural Development' that indicate that diffusion depends more on institutional efforts than on individual efforts.

**Figure 3.8: Integration of factors influencing ICT diffusion**



*Source: Peansupap and Walker (2005a)*

Dynamic factors consist of motivation, training and technical support, supervisor support, and open discussion environment, and the sharing and learning of ICT knowledge with others. These factors involve supportive change mechanisms that facilitate ICT diffusion within an enterprise. Integrating both static and dynamic factors helps in better understanding of ICT diffusion within an enterprise (Peansupap and Walker, 2005). Their views agree with those of Troshani and Doolin (2005) on 'Drivers and Inhibitors Impacting Technology Adoption'.

Troshani and Doolin (2005) highlight three major factors that play a significant role in innovation adoption, namely environmental and organizational context factors and technology or innovation-related ones. The environmental context factor constitutes the arena in which adopting organizations conduct their businesses, and includes the industry, competitors, regulations, and relationships with government. The

organizational context factor includes characteristics such as quality and availability of human resources, availability of financial resources, and managerial structures. Technological or innovation-related factors focus on how characteristics of the technology itself influence adoption. Some of the most important involve the perceived benefits and costs of adoption, and the difficulty of integrating the innovation into the existing organization. Table 3.1 summarizes some of the factors Troshani and Doolin (2005) forwarded that were expected to be relevant to the adoption of an innovation.

**Table 3.1: Summary of environmental, organizational and innovation factors**

<b>Environmental Context Factors</b>	<b>Organizational Context Factors</b>	<b>Innovation Factors</b>
1. External pressures	1. Human capital and employee education	1. Perceived relative advantage and benefits
2. Culture	2. Management attitudes	2. Perceived costs
3. Legal issues	3. Resources	3. Compatibility and complexity
4. Government		4. Observability and trialability
5. Industry associations		
6. Successful adoptions		

However, utilization and sustainability of ICTs within an enterprise in accessing information is driven by the information need factors that bring out self-motivation in an individual. It is the individual user who seeks and ensures sustainability after realizing the benefits accrued from utilizing ICTs. Self-motivation in Peansupap and Walker (2005) emanate from the need for change within an organization or enterprise, which is characterized by individuals' characteristics (such as self-confidence, enjoyment of learning and their previous foundation in ICT skills) and attitude (such as perceived clear advantage of use, ease of use, relevance to their job, and professional credibility), and not the need for information. The information needs factors are not captured in the two cases above; that is (Peansupap and Walker, 2005) and (Troshani and Doolin, 2005). However, studies have shown that there are motivation factors for information needs, which include: need to take a decision; need to seek new ideas; need

to validate the correct ones; need to make professional contributions; need to establish priority for discovery, etc (Crawford, 1978).

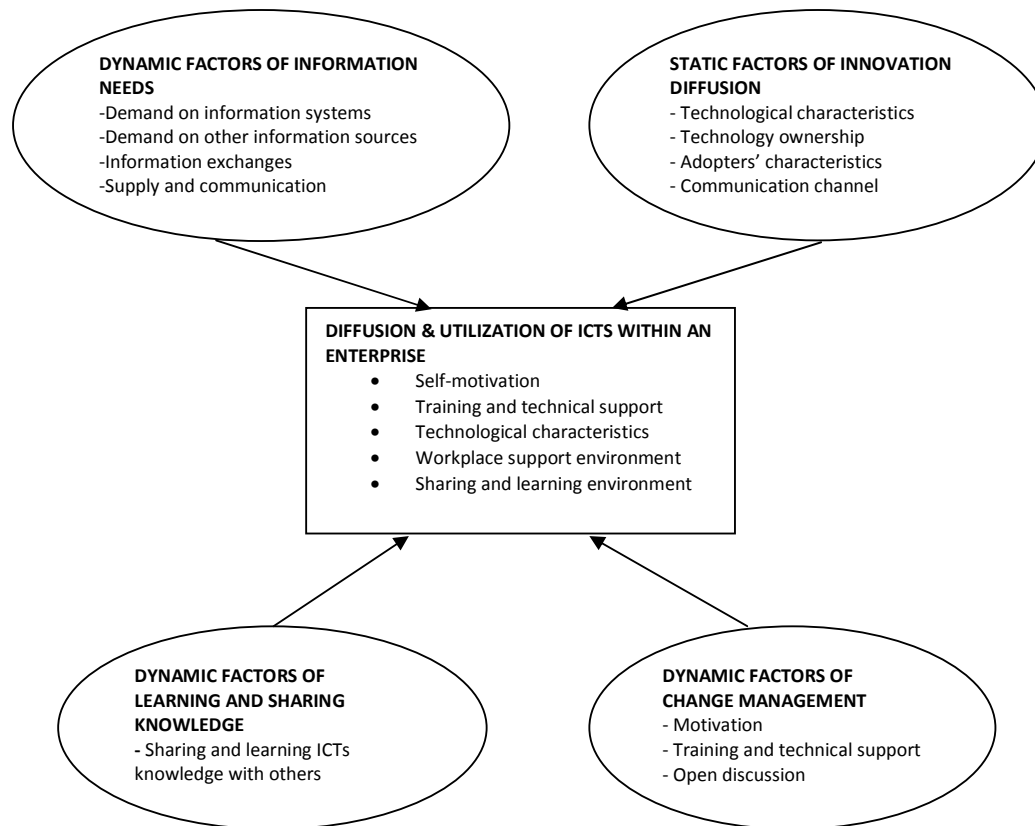
Heeks (1999), states that information and communication technologies cannot be understood unless one first understands information and its role, and the institutional and factorial environment. He suggests that a sound understanding of ICTs and small enterprises must be information-centred. It must recognize that information is a key resource, essential to the development goals of the micro and small enterprise sector; encompass the full range of technologies that handle information—not just digital ICTs but also intermediate (radio, TV, telephone), literate (books, newspapers, manuals) and organic (human-based) technologies; and understand the enterprise context that shapes enterprises and their information practices.

While the integration of the three theoretical bodies of knowledge (innovation diffusion, change management, learning and sharing of knowledge) has been found to influence the diffusion at implementation of ICTs (Peansupap and Walker, 2005a), the fourth theoretical body of knowledge, information needs has not been clearly shown as a key factor. However, looking at the five factors that determine ICT diffusion at the implementation stage in the model presented in Figure 3.8 (self-motivation, training and technical support, technological characteristics, workplace support environment, and a sharing and learning environment), it is possible to infer that self-motivation is also a product of information needs as shown in Figure 3.9. This is supported by Wilson (2006), who points out that, personal needs are at the root of motivation towards information-seeking behaviour. These needs arise out of the roles an individual fills in social life; so far as ICTs are concerned, the most relevant of the roles is ‘work role’.



In the context of MSEs, diffusion of innovations theory as elucidated by Rogers (1995) and a modified model on factors influencing ICT diffusion adopted from Peansupap and Walker (2005a) in their study on *Factors enabling information and communication technology diffusion and actual implementation in a construction organization* (Figure 3.9) have been used to describe the diffusion of ICTs in the tourism industry in Kenya as well as how entrepreneurs in this industry utilize ICTs in accessing information.

**Figure 3.9: Conceptual model of factors influencing ICT diffusion and utilization**



*Source: Integration of factors influencing ICT diffusion and utilization modified from Peansupap and Walker (2005a), <http://www.itcon.org/2005/14/> accessed 2006*

By analyzing ICT use in accessing information with the help of this model, a number of dimensions may be observed. The model proposes four broad dimensions that represent four different phenomena and are complementary to each other, and which influence

ICT diffusion and utilization in accessing information. Each of the dimensions is complex and contains multiple variables, as shown in Figure 3.9.

Specifically, the study considered variables generated from Rogers' diffusion of innovation theory (Rogers, 1995), technology ownerships, adopters' characteristics, and innovation attributes. The research also considered variables from the Peansupap and Walker (2005a) model that touch on change management and learning and sharing of knowledge, such as motivation, training and technical support, supervisor support, and sharing and learning of ICT knowledge with others. Additional variables were sought from the information needs attributes (Wilson, 2006) and factors on innovation adoption (Troshani and Doolin, 2005) in order to examine the utilization of ICTs in accessing information within MSEs (Figure 3.9).

The integration of variables from innovation diffusion, change management, knowledge sharing and learning, and information needs helps to explain ICT utilization by MSEs. First, the innovation diffusion concept identifies variables that impact on the initial ICT adoption—technological characteristics, communication channels, and social issues including adopters' characteristics that may be considered to be generally stable, static or slow to change. These variables influence ICT users' adoption decisions. However, during continuous ICT usage, more dynamic variables come into play. Information needs, change management, and knowledge sharing and learning influences provide a dynamic change phenomenon that can strengthen or weaken the innovation diffusion process. Information needs attributes that influence ICT use can be grouped into demand on information systems, demand on other information sources, information exchanges, supply and communication. Change management factors that may influence ICTs utilization can be grouped into motivation, training and technical support,

supervisor support and open discussion categories. From knowledge sharing and learning, factors that may influence ICTs utilization includes; the development of skills among ICT users through learning and skills, and knowledge transfer through social interactions and communities of practice (Peansupap & Walker, 2005a). The integration of these four theoretical bodies of knowledge can assist in better understanding the nature of both static and dynamic variables that influence ICT utilization. The study aims not to validate the framework, but to use it as a guide in the research process and, hopefully, come out with a model that will be able to offer a structured approach to ICTs utilization in accessing information by micro and small entrepreneurs in the tourism sector.

### **3.5 Summary**

This chapter has reviewed a number of theoretical bodies of knowledge and models that have been used to explain the diffusion and utilization process of ICTs. The innovation diffusion identifies factors that impact on the initial ICT adoption—technological characteristics, communication channels, and social issues that may be considered to be generally stable, static or slow to change. These factors influence ICT users' adoption decisions. However, during continuous ICT, usage more dynamic variables come into play. They provide a dynamic change phenomenon that can strengthen or weaken the innovation diffusion and utilization process. They include: information need attributes that influence ICT use and can be grouped into demand on information systems, demand on other information sources, information exchanges, supply and communication; change management variables that can be grouped into motivation, training and technical support, supervisor support and open discussion categories; and knowledge sharing and learning - involving the development of skills among ICT users and also skills and knowledge transfer through communities of practice.

The integration of these four theoretical bodies of knowledge can assist in better understanding of the nature of both static and dynamic factors that influence ICT diffusion at the utilization stage. It has emerged from the theoretical and conceptual frameworks that the strategy for enhancing ICT utilization in accessing information by MSEs in the tourism industry should consider information needs as a major factor in addition to innovation diffusion, change management, and knowledge sharing and learning. This was illustrated by the conceptual model of factors influencing ICT diffusion and utilization, Figure3.9.

The next chapter addresses the research methodology and techniques used to explore factors that influence utilization of ICTs by micro and small enterprises in the tourism industry in Kenya, and bring about an understanding that will contribute to the development of a model/framework that would enhance their adoption in accessing information by entrepreneurs in the tourism sector in Kenya.

## **CHAPTER FOUR**

### **RESEARCH METHODOLOGY**

#### **4.1 Introduction**

As earlier mentioned, this study aimed at exploring factors that influence diffusion and utilization of ICTs in accessing information by micro and small entrepreneurs in the tourism industry in Kenya. Specifically, it examined the sector's ownership, their information needs, application of ICTs in accessing information, , challenges experienced in accessing information, ICTs' influence on enterprises' access to information, and opportunities of ICT application in strengthening and developing information systems for micro and small-scale entrepreneurs in the tourism industry. This chapter discusses the research methodology and techniques used to conduct the study which includes the philosophical approach, the research strategy, the data collection instruments, methods and procedures and ethical considerations.

#### **4.2 Research Design**

The study employed an interpretive research philosophy. The strategy taken was transformative procedure in which a conceptual framework was used as a lens to guide the research. The approach adopted was mixed method with regard to the data collection only. The research philosophy remained interpretive. Crossan (2003) observes that the ongoing 'quantitative/qualitative' debate is as a result of lack of coherent definitions and a focus on methods rather than an exploration of underlying philosophy. Thus, it is important to consider different philosophical positions underlying different research methods and designs in order for the researchers to identify and form their philosophical bases that will be able to address the research questions under study.

All research is based on assumptions about how the world is perceived and how we can best come to understand it. In this respect, three major philosophical schools of thought are considered as proposed by Tashakkori and Teddlie (1998) and Creswell (2003). They include positivism, interpretivism and pragmatism. Other terms used to describe these concepts include quantitative or objectivist for the positivism, qualitative or subjectivist for interpretivism and mixed methods for pragmatism. Each paradigm is grounded in a particular set of generally accepted approaches regarding ontology, epistemology, human nature, and methodology. The positivism paradigm tends to be associated with the quantitative approach and it employs strategies of inquiry such as experimentation and survey. The data collection methods are pre-determined measures resulting in numeric data. By contrast, the interpretive paradigm tends to be associated with the qualitative approach, employs strategies such as the case study or narrative and uses data collection methods such as the interviews and observations resulting in open-ended data. The pragmatic paradigms and strategies are associated with the mixed methods approach that involve collecting data in a concurrent or sequential manner using methods that are drawn from both quantitative and qualitative traditions in a fashion that best addresses the research questions (Creswell, 2003; Armitage, 2007).

#### **4.2.1 Positivism**

Positivism regards the goal of knowledge as simply to describe the phenomena that we experience. Positivist researchers believe that they can reach a full understanding based on experiment and observation. Concepts and knowledge are held to be the product of straightforward experience, interpreted through rational deduction (Ryan, 2006). To them, the purpose of science is simply to stick to what can be observed and measured. For a positivist, it is impossible to have knowledge of anything beyond that.

Within management and organizational studies, the quantitative or positivism approach is seen as objective, which is relating to phenomenon or conditions independent of individual thought and perceptible to all observers. Quantitative approach to research employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data (Creswell, 2003). That is, positivists believe that reality is stable and can be observed and described from an objective viewpoint. They contend that phenomena should be isolated and that observations should be repeatable. This often involves manipulation of reality with variations in only a single independent variable so as to identify regularities in, and to form relationships between, some of the constituent elements of the social world.

The approach of measuring and quantifying phenomena as distinct and analytically separate is at the heart of positivists' inquiry and allows inferences to be drawn about the whole from the analysis of its parts. Reality is conceptualized as two-dimensional and explained by cause-and-effect relationships. This 'way of knowing' is deductive and emphasizes observing truth as a singular objective reality (Myers, 2000). Quantitative research or positivism and later post-positivism have a long and rich historical tradition. Positivism has also had a particularly successful association with the physical and natural sciences. There has, however, been much debate on the issue of whether or not this positivist paradigm is entirely suitable for the social sciences (Walsham, 2001). Walsham (2001) has gone further to point out that some of the difficulties experienced in information science research, such as the apparent inconsistency of results, may be attributed to the inappropriateness of the positivist paradigm for the domain. Likewise, some variables or constituent parts of reality might have been previously thought not measurable under the positivist paradigm, such as participants' interpretation of a phenomenon - and hence went un-researched.

While quantitative and objective types of research are very important, it is the opinion of this study that those means of explanation and answers only touch the totality of possible truth. Positivists' belief that they could put aside their biases and beliefs and see the world objectively could not continue for long. It was criticized for not producing significant outcomes in social sciences when compared with the physical sciences. In reaction to this, post-positivism was born in order to address the problems experienced in positivism (Petter and Gallivan, 2004). Post-positivists rejected the idea that any individual can see the world perfectly as it really is. For the post-positivist researcher, reality is not a rigid thing; instead it is a creation of those individuals involved in the research (Crosaan, 2000). They also point out that researchers are all biased and all their observations are affected by individual behaviour, attitudes, external structures, and socio-cultural issues. It follows then that objective reality as proposed to positivist philosophy can be seen as only one aspect or dimension of reality. Therefore, because all measurement is imperfect, the post-positivist emphasizes the importance of multiple measures and observations, each of which may possess different types of error, and by using triangulation across these multiple error sources, the researcher is able to get a better hold on 'what is happening in reality'. The post-positivist also believes that all observations are theory-laden and that researchers are inherently biased by their cultural experiences, world views, and so on. Post-positivism is, however, still characterized by the use of quantitative methods and governed by the philosophy that causes for outcomes can be obtained. It postulates that by examining causes it is possible to determine the influence on outcomes. Creswell (2003) points out that first there is theory, then the collection of data or evidence, then the conclusion that the theory is right or wrong.



The dominance of positivist assumptions about research has at least two effects. First, it leads people to assume that if social research is done properly it will follow the model of the natural sciences and provide a clear, unambiguous road to the causes of certain social or psychological phenomena. That is, it assumes that there are one-to-one correspondences between social phenomena and their causes. Second, the idea that the only way to do social research is to follow a scientific model can lead to the dismissal of research as a valuable tool in understanding the rich complexity of social life. This scientific approach which positivism espouses is rightly thought to be inadequate when it comes to learning about how people live, how they view the world, how they cope with it, how they change it, and so on.

In summary, the major characteristics of positivism approach and quantitative research method are a focus on deduction, confirmation, theory/hypothesis testing, explanation, prediction, standardized data collection, and statistical analysis.

#### **4.2.2 Interpretivism**

The study of phenomena in their natural environment is key to the interpretive philosophy, together with the acknowledgement that scientists cannot avoid affecting those phenomena they study. Interpretivists contend that only through the subjective interpretation of and intervention in reality can that reality be fully understood (Cavana, Delayahe and Sekaran, 2001). This is achieved through investigating how people use language and symbols to construct their social practices. The interpretivism approach requires firsthand knowledge and a complete analysis of the subjective accounts of the actors or situation under study (Myers, 1997). Interpretivists feel that human behaviour is highly individualistic in that we each choose the paths we take and the decisions we make. The world is interpreted through the mind. This is centred on the belief that

autonomy and free-will takes precedence. Drawing on the interpretive assumptions of a subjective social reality, it would follow that the individual is free to act out their desires as they wish. There exist no possibilities of a predetermined life path. Actions are not governed by discrete patterns of cause and effect (as in positivism), but by rules that social actors use to interpret the world. The major characteristics of interpretivism approach and traditional qualitative research are induction, discovery, exploration, and theory/hypothesis generation.

#### **4.2.3 Mixed Method Research**

The mixed method approach is described as one which the researcher tends to base knowledge claims on pragmatic grounds (Creswell, 2003; Johnson and Onwuegbuzie 2004; Tashakkori and Teddlie, 2003). Mixed methods research is described as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study (Johnson and Onwuegbuzie, 2004). The purpose of mixed methods research is not to replace either qualitative or quantitative research, but rather to extract the strengths and diminish the weaknesses in both approaches within a single study (Johnson and Onwuegbuzie, 2004). Tashakkori and Teddlie (1998: 17-18) define mixed method studies as ‘those that combine the qualitative and quantitative approaches into the research methodology of a single study or multi-phased study’. They add that the major advantage of mixed method research is that it enables the researcher to simultaneously answer confirmatory and exploratory questions, and therefore verify and generate theory in the same study.

Philosophically, mixed research makes use of the pragmatic method and system of philosophy (Creswell, 2003). The pragmatic method states that the current meaning or

instrumental or provisional truth value of an expression is to be determined by the experiences or practical consequences of belief in or use of the expression in the world. Its logic of inquiry includes the use of induction (or discovery of patterns), deduction (testing of theories and hypotheses), and abduction (uncovering and relying on the best of a set of explanations for understanding one's results). By utilizing quantitative and qualitative techniques within the same framework, mixed methods research can incorporate the strengths of both methodologies. Most importantly, investigators who conduct mixed methods research are more likely to select methods and approaches with respect to their underlying research questions, rather than with regard to some preconceived biases about which research paradigm should dominate in social science research (Creswell, 2003).

Mixed methods make use of both inductive and deductive logic, meaning that one argues from the particular to the general and the general to the particular depending on the problem being investigated. Similarly, mixed method approach uses both subjective and objective points of view. What is important in mixed method is that values as a framework plays a large role in interpreting results. The researcher in this case decides what to research, and makes knowledge claims in terms of what knowledge is, and how this can be known as knowledge. The researcher also decides on the role of values and the methods of study. The problem being investigated, however, is foremost, followed by discussions on methods that best suit the investigation of the problem (Creswell, 2003: 11). That is, the choice of which method to use depends largely on the research question and with each method that would be applied, either subjective or objective points of view (Tashakkori and Teddlie, 1998). From the point of view of mixed methods approach, the research question is more important than the method that is used or the world view that underlies the method (Patton, 1990). The researcher thus should

address research questions with methods that are available irrespective of the philosophical assumptions, so long as this method offers the best opportunities for answering the research questions and obtain useful answers (Johnson and Onwuegbuzie, 2004). It is, therefore, justifiable to combine qualitative and quantitative methods of data collection in a single study if this provides the most appropriate means to answer the research question (Johnson and Onwuegbuzie, 2004; Morse, 2003; Tashakkori and Teddlie, 2003).

#### **4.2.4 Rationale for Choice of Approach**

The rationale for selecting interpretivism as the philosophical approach in this study was based on the possibility of conducting more intimate types of research to find out what drives utilization or adoption of ICTs by MSEs. This is because human behaviour is significantly influenced by the setting in which it occurs; thus one must study that behaviour in situations. Marshall and Rossman (1980) observed that the physical setting, schedules, space, pay, and rewards, and the internalized notions of norms, traditions, roles, and values are crucial contextual variables. That is, research must be conducted in the setting where all the contextual variables are operating. Additionally, participants sometimes do not know their feelings, interactions, and behaviours, so they cannot articulate them to respond to a questionnaire. One cannot understand human behaviour without understanding the framework within which participants interpret their thoughts, feelings, and actions. In this study, it was necessary to understand the phenomenon under study because little has been done on it and there was need to find out important factors/elements that needed to be examined. The aforementioned approach allowed the study to not only observe and learn about a given situation but also to effectively become part of it in the sense that knowledge gained would be

closely aligned to that of the actors themselves. This kind of connection leads to more impact and meaningful research for both the participants and the researcher.

The study also based the choice for this philosophical approach on similar reasons fronted by Creswell (2003). First, in a qualitative study such as this one, the research questions often starts with ‘how’ or ‘what’, depicting that the researcher is initially trying to describe what is going on. This is in contrast to quantitative questions that ask ‘why’ and look for a comparison of groups. Second, the topic needed to be explored so as to present a detailed view of the research topic. The third reason was to study individuals in their natural setting. The whole process involved going out to the settings or field of study, gaining access, and gathering material. Similarly, the interpretivism was found to be also useful in exploring and capturing the dynamics of individual needs and organizational change, and learning and sharing knowledge as it provides unique insights into the fabric of organizational life, processes and discourses that are not captured by other methods.

In summary, the interpretive research was found to make a big difference in the understanding of a number of social issues that pertain to the research at hand. For example: why ICTs are not fully utilized even after the initial adoption; what organization and societal factors influence individual ICT adoption; and why word of mouth either through face-to-face or through telephone is still predominant among local MSEs, even for those who have adopted advanced ICTs. It is observed that issues surrounding the concept of ICT diffusion and utilization are too diverse and complex to discuss from a single narrowly defined and rigid perspective. The diffusion and utilization process includes not only technical issues but also a variety of individual, organizational and societal problems, dilemmas and hopes that are faced by

entrepreneurs in their everyday lives. While there are theories and models that have been fronted to provide a wide range of valuable insight and knowledge to advance the understanding of ICT diffusion and utilization by MSEs, it is clear that there are many unexplored issues that still need to be discussed. Key amongst them are those associated with accessibility of information by entrepreneurs, particularly the desire to satisfy information needs in the diffusion and utilization process. This aspect called for an approach that does not overlook social aspects associated with seeking out, implementing, utilizing and domesticating ICTs for the sake of satisfying individual and organization information needs. Burke (2007) observed that as the goal of interpretive researcher is about sharing the perspective of the group under study, it is considered the most appropriate means of undertaking research based on people and information needs.

### **4.3 Research Strategy**

The intended outcome of this study was to recommend a model/framework for improving ICTs adoption in accessing information by entrepreneurs in this industry. Consequently the preferred strategy adopted for exploring factors that influence diffusion and utilization of ICTs by this sector was a multiple case study approach. Participants were drawn from micro and small enterprise tour operators, Ministry of Tourism officials, and an official from the Kenya Association of Tour Operators (KATO) and Kenya Association of Local Tour Operators (KALTO).

#### **4.3.1 Case Study Research**

Case studies provide an in-depth, relatively unstructured approach to develop frameworks and theories (Bamford and Forrester, 2003). The purpose of the case studies at each MSE was to evaluate and enhance the knowledge base of enterprise ICTs usage, specifically in accessing information. According to Yin (2003: 13) the case study

research method is defined as an ‘empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used’. A case study examines a phenomenon in its natural setting, employing multiple methods of data collection to gather information from one or a few entities (people, groups or organizations). The case study copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion.

In conformity with Yin (2003), when deciding whether to use the case study approach or not, several factors were considered. One was the need to focus on contemporary events or phenomena in a natural setting; two, the opportunity to ask ‘how’ and ‘why’ questions, so as to understand the nature and complexity of the processes taking place; and three, the absence of a strong theoretical base for the research . In this case, the study used a conceptual framework as a lens to guide the research. In addition, Simons (1996) gives three reasons for the popular use of the case study, which also applied in this study. One is to give more space to participants’ perceptions and judgments in the description and construction of understanding. This is with the understanding that solutions to ICTs utilization in accessing information for MSEs in the tourism sector should emanate from the entrepreneurs themselves. A second reason was to engage readers of the reports with the genuineness of the experience of the research. The third reason was that case study data is more open and less complex, and presents multiple perspectives. Therefore, it provides opportunities for stakeholders and policy makers to increase their understanding of the issues under study and to inform judgments that they need to make. The case study method was chosen because of its applicability to real-life, contemporary human situations. In other words, its results relate directly to the

object of study, in this case the entrepreneur, everyday experience and facilitate an understanding of complex real-life situations within enterprises.

The key strength of the case study method involved using multiple sources and techniques in the data gathering process. The researcher determined in advance what evidence to gather and what analysis techniques to use with the data to answer the research questions. Data collection was largely qualitative, but it also included quantitative elements.

#### **4.4 Study Population and Sample**

The first step in sample selection for the research was to identify the population. According to Burns (2000: 83), 'a population is an entire group of people or objects or events which all have at least one characteristic in common'. The population for the study was the micro and small entrepreneurs in the tourism industry in Kenya. According to the National Micro and Small Enterprise Baseline Survey of 1999, MSEs in Kenya are defined as those enterprises having no more than 10 employees and those that have 11-50 employees, respectively (Kenya, Central Bureau of Statistics, 1999). This was the definition used in this study.

#### **4.5 Sampling Design and Procedures**

Sample selection for the research involved several different steps. The following section deals with each step separately. The target population in this study was MSEs in the tourism industry in Kenya.

##### **Sampling Design**

Sampling is that part of statistical practice concerned with the selection of individual observations intended to yield some knowledge about a population of concern,



especially for the purposes of statistical inference (Trochim, 2006). Mugenda and Mugenda (1999) define sampling as the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected. Kothari (2004) defines sampling as the selection of some part of an aggregate or totality on the basis of which a judgement or inference about the aggregate or totality is made. He goes on to say that sampling is the process of obtaining information about an entire population by examining only a part of it. Trochim (2006) adds that sampling is the process of selecting units (people, organizations) from a population of interest so that by studying the sample, we may fairly generalize our results back to the population from which they were chosen. From the above definitions, sampling is a process of selecting or obtaining a representative group, which will enable the researcher to gain information about a population. Usually, the population is too large for the researcher to attempt to survey all of its members. A small and carefully chosen sample can be used to represent the population, and it is this sample that will reflect the characteristics of the population from which it is drawn. Choosing a study sample is an important step in any research project since it is rarely practical, efficient or ethical to study whole populations. The selection of an appropriate method depends upon the nature of the study. Unlike the quantitative approach that aims to test pre-determined hypotheses and produce generalizable results. Qualitative studies aim to provide illumination and understanding of complex psychosocial issues and are most useful for answering humanistic 'why?' and 'how?' questions (Marshall, 1996).

The approach used to select the sample for this study was purposeful selection, also known as judgment sampling (the enterprise was the unit of analysis). Purposeful, purposive or criterion-based sampling is a form of non-probability sampling and is more often applied in case study (Burns, 2000) because it is believed to be a rich source of

data of interest (Patton, 2002). This approach was chosen because the characteristics of the population under study are not normally distributed, considering that some towns attract more tourists than others and so have a higher concentration of MSEs. On the other hand, the approach was also justified by the difficulty in obtaining a database of firms due to lack of a directory of all tourism enterprises in Kenya, more so tour operators.

The strategy used involved a two-stage purposive sampling design because data collection extended to a considerable large geographical area. The first stage was to divide the area into clusters of three non-overlapping areas, namely Eldoret, Nairobi and Mombasa. The selection of clusters was guided by, first the need to provide clusters/blocks of units with relatively homogeneous characteristics and secondly by spatial and sectoral concentrations of well developed tourism activity as well as physical and economic characteristics. Nairobi and Mombasa were therefore chosen because they have diverse categories of MSEs. Eldoret region was chosen on the basis of its unmatched sports tourism development.

The research focused on only urban-based micro and small enterprises in the tourism industry because good concentrations of these enterprises in Kenya are found in the urban centres. The Kenya National Baseline Survey of 1999 indicates that the density of MSEs is higher in urban areas, particularly Nairobi and Mombasa (2.0), as compared to rural areas (1.8) (Kenya, Central Bureau of Statistics, 1999). It also points out that the service industry, in which tourism belongs, is concentrated in urban areas. Eldoret, on the other hand, was chosen due to the tremendous growth in sports tourism seen in recent times. Many training camps have been set up by local and foreign entrepreneurs and others by major sports organizations and companies such as the International

Olympic Committee (IOC), Dutch-owned Global Sports, Fila and London-based Kim International Management. These training camps have attracted athletes from different parts of the world to come and train in Kenya, because of the high altitude factor and also to train with the world's best in long-distance races. Njenga (2006) reports that in 2005, the Discovery cross country meeting held in Eldoret brought together 250 athletes and a team of prominent officials from Nike (a major sportswear and equipment supplier based in the United States) for the event.

Apart from the results of the base line survey of 1999 on MSEs in Kenya, which showed that urban areas of Nairobi and Mombasa have a higher density of MSEs than rural areas, the Kenya Association of Hotel Keepers and Caterers, in its report of 2001, indicates that the Coast region commands some 65 per cent to 70 per cent of both tourism income and traffic. The association further points out that the Coast region commands a fifth of all the hotels and restaurants in the country. These factors justified the selection of Mombasa and Nairobi as study areas. Data from the Ministry of Tourism also indicates that Nairobi and Mombasa have a higher number of registered tour operators (class A1 enterprises, Appendix D) than any other town in Kenya (Kenya, Ministry of Tourism and Wildlife, 1968).

The sampling frame was sourced from the Ministry of Tourism and contained a list of registered tourist enterprises under CAP 381 of the Laws of Kenya. This was used to identify micro and small enterprises in the tourism industry. The list contained 2039 registered and not necessarily paid up enterprises in the tourism industry. Out of these, those that fitted the category of tour operator were 907, with the majority of enterprises being in Nairobi. These were in Category A.1 of the Tourist Industry Licensing Act (Cap 381) of the Ministry of Tourism by the time of the study covering the whole

country (Appendix D). Category A.1 are enterprises (whether carried on alone or in conjunction with some other enterprise) that fall under tour/safari operators. Most of them were found to operate as both tour operator and travel agencies. For some, it was difficult to identify the category they belong to, whether class A, B, or C. Others did not have contact addresses. Similarly, it was difficult to ascertain how up-to-date the list was because the column for paid up enterprises was omitted. Using the addresses and district of operation given in the sample frame, it was possible to categorize them into the three regions, namely Nairobi, Mombasa and Eldoret. However, it was difficult to pick out each sub-group (micro or small enterprise) that was in the sample frame because the information given in the list sourced from the Ministry was not sufficient enough to identify micro and small enterprises. Thus, purposive sampling was used in the second stage to identify micro and small enterprises. From the list, the enterprises registered as tour operator were contacted to get more information as to whether they fit the description of micro and small enterprise and at the same time to arrange for the interview.

In some instances, MSEs contacted were able to volunteer information about other similar enterprises in their locality. This helped a lot because it was difficult to identify sufficient micro (1-10 employees) and small (11-50 employees) enterprises beforehand using the contact addresses given in the sampling frame. Those enterprises identified through information provided by participants were cross-checked against the sample frame of registered tour operators and those that did not appear were not considered for the interview. This ensured that only Ministry of Tourism registered tour operators were included in the study. Thus, as the data collection progressed, it was possible to cover sufficient cases in each sub-group.

## **Sample Size**

Morse (2000), and Koerber and McMichael (2008) posits that the main factor considered in determining the sample size is the need to keep it manageable enough and to generate enough data such that no new data emerges. This enables a researcher to derive from it detailed data at an affordable cost in terms of time, finances and human resource (Mugenda and Mugenda, 1999). Further, Patton (2002) argues that the sample size depends on what one wants to know, the purpose of the inquiry, what is at stake, what will be useful, what will have credibility and what can be done with available time and resources. That is, an appropriate sample size for a qualitative study is one that adequately answers the research questions (Marshall, 1996). The researcher strived to interview the principal person in each enterprise where applicable. This comprised the manager/owner, or the person responsible for ICT within the enterprise.

The sampling procedure resulted in the following distribution of the enterprises (in brackets); Nairobi (70), Mombasa (40) and Eldoret (10). The same number represents the participants interviewed in each region. Participants in each enterprise were either the owner/manager or their representative.

## **Key Informant**

A key informant is a person who has unique skills or professional background related to the issue/intervention being evaluated, is knowledgeable about the project participants, or has access to other information of interest to the researcher. In this study, 7 key informants were selected from the Ministry of Tourism, the Kenya Association of Tour Operators (KATO), Kenya Association of Local Tour Operators (KALTO), Kenya Tourism Federation (KTF), Kenya Rural Enterprise Programme (KREP) and from the Kenya Tourism Board. These are umbrella bodies representing the interests of tour

operators in Kenya. Information generated from face-face interviews with key informants helped the researcher better understand the factors that were influencing utilization of ICTs in the tourism sector, as well as challenges entrepreneurs were facing in adopting and using them, and steps being taken by either the government or stakeholders in enhancing ICTs adoption. Key informants were interviewed individually. An interview schedule Appendix B) was used to collect information from key informants.

#### **4.6 Data Collection Methods**

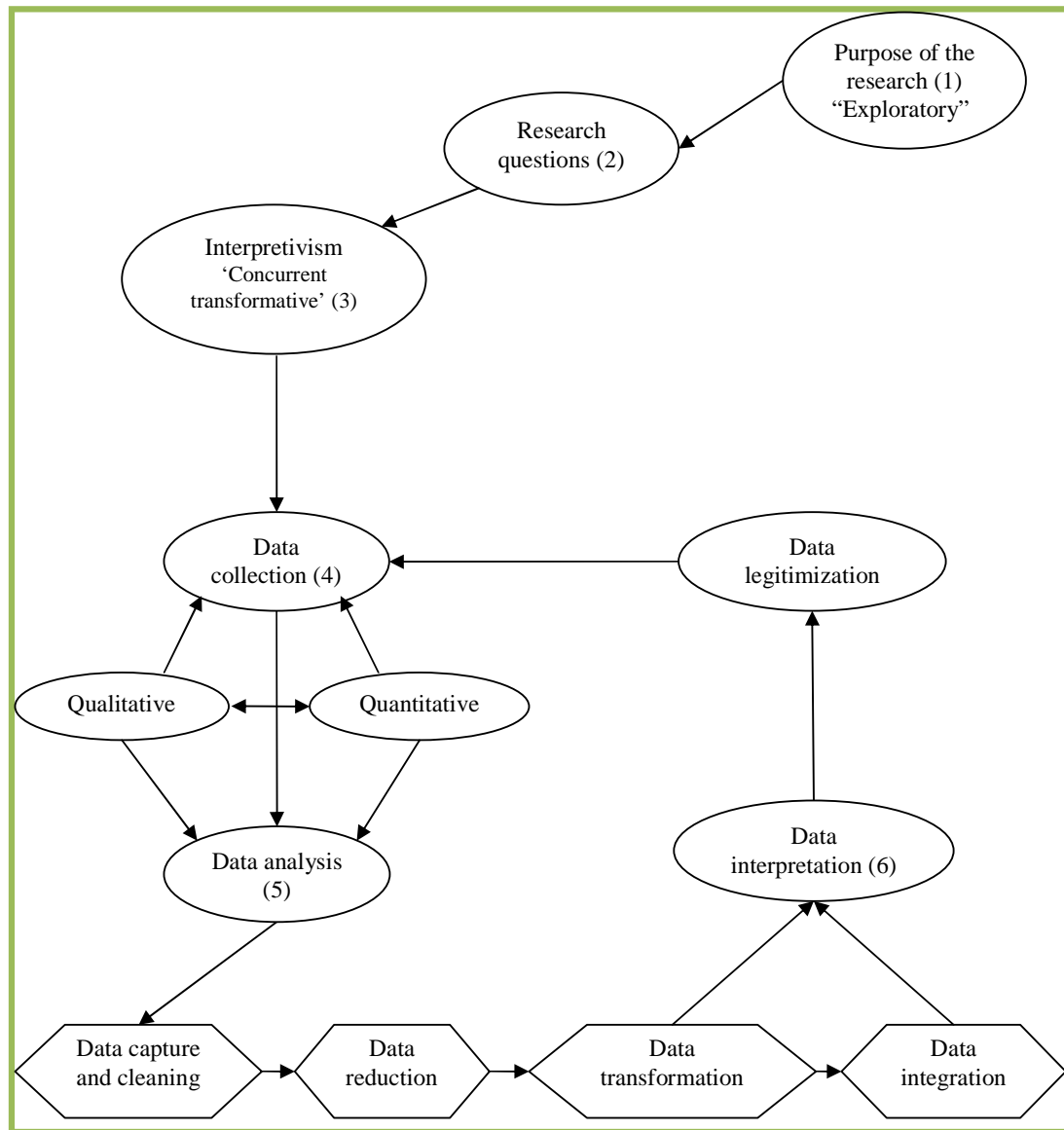
There are a large number of strategies of inquiry and research methodologies that have been identified (Mugenda and Mugenda, 1999; Kothari, 2004; Neuman, 2000; Yin, 2003; Walliman, 2001). Qualitative and quantitative research can be taken to form two distinctive clusters of research strategy. By research strategy, it means a general orientation to the conduct of social research (Walliman, 2001). The strategy taken to guide the research was a transformative procedure with a conceptual framework (Creswell, 2003). This helped in linking the research to the existing body of knowledge. Thus, the approach taken was from an inductive perspective with some level of deductive approach.

A conceptual framework derived from the diffusion of innovation theory as elucidated by Rogers (1995) and models from Wilson's general model of information behaviour (2006) and the Peansupap and Walker model (2005a) as discussed in Chapter 3 (Figure 3.9) was used to guide the research. This is in line with Veal's (2006) observation that in qualitative research, researchers rarely start with an absolutely blank conceptual framework. Therefore, there is always an initial list of relevant concepts with which the researcher is concerned and without which it is difficult to know what questions to ask

or to explore. Miles and Huberman (1994), as quoted by Veal (2006), support this observation when they indicate that conceptual frameworks are just as vital for qualitative research as they are for quantitative, and arguably more so. The aim of the study in this case was not to validate the framework but to guide the study as to what issues are important to examine and with the intention to modify or adjust or come out with a possibly very different model depending on the study findings. Thus, the factors/elements emanating from the conceptual framework in Figure 3.9 guided the researcher in developing the data collection instruments used in this study.

As indicated earlier in chapters 2 and 3, most of the research done in the areas of diffusion of ICTs and access to information focused on the technical issues. However, diffusion and utilization of ICT in accessing information can only be understood in the context of the individual and the organization rather than solely on technical issues. Thus, it was important to gain insight into entrepreneurs' interpretations of the phenomenon under study by collecting detailed information using a variety of data generation procedures, which included interview schedules, observation and document analysis. Figure 4.1 illustrates qualitative approach with mixed data collection design strategy used in the study.

**Figure 4.1: Qualitative and methodological mixed design strategy**



Data collection procedure used a concurrent triangulation strategy with quantitative data collection method having a less dominant status. In concurrent designs, as the name suggests, the collection of qualitative and quantitative data occurs simultaneously. Thus, in this study, two different methods were used in an attempt to confirm, cross-validate, and corroborate findings within a single study. This was agreeable with Greene and Caracelli (2003) and Morgan (1998) observations. The strategy generally uses separate



quantitative and qualitative methods as a means to offset the weaknesses inherent within one method with the strengths of the other method. In this case, the quantitative and qualitative data collection is concurrent, happening in one phase of the research study. Ideally, priority would be equal between the two methods, but in practical application, the priority may be given to either the quantitative or the qualitative approach (Tashakkori and Teddlie, 2003). The quantitative method was used to gather empirical data while the qualitative method was used to collect rich, in-depth data.

Face-to-face interviews were conducted using semi-structured interview schedules. There was also one informal focus group discussion conducted in one of the sampled regions. These techniques were chosen in accordance with the level of understanding likely to arise from their use. Golafshani (2003) observed that ‘engaging multiple methods, such as, observation, interviews and recordings will lead to more valid, reliable and diverse construction of realities’. On the other hand, justification for the suitability of the chosen research instrument is founded on Kelliher’s (2005) work, which suggests that small company research may be best done using a qualitative approach that includes participant observation, in-depth interviewing and the use of documentation. Wherever possible, results were cross-checked (triangulated) by using a number of different sources and by utilizing semi-structured and unstructured data collection techniques. Triangulation refers to the use of more than one approach in the investigation of a research question in order to enhance confidence in the ensuing findings. The type of triangulation used in this study was methodological triangulation, which refers to the use of more than one method for gathering data (Golafshani, 2003).

#### **4.6.1 Data Collection Instruments**

Three data collection instruments were used in this study. Two interview schedules, an observation checklist and document review. The first interview schedule was used to collect data from MSEs while the second was used to collect data from key informants.

#### **Interviews**

One of the most important sources of case study information is the interview (Yin, 2009). It is probably the most widely used method in qualitative research. With qualitative research interviews, the researcher tries to understand something from the participants' point of view and to uncover the meaning of their experiences. Interviews allow people to convey to others a situation from their own perspective and in their own words. Research interviews are based on the conversations of everyday life. They are conversations with structure and purpose that are defined and controlled by the researcher.

There are different types of interviews, which depend on the sort of information the researcher is trying to obtain. The information obtained through interviews may be recorded using notes, or can be taped and later transcribed. Structured interviews use a pre-conceived interview schedule, which the researcher follows closely (Sofaer, 1999). This technique is useful if an overview of the subject is required from a large sample of people, rather than a smaller more detailed study. The emphasis is on obtaining answers to carefully phrased questions. Researchers are trained to deviate only minimally from the question wording to ensure uniformity of interview administration. Semi-structured interviews focus on a list of key themes or questions that the researcher wants the participant to address. The semi-structured interview allows for the participant to add new information but this should be restricted to the key themes. The third approach is a

structured group interview commonly called focus group. Focus group discussions require a facilitator to keep the conversation moving and ensure that no individual participant dominates the discussion. It is also important to have someone else take notes of what is said in the meeting. Even if the meeting is being taped, it is important to record the interactions and dynamics of the group, and whether some participants are more dominant than others in having their opinion heard. In the later two types of interviews, the researchers seek to encourage free and open responses, and there may be a trade-off between comprehensive coverage of topics and in-depth exploration of a more limited set of questions. That is, they tend to be flexible, responding to the direction in which participants take the interview and perhaps adjusting the emphasis in the research as a result of significant issues that emerge in the course of interviews.

Semi-structured interviews and focus group discussions also encourage capturing of participants' perceptions in their own words, a very desirable strategy in qualitative data collection (Kvale, 1996). This allows the researcher to present the meaningfulness of the experience from the participant's perspective. The interviews are conducted with individuals or with a small group of individuals. It is the flexibility of the interview that makes it so attractive (Mittman, 2001).

Semi-structured interviews were used in this study because first, the researcher began the investigation with a fairly clear focus, using a conceptual framework, so that specific issues can be addressed rather than a very general notion of wanting to do research on a topic. Second, the research was a multiple-case study and several research assistants were used in the fieldwork. Therefore, to ensure consistency, comparability of interviewing style, and cross-case comparability, semi-structured interviewing was used.

## **Observation**

Observation techniques are methods by which an individual or individuals gather first-hand data on programmes, processes, or behaviours being studied. This methodology involves watching and recording behaviours within a clearly defined area. The researcher plays the role of passive observer and is, therefore, outside the action/s being observed and recorded. The technique provides the researcher with an opportunity to collect data on a wide range of behaviours, to capture a great variety of interactions, and to openly explore the study area. By directly observing operations and activities, the researcher can develop a holistic perspective, i.e., an understanding of the context within which the firm operates. This may be especially important where it is not the event that is of interest, but rather how that event may fit into, or be impacted by a sequence of events. In this study, research assistants were asked to observe and note ICTs in the firms that participated in the study, their application in the day-to-day running of the business, and the level of use. Through observations, it was possible to countercheck interview responses from participants. Observations also allowed the researcher to learn about things the participants or staff may be unaware of or that they are unwilling or unable to discuss in an interview, or may not have been documented. It differs from interviewing in that the observer does not actively query the participant. The observations were guided by a structured checklist (Appendix C). The use of a checklist helped to ensure that all research assistants were gathering the pertinent information and, with appropriate training, applying the same criteria in the evaluation.

## **Document Review**

Data was also generated through documents collected from the participating enterprises, their websites and from the Ministry of Tourism, and the association of tour operators. This is a non-intrusive form of research. This method involves reviewing documents,

memos or other pieces of written information for content and themes. By examining written word, the researcher is studying one type of communication that occurs in the selected cases. Existing records often provide insights into a setting and/or group of people that cannot be observed or noted in another way. This information can be found in document form. Lincoln and Guba (1985) defined a document as "any written or recorded material" not prepared for the purposes of the evaluation or at the request of the inquirer. Yin (2009) has pointed out that documents are useful but always not accurate and may be bias. They may be incomplete or inaccurate, and locating suitable documents may pose challenges. Thus, in this study, the most important use of documents was to corroborate and augment evidence from interviews and observations.

Case study data collection derives its strength from the opportunity to use many different sources of evidence. The use of multiple sources of evidence allows a researcher to address a broad range of issues and to develop converging lines of inquiry referred to as data triangulation (Kelliher, 2005). With data triangulation, the problems of construct validity are addressed because the multiple sources of evidence provide multiple measures of the same phenomenon (Yin, 2009). Use of the above methods, including interviews, document analysis and observation was subject to wide variations and interviewer/observer bias and interpretation. The steps taken to minimize these biases included: adequate training of data collection research assistants; comprehensive plans for data collection, validation and storage; frequent reviews of data quality and interpretation; and immediate post-collection coding and review of data to overcome problems associated with time- or memory-sensitive data.

#### **4.6.2 Data Collection Procedure**

The technique that was used to collect data was semi-structured interview schedule as the main data collection instrument, which was cross-checked by the use of observation method and written data sources such as company reports, brochures, etc. This is in line with data collection methods in case studies, which are often more structured, but open-ended, using key informant interviews, structured observations of events and interactions and the collection and content analysis of relevant documents (to help establish the facts, the assumptions, values and priorities, or to illuminate differences in perceptions) (Burns, 2000; Patton, 2002). Case studies often also include quantitative data for background information or to help generate questions to ask informants (data on demographics, utilization of ICTs, number of individual ICTs within a firm, etc).

The interview schedule (Appendix A) was informed by the structured questionnaire used by Duncombe and Heeks (1999) in their study on 'Information, ICTs and small enterprises: Findings from Botswana', which had only 26 questions. A second interview schedule (Appendix B) was used to collect data from key informants. A checklist (Appendix C) was used for observation. The interview schedule was divided into two parts: section A and B collected quantifiable data while the rest of the sections, C to F, mostly collected qualitative data as per the research questions. Creswell (2003) and Kroll *et al* (2005) observed that during data collection, for example, open-ended questions can be combined with rating scales. The data collection procedure was undertaken in two stages: first by the research assistants together with the researcher and second by the researcher and involved a few cases both from micro and small enterprises. At this latter stage, the researcher had time to discuss issues raised during the first stage of data collection. This strategy allowed cross-checking of observation and responses to ensure accuracy in reporting the facts. The mixing of data gathering

procedures was done intentionally, as explained earlier, in order get the best of qualitative and quantitative methods (Green *et al.*, 2003).

Nine research assistants were selected from among third year students in the computer science class of 2006, with whom the researcher had interacted with and who were familiar with the sampled regions: Mombasa, Nairobi and Eldoret. A formal research assistant training programme was developed, which included seminar topics on MSEs in the tourism industry and their structures. The training programme also included practice sessions in conducting both structured and open-ended interviews using interview schedules and documenting sources, suggested field notes formats, and a detailed explanation of the purpose of the study. Research assistants were also instructed on how to carry out the observation process and what to look for in an enterprise. The researcher used one of the sampled areas, Eldoret as a pilot, and the research assistants applied the data gathering tools in the pilot area to determine whether the planned timeline was feasible and whether or not the interview questions were appropriate and effective.

First, each enterprise to be studied was contacted to gain their approval, to explain the purpose of the study, and to assemble key contact information. Since data to be collected and examined included organizational documents, discussions were held with the owner/manager of the MSEs on plans for storage, classification, and retrieval of these items, as well as the interview and data collected to ensure confidentiality. Multiple sources of data were considered for this study and included examination of enterprise documents, such as administrative reports, and news clippings for each of the enterprises. Secondly, interviews were conducted with managers/owners or their representative using an interview schedule so that uniformity and consistency could be

assured in the data, which included facts, opinions, and unexpected insights. This was combined with a set of five-point scales to assess perceptions of usefulness of specific aspects of information technology as used by the MSE entrepreneurs in the tourism industry.

Observation method was used to map ICTs on the ground and whether they were being used and for what purposes. The observation sessions varied in length, depending on the size of the enterprise. However, they typically involved a minimum of 15 minutes spent within the enterprise, observing information processes and information activities conducted by the business owner or employees, using a checklist. The checklist included information such as number of computers, information system in use, whether networked and connection to the Internet, to mention but a few. Immediately following each observation, an interview was carried out with the purpose of discussing the observational period in general, and to follow up or clarify any events, actions or decisions that would have taken place.

As data collection progressed, participants were able to recommend other useful potential candidates for interviewing (snowball sampling). In each case, an element of judgment approach was used since efforts were made to ensure that participating enterprises conform to the required strata. It is likely that they skew towards male-owned enterprises, and towards relatively established, prosperous, permanent, easily approachable enterprises. Nonetheless, the sampled enterprises include a wide range of vocations, from those that are run by two people with offices located at the end of a corridor and one person running the office and the other operating a taxi, to established professional tour operators with well-established service points. The participants had a similar range of mediated communication technology behaviours, from no landline or



Internet ownership at all, through networked PCs with broadband connections. Incidentally, mobile phones were used in all the enterprises visited. Purposeful sampling was used to identify key informants. These were people with specific experiences within the tourism industry. Those targeted included Ministry of Tourism officials and members of the Kenya Association of Tour Operators, and the Kenya Association of Local Tour Operators. The researcher was able to interview one Ministry of Tourism official, one member of the Kenya Association of Tour Operators and two members of the Kenya Association of Local Tour Operators.

Group discussion was not a planned procedure but it took place after some participants showed interest and found it easier to air their views as a group. The researcher used it as a clarification forum and to gain insight into some of the issues raised during the interview sessions. This took place only in Mombasa. Some of the MSEs interviewed in Mombasa wanted to be advised on how best they can collectively create a database that would enable them to share information. The researcher took this time to discuss with the participants in detail some of the issues not articulated clearly during the interview sessions. The participants were mainly from micro enterprises.

A total of 120 MSEs and 7 key informants (comprising of a Ministry of Tourism official, a member of Kenya Association of Tour Operators and two members of the Kenya Association of Local Tour Operators, Kenya Tourism Federation (KTF), Kenya Rural Enterprise Programme (KREP) and from the Kenya Tourism Board) were identified for the study. The distributions of the cases were Nairobi (70), Mombasa (40) and Eldoret (10).

## **Pilot Study**

The pilot study involved face-to-face interviews with a sample of three MSEs in the tourism industry within Eldoret Town, using a semi-structured interview schedule as the main data collection instrument. A second interview schedule for key informants was administered to three participants for pretesting. The three participants were Eldoret-based key stakeholders in the tourism industry from the local office of the Kenya Tourism Federation (KTF), the Kenya Rural Enterprise Programme (KREP) and from the Kenya Tourism Board. The results of the pilot study were used to refine the research instruments (Appendix A and B) for the subsequent phases of the main fieldwork. That is, the researcher was able to refine the instruments so as to address the major themes identified in the conceptual framework that were to guide data collection and consequently address the research questions. They included entrepreneur and enterprise characteristics, information needs, ICT diffusion, learning and sharing knowledge, and change management factors.

## **Field Study**

The field study took place in two phases:

### **1. First Phase**

This main fieldwork covered a representative sample of MSEs in the tourism industry in each of the centres under study, namely - Nairobi, Mombasa and Eldoret. Data was collected through a blend of semi-structured interview schedules and observation forms (Appendix A). The person in the enterprise targeted by the study was the manager and in the absence of the manager/owner their representative, particularly the person responsible for ICT within the company. Informal group discussion took place but was not planned from the beginning. This was carried out

in Mombasa where several micro entrepreneurs agreed to jointly discuss issues of interest to the study; it took place at the convenience of the entrepreneurs.

## **2. Second Phase**

This covered purposively sampled key informants in the tourism industry; the Ministry of Tourism and Kenya Association of Tour Operators. Data was collected through face-to-face interviews.

### **4.7 Data Analysis Procedure**

Data analysis is the process of bringing order, structure and meaning to the mass of information collected (Mugenda and Mugenda, 1999). Data analysis is probably the aspect of qualitative research that most clearly distinguishes it from quantitative research. Qualitative data analysis is primarily an inductive process of organizing the data into categories and identifying patterns (relationships) among the categories. Unlike quantitative procedures, most categories and patterns emerge from the data, rather than being imposed on the data prior to data collection. Qualitative data analysis seeks to make general statements on how categories or themes of data are related and their meaning. It consists of identifying, coding, and categorizing patterns found in the data (Bryne, 2001). Coding is done by identifying themes in the qualitative data. All qualitative research studies are unique and thus demand unique strategies for analysis. Framework analysis, a more recent approach to qualitative analysis, formed the basis for data analysis. The benefit of framework analysis is that it provides systematic and visible stages to the analysis process, so that stakeholders and others can be clear about the stages through which the results have been obtained from the data. Also, although the general approach in framework analysis is inductive, this form of analysis allows for the inclusion of *a priori* as well as emergent concepts, for example in coding (Lacey and Luff, 2001), where *a priori* is knowledge gained on the basis of reflection alone,

independent of experience, by anyone who has acquired the relevant concepts (Henderson and Horgan, 1999).

Data analysis approach was within-case analysis comparing the data against the themes identified from the conceptual model (Figure 3.9), the frame of reference, and seeking patterns from each dataset of the interview before comparing with data from the other cases. Analysis involved reviewing words from the interviews conducted, observation checklist, and the review and use of documentation that the firms were able to hand over (i.e. annual reports, brochures, etc). Specific techniques used in data analysis included familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation. This was necessary because data from qualitative research usually originates from interview transcripts, documents or observation notes and must be pared down to represent major themes or categories that describe the phenomenon being studied. This paring and sieving of data to identify themes and patterns is often termed thematic analysis (Aronson, 1994). The resulting data was quantified through coding. Coding is done by identifying themes in the qualitative data. Quantification involved counting the number of times a code is applied to the data through categorizing the participant's responses by the themes. The coding process involved *a priori* codes and inductive codes. *A priori* codes are codes that are developed before examining the current data. The codes were generated based on themes derived from questionnaires used by Duncombe and Heeks (1999) in their study on *Information, ICTs and Small Enterprises: Findings from Botswana* and the conceptual model (Figure 3.9). Inductive codes, on the other hand, are codes that are developed by the researcher by directly examining the data. Although the research design was qualitative in nature, to reach certain conclusions during analysis, certain percentages were used. Similarly, quantitative techniques were used for the analysis of quantifiable data that was

presented textually using descriptive statistics. According to Patton (2002), qualitative data could be used in combination with quantitative data in a qualitative research. This was used to corroborate and support the qualitative data, which is most useful for understanding the rationale or theory underlying relationships. In this study, thematic guidelines generated from the conceptual framework (Figure 3.9) and used in the analysis included:

1. Characteristics of MSEs
2. Demographic characteristics of respondents
3. Information needs of MSEs and challenges in accessing information
4. Extent to which information systems address the information needs of MSEs
5. Factors that influence use of ICTs among MSEs
6. Factors that influence use of ICTs among MSEs
7. Government and institutional policies and their effects on use of ICTs
8. Challenges encountered in using ICTs among MSEs in accessing information

Responses recorded from these themes were then grouped into sub-themes and analysed through theoretical concentration and common trends established.

#### **4.7.1 Interview Analysis**

Analysis of the interview schedule was at two levels: quantitative data, section A and B, and qualitative data, section C to F (Appendix A). Data obtained through section A and B of the semi-structured interview schedule was analyzed using simple descriptive measures. Descriptive statistics were used to describe the demographic data, the type of enterprise, type of ICTs in use, access to the Internet, the frequency of most utilized ICT resources, and the level of education and training. The close-ended questions in the schedule were coded and then analyzed using the Statistical Package for the Social

Science (SPSS 12.0 for Windows). Summations of frequencies, calculations of percentages, and measures of mean usage were tallied collectively and cross-tabulated by enterprises for appropriate items. A series of tables, graphs, and charts were created for clarity and visual comparison of information regarding the research questions.

Data obtained in section C to F of the semi-structured interview schedule (Appendix A) was categorized, and frequently mentioned themes noted and coded. The process of mapping and interpretation was influenced by the original research objectives as well as by the themes that emerged from the datasets themselves. This was done by the researcher to verify the trustworthiness of the method used for analysis. A research assistant was asked to reduce the data using the same technique. Results of the informal group discussions were used to complement and elaborate on issues raised during the interview and during observations.

#### **4.7.2 Observation Analysis**

Not to affect the actions of entrepreneurs being observed, the research assistants were requested to generally maintain the role of a distanced observer. However, some of them, being computer science students, got involved with the entrepreneurs and in so doing got more information than anticipated on databases used and networking levels within the enterprises. The field notes taken during the observations were the key to the analysis process. To prevent the forgetting of details, the notes were written as soon as a meaningful observation was made. Observation notes were expanded as suggested by Anton (1996) into two sections: descriptive notes taken during the observation and analytical notes taken during the analysis process. Descriptive notes recorded ICTs in the enterprise, information systems and their usage (Appendix C). Analytical notes recorded interpretations of what was observed, for example database usage, networking

and frequency of ICTs usage (Internet sessions, e-mail, telephone, fax, and general computer use).

#### **4.7.3 Document Analysis**

This involved going through enterprises documents, such as brochures, reports, and websites. Other documents examined included KTDA, KATO, KALTO and the Ministry of Tourism licensing documents that were relevant to the research. These documents were analyzed by indentifying themes from datasets that related to the conceptual model and research questions. Information derived from the documents was compared with information from interview schedules and observation notes.

#### **4.8 Reliability and Validity of Research Instruments**

Regardless of the type of research, validity and reliability are concerns that are given careful attention in a study's conceptualization and the way in which the data is collected, analyzed and interpreted, and the way in which the findings are presented. Several strategies were used to enhance the validity and reliability of research instruments in this study. The following section deals with each of these issues.

##### **Reliability**

Reliability refers to the stability, accuracy, and precision of measurement. It is synonymous with repeatability. Joppe (2000), as quoted by Golafshani (2003), defines reliability as:

..the extent to which results are consistent over time and an accurate representation of the total population under study and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable (p. 2).

As such, a measurement that yields consistent results over time is said to be reliable.

When a measurement is prone to random error, it lacks reliability. The reliability of an

instrument places an upper limit on its validity. A measurement that lacks reliability will also lack validity. There are three basic methods to test reliability: test-retest, equivalent form, and internal consistency. In this study, ways of establishing reliability involved multiple data gathering strategies, reporting any possible personal bias, and decisions made about data and categories. This agrees with Burns' (2000) and Kelliher's (2005) observations. Kelliher (2005) has pointed out that combining participant's observation with interviews and documentary sources in a single case strengthens the reliability of qualitative research findings. The research used some form of internal consistency by having several questions designed to examine the same construct; the questions were arbitrarily split into two groups. For example, in Appendix A interview questions 12, 16 and 19; 21, 22 and 24; 30 and 33; 42 and 43, the researcher compared answers from the two groups of questions and was able to pick out the issues raised by the participants.

### **Validity**

Validity is the strength of conclusions, inferences or propositions. More formally, Hammersley's (1987: 69) position is that: 'An account is valid or true if it represents accurately those features of the phenomena that it is intended to describe, explain or theorize'. It refers to the accuracy or truthfulness of a measurement. 'Are we measuring what we think we are?' In short, were we right? There are four types of validity that were addressed in this study: face validity—the likelihood that a question will be misunderstood or misinterpreted; content validity—whether an instrument provides adequate coverage of a topic; construct validity—refers to the theoretical foundations underlying a particular measurement; and external validity—this is concerned with the extent to which the findings of one study can be applied to other situations. That is, how generalizable are the results of the research study? For the latter, since the emphasis of



the case study was on the characteristics of the particular cases, external validity was not of great importance (Burns, 2000; Creswell, 2003). In so far as the research is concerned, it is hoped that the findings from the cases would be generalized to the entire population of the micro and small entrepreneurs who participated in the study, and it might well be generalized to other MSEs in identical environments. Face validity was addressed during piloting, where participants in the pilot study were able to decipher the same meaning to the questions asked.

Construct validity requires the researcher to use the correct operational and multiple measures for the concepts being studied (Yin, 2009; Kelliher, 2005). This was achieved by using multiple sources of data from observation, interviews, and documents; pilot study; literature searches and using colleagues to pretend to be potential participant, in essence, data triangulation. There are other types of validity that are especially relevant to qualitative research that were addressed in this research. They include descriptive validity, which refers to the factual accuracy of the account as reported by the researcher; interpretive validity, refers to the degree that the participant's viewpoints, thoughts, intentions, and experiences are accurately understood and reported by the researcher; and theoretical validity, which refers to the degree that a theory or theoretical explanation developed from a research study fits the data and, therefore, is credible and defensible (Johnson, 1997). One of the effective strategies used to obtain descriptive validity is investigator triangulation. It involves use of multiple observers. In this study, the researcher would compare observational notes with the research assistants. The use of multiple observers allows cross-checking of observations and responses to ensure accuracy in reporting facts. To obtain descriptive validity for this research, data collection was undertaken in two stages, by the research assistants and by the researcher for cases that lacked consistency.

Interpretative validity, on the other hand, was achieved when the investigator shared interpretations of the participants' viewpoints with the participants through discussions after the interview and during follow ups; 'member checking'. The follow-ups were done for a selected few cases that had discrepancies during data analysis and needed further clarification. The researcher was also invited for a group discussion by some of the MSEs interviewed in Mombasa to advise them on how best they can collectively create a database that would enable them to share information. This created a great opportunity for the researcher to collect, confirm and validate data that had already been generated.

Finally, reliability and validity was also assured through the use of both structured questions and an in-depth assessment of the micro and small enterprises. Observation and document analysis helped to confirm some of the data collected through the semi-structured interview schedule.

#### **4.9 Ethical Concerns**

Ethical issues such as informed consent, confidentiality and consequences for the participants should be taken into account with any qualitative interview. Participants in the research should be informed about the purpose of the investigation and the main features of the research.

Permission to conduct the research was obtained from the Ministry of Education, Government of Kenya. For each selected MSE visited, explanation for the study was given and permission sought from owner/manager before conducting the interview and carrying out any observations. Participants were informed that the research was partly sponsored by the university for academic purpose and it was meant to generate

knowledge. It was made clear to the participants that information given and data collected was not going to be used against them or their enterprises. This was also indicated in the letter attached to the interview schedule. The researcher also intimated to them that the results of the study may be of benefit to them and other enterprises in the country.

Entrepreneurs' and key informants' participation in the study was voluntary. In some instances, the entrepreneurs were able to withdraw from the study if they wished (some gave the excuse of having urgent matters to attend to). Responses to questions were kept confidential and anonymous so that the reader of the research was unable to deduce the identity of the entrepreneur or enterprises. The participants were informed that their confidentiality and anonymity would be maintained irrespective of information being disclosed during data collection process.

#### **4.10 Problems Encountered in Data Collection**

The major problem encountered during data collection was that most of the MSEs visited were not willing to discuss issues to do with their businesses. Some were reluctant to answer some questions, which they felt were sensitive and could be used by their competitors in the tourism industry. The researcher convinced them that the information would only be used for the study and all responses would be treated with a high degree of confidentiality. On the other hand, many were very enthusiastic in sharing information about their enterprises and saw the need to develop partnerships in order to speak with one voice. This could have been the genesis of the registration of the Kenya Association of Local Tour Operators (KALTO) in 2006. This is because many MSEs are not represented by the Kenya Association of Tour operators (KATO) and they believed that by volunteering information they will be heard. They are of the view

that the Kenya Association of Tour Operators represents the big enterprises with foreign links and sets conditions of membership just out of reach particularly for newly registered micro and small companies.

It was very difficult and time-consuming to identify MSEs in the sample frame that was sourced from the Ministry of Tourism. The research assistants were obliged to check each and every enterprise within the cluster. In some instances, they used the snowballing or chain sampling technique to recruit additional participants from those already interviewed. Care was taken to ensure that those interviewed met the criterion of having been registered with the ministry and falling under Category A.1 of the regulated tourist enterprises under Cap 381 of the laws of Kenya (Tourist Industry Licensing Act, Cap 381).

Lastly, qualitative approach is naturalistic. It involves studying real people in natural settings. Therefore, the individual characteristics, temporal, spatial and situational influences had to be taken into account. Besides, qualitative data analysis consists of identifying, coding, and categorizing patterns found in the data. The clarity and applicability of the findings, however, depend on the analytic intellect of the researcher, value and biases. This dependence on the human factor can be the greatest strength or the greatest weakness of a qualitative research study. The effect these factors might have had on the trustworthiness of the results was acknowledged.

#### **4.11 Summary**

This chapter has presented a detailed account of the research philosophy, strategy and methodology according to which this research was conducted. Aspects of the positivist approach and interpretive were developed throughout the chapter. An interpretive

philosophical approach was adopted for this study. The rationale for using interpretive approach was explored and justified. The study sought to maximize on the benefits of qualitative and quantitative data collection methods and at the same time be able to overcome the weakness inherent in any single method. A case was made for the appropriateness of using a concurrent triangulated strategy approach, where such an approach implies that the researcher uses two different data collection methods in an attempt to confirm, cross-validate, or corroborate findings within a single study. In this case, the quantitative and qualitative data collection was concurrent, happening in one phase of the research study.

The study also provided a description of the sample included in the research, which comprised Ministry of Tourism official, micro and small enterprises tour operators, and an official of the Kenya Association of Tour Operators (KATO) and the Kenya Association of Local Tour Operators (KALTO). Several instruments were used to collect data, ranging from semi-structured interview schedules to observations and discussions with selected MSEs. As with any instrument used for research purposes, issues of validity and reliability are of utmost importance. These were also discussed and the validation strategies employed. Various data collection strategies and data analysis strategies were discussed. The data analyses included Framework analysis and descriptive statistics. Lastly, the chapter also included a discussion on ethical issues that were anticipated and addressed during the research, and the methodological constraints. The detailed analysis of the data is presented in the next chapter.

## **CHAPTER FIVE**

### **DATA PRESENTATION, ANALYSIS AND INTERPRETATION**

#### **5.1 Introduction**

This chapter presents the results of the study. Presentations include ICT ownership and applications in accessing, processing and dissemination of information (section 5.1); the type of information required by MSEs and challenges encountered in accessing this information (section 5.2); the extent to which the current information systems are addressing the information needs of MSEs (section 5.3); information-related factors that influence use of ICTs among MSEs (section 5.4); the challenges encountered in use of ICTs among MSEs in accessing information (section 5.5); and the government and institutional policies and their effects on use of ICTs in MSEs in accessing information (section 5.6).

120 interview schedules were used to gather data from purposively selected enterprises in the study regions. Data collection was done between the months of May and June 2006. A second field study was done in June 2007 as a follow up to fill the gaps that were left during the first study and to collect more information through discussions with selected MSEs. There were 9 trained research assistants; 5 were deployed in Nairobi, three in Mombasa and one in Eldoret. The two key considerations in the determination of the sample regions were their economic significance and their ability to represent the MSE sector fairly. A total of 70 interview schedules were completed and returned and were found to be usable for analysis, giving a response rate of 58 per cent. 40 interview schedules (57%) were received from Nairobi, 25 (36%) from Mombasa and 5 (7%) from Eldoret. The data from the interview schedules was coded after transcribing it,

enumerated and analyzed and presented using percentages and mean perception score where applicable.

## **5.2 Characteristics of MSEs**

This section presents the characteristics of the entrepreneurs that were involved in the study with regard to age, level of education, gender, number of employees and the number of years in operation. As indicated earlier, the main target population of the study was the enterprise owner/manager or their representative. The distribution of the enterprise categories that participated in the study was identified through the number of employees in each enterprise, as shown in Table 5.1. Data on employee levels indicated that an average number (51.4%) of enterprises that participated in the study had 5-10 employees.

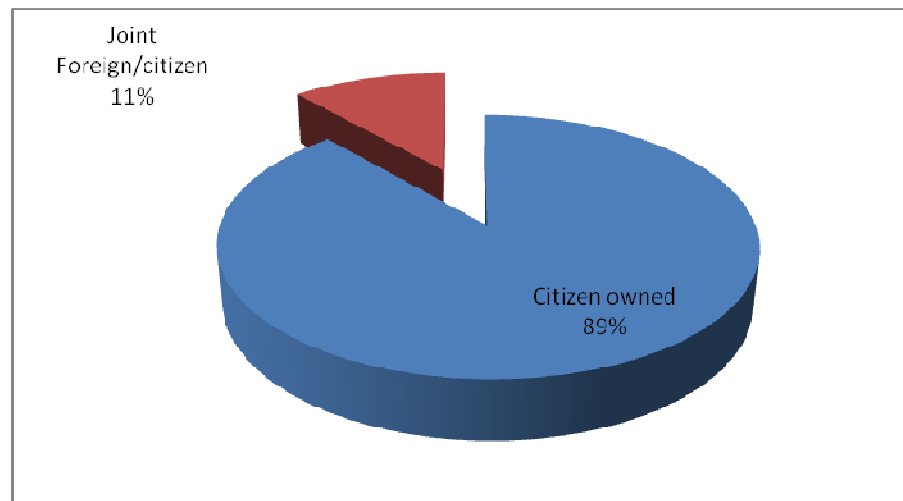
**Table 5.1: Number of employees**

<b>Number of employees</b>	<b>Percentage of the total</b>
Less than 5	20.0
5 – 10	51.4
11 – 20	2.9
Above 20	25.7
Total	100.0

Much care was taken to involve equal numbers of the micro and small enterprise but this was not possible. The data indicates that, according to the definition given earlier of MSEs, the majority (71%) of the enterprises that participated in the study were classified as micro enterprises while 29 per cent were small-scale enterprises. The ownership of the enterprises, either joint foreign/citizen or citizen, was important in finding out whether this had any influence on ICT adoption. The data in Figure 5.1 on

the ownership of the enterprises indicates that the majority (89%) of the enterprises that participated in the study are citizen-owned.

**Figure 5.1: MSEs form of ownership**

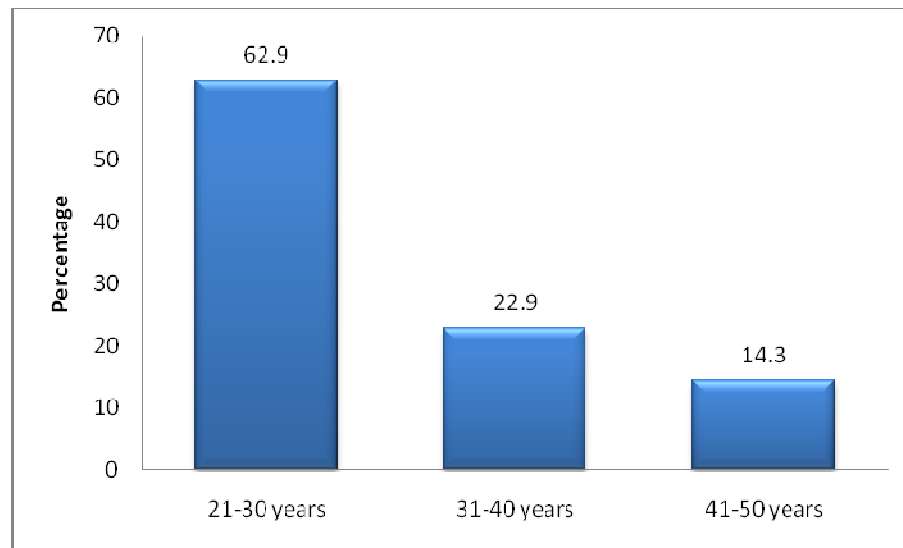


On nationality of the respondents, the data indicated that a small percentage (4.3%) of the respondents were non-citizens.

The age of the entrepreneurs varied from 21 years to 50 years, with the majority being in the 21-30 age brackets, as shown in Figure 5.2.



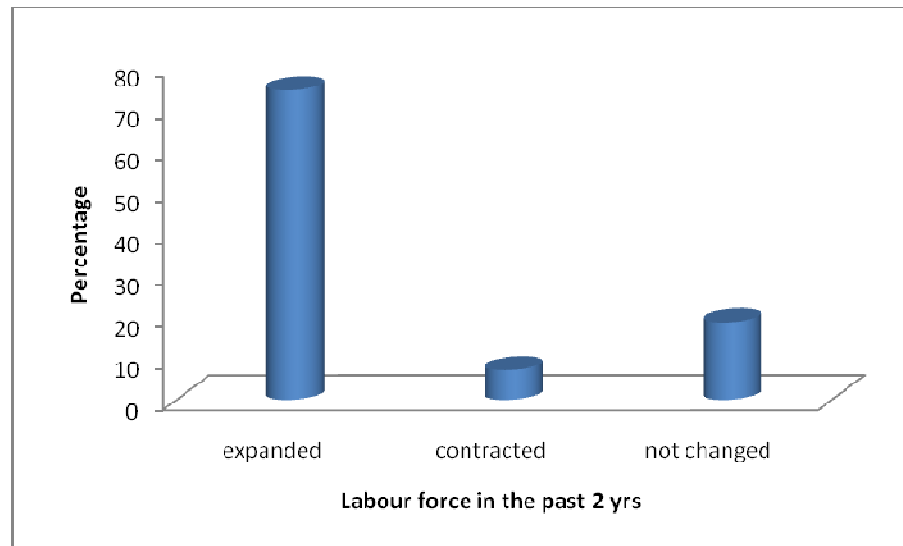
**Figure 5.2: Age distribution of MSE entrepreneurs (N=70)**



The study revealed that the micro and small entrepreneurs working in the tourism industry are young; 72.1 per cent of the entrepreneurs were between 21 and 30 years old and 11.5 per cent were between 31 and 40 years old. Only 16.4 per cent of the respondents were between 41 and 50 years old. This latter category of entrepreneurs was observed to be in owner/manager of the enterprises they worked in.

Respondents were asked whether there was any expansion in labour force in their enterprises in the past two years. The data presented in Figure 5.3 indicates that the majority (74.3%) of the enterprises had their labour force expanding and a small percentage (7.1%) had their labour force contracting.

**Figure 5.3: Growth of enterprise in the past two years**



Only 18.6 per cent of the respondents indicated that there was no change in labour force in the last two years. The expanded labour force agreed with the Ministry of Tourism's projection of the growth of the tourism industry, which had shown dramatic improvement.

The other important element was to establish the range of tourism activities MSEs were involved in. It was found that more than average number of MSEs are involved in air ticketing and reservation, car hiring services, excursion services, hotel booking services, wildlife and culture safaris, recreational activities (mountain climbing), hospitality services, and to a lesser extent corporate travel services and parcels service.

### **5.3 Demographic Characteristics of Respondents**

The study sought to establish how the characteristics of the respondents influenced the adoption and use of ICTs. These characteristics included: age, gender, level of education, number of employees (micro/small), form of ownership, years in operation

and important markets.

The extent to which the age of the respondents influenced the utilization of ICTs was sought. This is with the understanding that bringing about change in an individual is difficult, and is influenced by the characteristics of an individual. A cross tabulation of age against extent of using ICTs (computers, Internet and databases) is shown in Table 5.2. ICTs in this case did not include mobile phones, which were found with every entrepreneur interviewed.

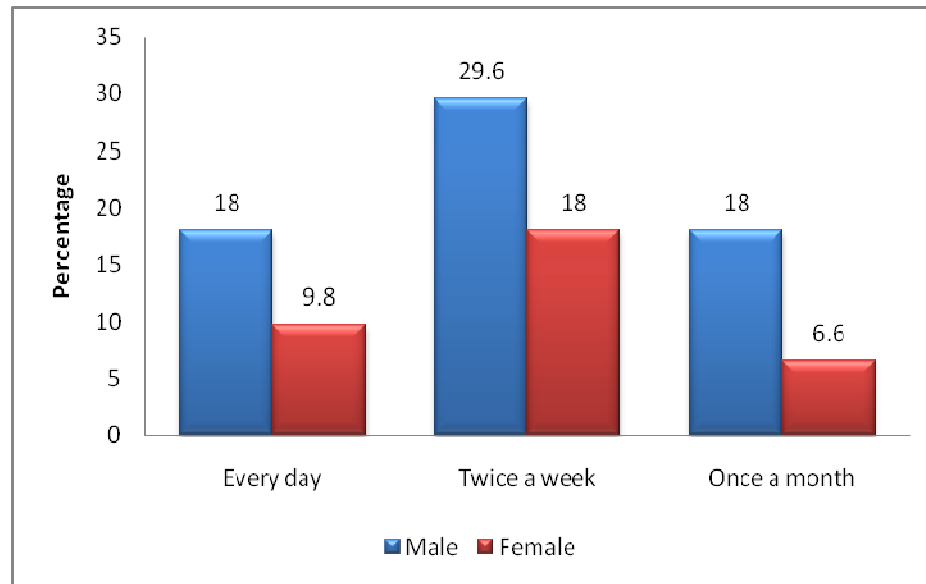
**Table 5 2: How age of the respondents influenced use of ICTs**

<b>Extent of using ICTs</b>				
<b>Age of respondents</b>	<b>Every day</b>	<b>Twice in a week</b>	<b>Once in a month</b>	<b>Total</b>
21-30 years	23%	36%	13.1%	72.1%
31-40 years	4.9%	6.5%	-	11.5%
41-50 years	-	4.9%	11.5%	16.4%
Total	27.9%	47.5%	24.6%	100%

A closer analysis of the findings above indicates that age had an influence on the extent of using ICTs in MSEs in the tourism industry. For example, 36 per cent of all the respondents aged between 21 and 30 at least used the ICTs twice in a week compared to 4.9 per cent of respondents aged between 41 and 50. Twenty-three percent (23%) of the respondents in the 21-30 age bracket use ICTs every day. As such, it seems the older respondents are less likely to utilize and adopt ICTs in the tourism industry. This category of entrepreneurs was found to be managers or owners of the enterprise. They predominantly turn to the various intermediaries (subordinates) to obtain the necessary information and evidence for decision making. It is also important to note that a significant percentage, 24.6 per cent, of all the respondents reported that they rarely use ICTs. That is, they use them once in a month and in most cases from cyber cafes. This

comprised a large population of employees, thus there is need to improve their skills and knowledge in the utilization of ICTs in the workplace regardless of age or level of education. A cross tabulation of gender against extent of using ICTs is as shown in Table 5.2 and Figure 5.4.

**Figure 5.4: Gender of the respondents and extent of use of ICTs**



More male respondents 40 (65.6%) participated in the study than female 21 (34.4%). From the findings, it was not empirically possible to compare gender use of ICTs as fewer females were engaged in MSE activities in the tourism industry. A higher number of males 11 (18%) rarely used ICTs as compared to females 4 (6.6%). The findings, however, indicate that more males are involved in the tourism industry than females. From the analysis, it is clear that the majority, 46 (75.4%), of the respondents used ICTs (Internet and computer-based information systems) either every day or twice a week in their workplaces. In addition, the education level of entrepreneurs was found to have an influence on the frequency of use of ICTs (Internet and computer-based information systems), as shown in Table 5.3.

**Table 5.3: Highest level of education and frequency of use of ICTs**

Highest level of education	How often do you use ICTs		
	Every day	Twice a week	Once a month
Secondary	80%	20%	-
Vocational	50%	15.4%	34.6%
Graduate	30.6%	55.6%	13.9%
Postgraduate	40%	60%	-

It was observed that all the respondents with secondary school education as the highest level of education used ICTs every day. Discussions and observations established that this category of staff in MSEs was used for data entry, Microsoft Office applications and producing reports. It also established MSEs that had invested heavily in ICTs made use of computers and computer applications for data capture and transactions that required a lot of data entry. This work was done by computer operators, a category of staff with secondary education plus a certificate or diploma in IT-related courses. It could also indicate the general initiative by the 'lowly educated' to keep up with the rest of the workers by ensuring that the low level of education they possess does not hinder them from undertaking any activities in the business. Their major task was data entry and production of reports for managers. These are tasks that require the use of ICTs on a daily basis, thus the 80 per cent usage of ICTs. It could also imply that they are willing to undergo any kind of training in the use of ICTs to improve their status and in the process become more productive in their enterprises. On the other hand, entrepreneurs with postgraduate education are either proprietors or managers and, as such, their role is to utilize reports generated by those at operation level for decision making. They spend less time using ICTs as compared to those at operational level.

The study also sought to establish the relationship between use of ICTs and the form of

ownership of MSEs. The findings indicated that a significant number (62.5%) of joint foreign-owned enterprises use ICTs every day, compared to 38.7 per cent of the citizen-owned enterprises, as shown in Table 5.4.

**Table 5.4: Form of ownership and use of ICTs**

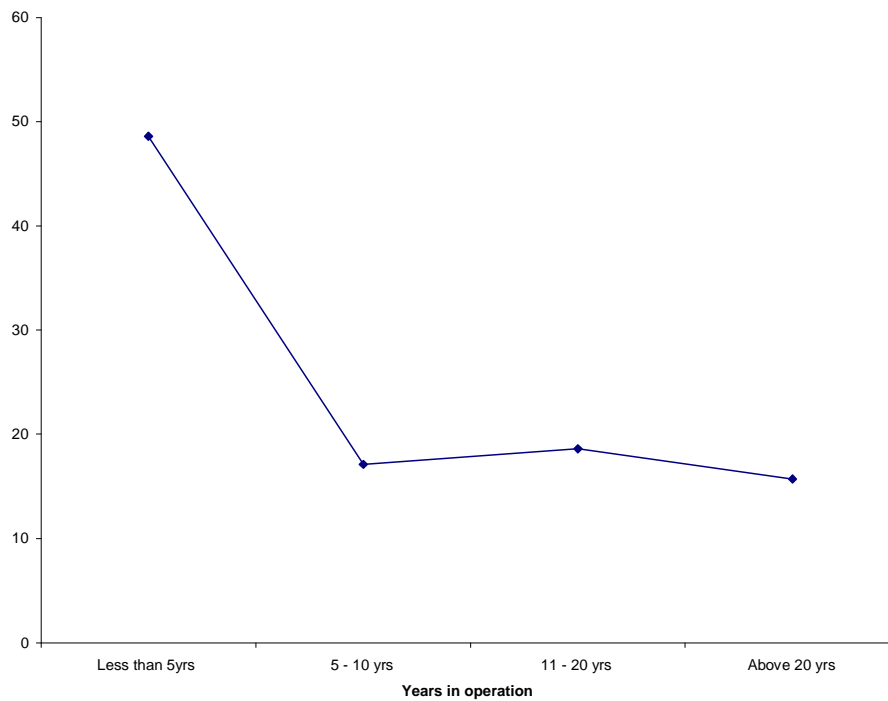
Use of ICTs	Form of ownership of enterprise	
	Citizen owned	Joint foreign/citizen
Every day	24 (38.7%)	5 (62.5%)
Twice a week	24 (38.7%)	3 (37.5%)
Once a month	14 (22.6%)	-
Total	62(100%)	8(100%)

The study found that most of the joint foreign/citizen-owned MSEs have other outlets in other countries that are able to freely import technology to their branches in the different countries. They are linked to multinationals that have adequate funding, knowledge and skills and are able to provide training for their local counterparts. It was observed that joint foreign/citizen enterprises had Internet connection and computer-based systems such as the Tourism Destination Management System (TDMS) and the Global Distribution Systems (GDS)/computer reservation system such as Galileo, Amadeus, Sabre and Worldspan. Also, it was observed that their transactions were done on-line, through computers. The use of these systems broadened the gap between large and micro or small suppliers of tourist services, as only the former could actually benefit from broader market access and the enhanced level of service.

The last item on the characteristics of the MSEs was to find out the number of years the enterprises have been in operation. The findings indicate that an average number (48.6%) of the MSEs have been in operation for a period of less than five years, as

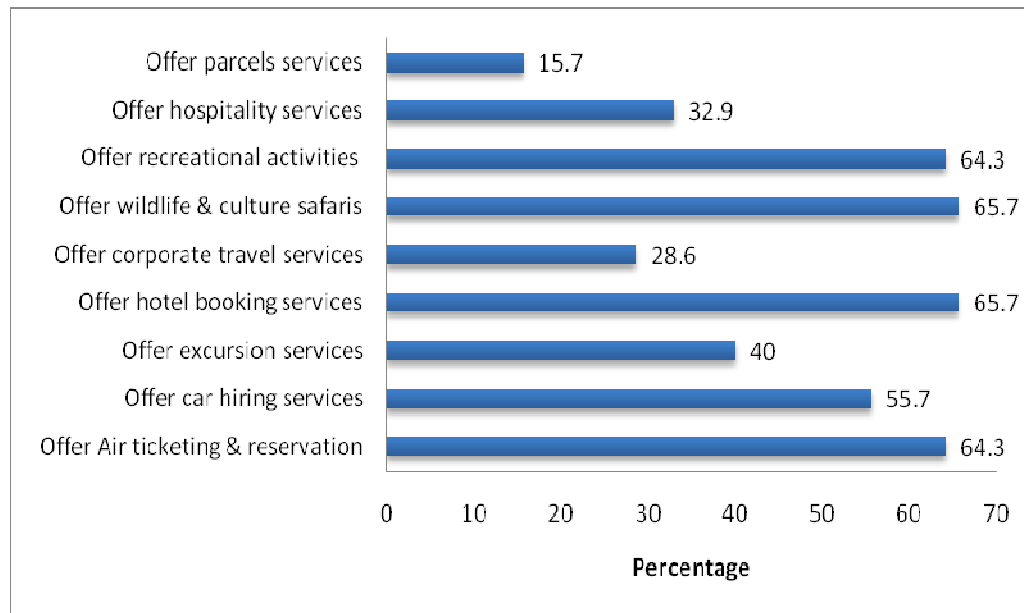
shown in Figure 5.5.

**Figure 5.5: Percentage of MSEs against number of years in operation**



It was revealed that most of the MSEs collapse before five years in operation. Respondents indicated that some enterprises are open during the peak seasons and close during the low seasons. They affect other enterprises because they offer low rates to potential customers, a trend that cannot be sustained. This implies problems with sustainability and enterprise growth. Various studies (World Bank, 2005; Veal, 2006) are in support of these findings, arguing that most MSEs are unable to cope with the competitive business environment and, therefore, collapse within the first five years of operation. Some of the reasons cited for the above scenario include lack of diversification in products and services. As such, the study sought to establish the services they provide, as shown in Figure 5.6.

**Figure 5.6: Services provided by MSEs (multiple responses)**

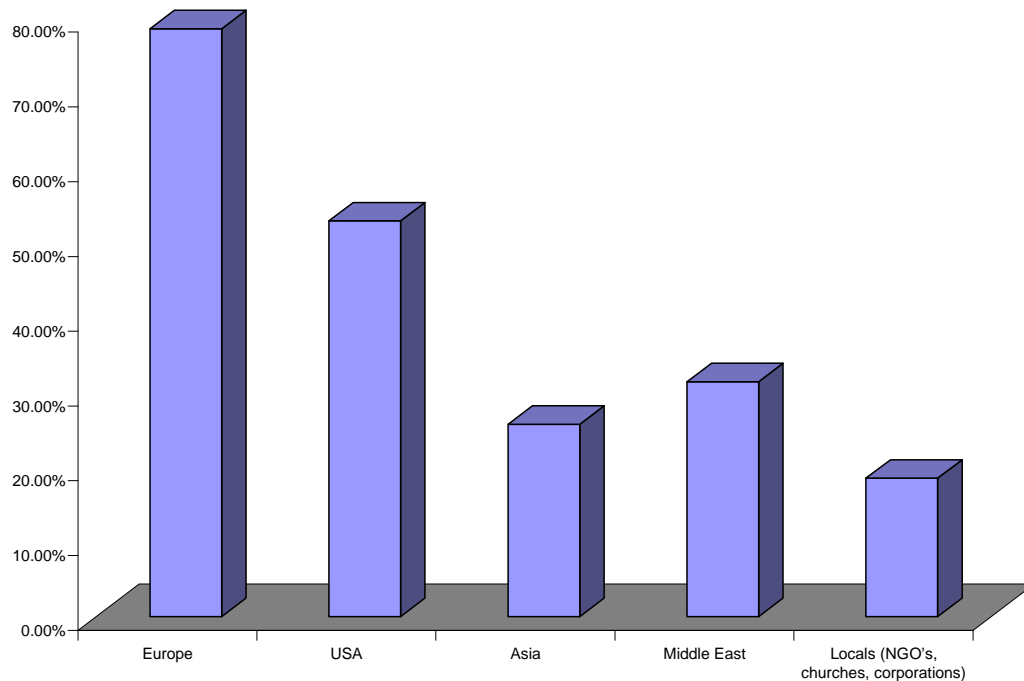


The findings show that most MSEs provide diversified services depending on the customers available. They do not specialize in any particular service or product, thus they end up providing poor services. Both hotel booking and wildlife and cultural safaris were the most offered services (65.7%), followed by air ticketing and reservations sharing the same position with recreation services (64.3%). Surprisingly, some of the MSEs regarded themselves as tour operators but still provided hospitality services (32.9%), a preserve of hotelkeepers and caterers.

The other important element was to establish the most important markets for the MSEs, as shown in Figure 5.7.



**Figure 5.7: Important markets for MSEs (multiple responses)**



The majority (78.6%) of the respondents argued that Europe was the most important market for their business products. In addition, 52.9 per cent cited USA, 25.7 per cent named Asia and 31.4 per cent spoke of the Middle East. The last two markets signify an era of diversification where the MSEs are venturing into new markets, such as China and Malaysia, instead of concentrating on European and American markets. As such, the attempt to diversify requires commendation and support by the government and other relevant stakeholders to ensure that the MSEs broaden their horizons as much as possible. However, the MSEs still under-emphasize the role of the local market as only 18.5 per cent of the respondents cited the local groups as an important market. Local individuals were said to rarely use tour operators to organize their holidays.

It was necessary to establish the perception of ICTs among MSEs on enterprise performance. The findings indicate that 65.7 per cent of the respondents reported that

adoption and utilization of ICTs enhances increased efficiency and reliability while 51.7 per cent were of the view that ICTs help in cutting down on business running costs. It is clear from the analysis that ICTs play an important role in enhancing increased efficiency and reliability.

#### **5.4 Information Needs of MSEs and Challenges in Accessing Information**

Business information is important to micro and small enterprises, especially those in the tourism industry, because their success depends on their ability to access information and use it strategically for the growth and development of their business. MSEs, like any other enterprises, require various types of information relating to their daily operations. One of the objectives of this study was to find out the type of information required by MSEs and the challenges encountered in accessing such information. The content analysis of the data collected was able to reveal about five different categories of information that is needed by MSEs. These included:

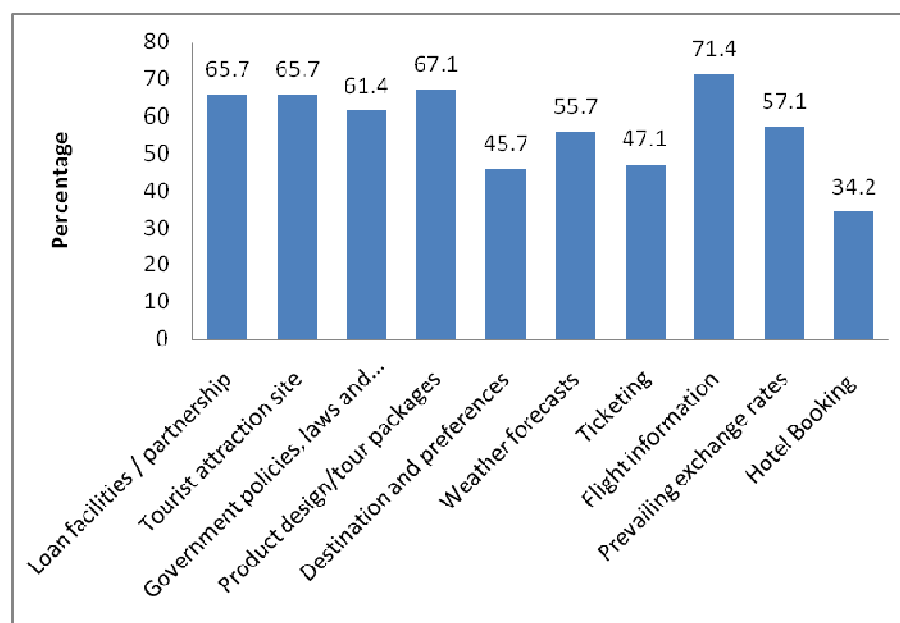
- i) Marketing information and means of marketing, where to set up one's business, accessibility to the public, detailed maps, list of hotels, product prices, weather conditions and oil rate fluctuation, how to increase visitor numbers from other countries and locally, information about tourism exhibitions, information on how to link with foreign tour operators;
- ii) Information about tourists and tourist destination including age, sex, income, interest, exchange rates of different currencies, airfares to different destinations, global stability, tour packages and rates, political environment of the area, visa regulations, updates on existence and changes in tourism facilities locally and regionally, flight schedules;
- iii) Training manuals, i.e. how to handle/serve and maintain customers, information on how to get qualified staff, information on how to introduce Galileo and

Amadeus systems and information on tourism managing systems, information on seminars and workshops, information on how to increase visibility;

- iv) Loaning facilities/partnership, source of funding, tourism and business licensing, tourism movement at any time of the year, enterprise growth and sustainability information; and
- v) Government rules and regulations regarding tours and travel, legal issues and standards of service.

Figure 5.8 indicates responses given by respondents when asked to list down information they need most urgently in their businesses. The findings indicate that 71.4 per cent of the respondents cited flight information as the major type of information required by MSEs and hotel booking as the least.

**Figure 5.8: Information most sought by MSEs (multiple responses)**



Flight information is the sort of information that demands accuracy and timeliness, factors that can well be addressed by utilizing ICTs. ICTs can facilitate the process of

accessing this information by communicating information promptly and with a lot of accuracy and speed. Further discussions with the respondents revealed that they use the Internet and established local networks to access this information. When available, the Internet was preferred because booking a flight by logging onto the website of the preferred carrier/airline is just a click away.

From the foregoing, it is clear that the MSEs mostly require quick, accurate and prompt sales and marketing category of information. Some of the difficulties encountered in accessing the above information include: scarcity of finances/resources; poor networking; lack of exposure to local or international trends; too much data traffic; lack of processed information and rigid government policies. Of importance is that some did not know where to source information apart from colleagues.

The majority of the respondents cited scarcity of finances/resources as one of the difficulties facing access to information required by the MSEs. They cited the high cost of Internet connection and making international calls, high cost of web hosting and developing quality websites, lack of start-up capital, unaffordable cost of journals/magazines with relevant information/data, and the discriminatively high participant's fees for most seminars/workshops. This implies that most MSEs lack adequate finances because they are owned by self-starters, some of whom do not have enough experience to run the businesses, and possess very few sources of financing since they do not have any collateral. This view was taken because some businesses, particularly those that are co-owned by foreign enterprises, indicated that it was fairly easy to access information. A significant percentage of the respondents cited poor networking as a difficulty in accessing information. It was found that there is rarely any communication between MSE players in the tourism industry. This is because most of

the MSEs perceive themselves in isolation and do not build business networks or fear competition. They cited seminars and workshops that are meant for tour operators but discriminate those who are not in their network.

A number of the respondents surprisingly cited ‘too much data traffic’ and ‘not knowing what to look for’ as a hindrance to accessing information. Further discussions with the respondents revealed that they were not able to sieve through data that they get from various sources such as the Internet, government agencies, colleagues and other players in the industry, much of which seems not to be relevant. Some did not know what to look for and they did not have qualified staff or they could not afford to employ them.

When respondents were asked to suggest how access to good quality information can be improved, they gave the following suggestions: a centralized one stop information portal; networking of all tour operators and travel operators; increased use of ICTs, particularly the Internet; training of entrepreneurs on how to use ICTs by organizing seminars/workshops regularly and incorporating all stakeholders; having qualified staff in IT; and government involvement in terms of facilitating information access through provision of cheap ICTs and development of an information infrastructure that covers the whole country that would enable tour operators to access information and communicate.

## **5.5 Extent to which Information Systems Address the Information Needs of MSEs**

The purpose of this section was to assess the extent to which information systems currently in place are addressing the information needs of MSE entrepreneurs in the tourism industry. Information access has been cited as one of the major obstacles faced by micro and small enterprises in developing countries. The concerns about the digital-

divide have featured prominently in many discussions touching on development in these countries. The digital divide is a term that describes the gap between those who are able to access and make use of information technology and those who are not. The real issue behind the digital divide is not so much about access to digital technology but about the benefits derived from access. When respondents were asked what sources of information and advice they use in running their businesses, their response included: the Internet and customized databases such as Galileo and Amadeus; print and electronic sources such as radio and TV; Kenya Tourism Board, Ministry of Tourism and Wildlife, Kenya Association of Tour Operators, Kenya Association of Travel Agents and International Air Transport Association (IATA); hotels, airlines, agents, seminars; and feedback from customers, colleague consultations and consultants, mostly through the phone or face-to-face. The enterprises were asked to rank the importance (very important, important, and undecided) of the above sources of information. The data in Table 5.5 indicates that an average number (45%) of the respondents cited the Internet and customized databases as important sources of information, followed by print and electronic media at 19.4 per cent.

**Table 5.5: Sources of business information and their importance**

Source of information	Importance of source			Total
	Very important	Important	Undecided	
Internet/customized databases	18%	27%	5.7%	51.4%
Print/ electronic media	8.5%	11.4%	7.1%	27.1%
Kenya Tourism Board	2.8%	4.2%	-	7.1%
Colleague consultations via face-to-face or telephone	9.9%	4.2%	-	14.3%

Computer networks serve as the most important link between most MSEs and their business operations. For example, 45 per cent of the respondents who cited the Internet

as a source of information argued that it was important because they were able to get international and local tourism market information, including flight information. They accessed the Internet in their offices or a cyber café. Furthermore, most of their clients were from abroad and access to this market is through the Internet. Besides, the Internet was also being used for business transactions. That is, an MSE with a website may get a client through the Internet, serve him/her and get paid without ever communicating verbally, except via email. Other significant sources of information included the print media/electronic media (journals, magazines, newspapers, directories, brochures, radio, and television, etc) and colleague consultations among the tour operators. Consultations were either face-to-face or via the telephone. This goes a long way in emphasizing the role of computers and the Internet with regard to sources of information as well as frequency of usage. Its relevance ensures that it is frequently used.

Regarding mode of storing business information, a significant number (65.7%) of the respondents indicated that they store their information in the form of soft copies. This medium was preferred, given the fact that most MSEs require information that can be accessed and sent with ease, accuracy and speed. However, it was found that only very few respondents used tourism distribution management system such as Sabre, Amadeus, Galileo International or Worldspan, simple databases or destination management systems because they lack the skills and established Internet infrastructure. Similarly, the data also indicated low usage of the important sources of information, such as the Kenya Tourism Board, Ministry of Tourism, Kenya Association of Tour Operators or the Kenya Association of Travel Agents, much as they mentioned them as sources of information.

## **5.6 Factors that Influence Use of ICTs among MSEs**

One of the objectives of this study was to find out the factors that influence use of ICTs among MSEs. This was partly achieved through looking at those factors that influence MSE performance. Respondents were asked important factors that will influence the success of their businesses over the next 2-3 years? Content analysis of the responses revealed six broad categories that included:

**i) Innovative marketing strategies**, i.e. good marketing (different marketing skills), advertising, external markets–travelling there to advertise and having exhibitions, higher sales, return tourists, creation of customer loyalty programmes, targeting local tourists.

**ii) Offering good quality service**, i.e. customer relations

**iii) Government intervention**

Security of the country, good conditions of roads, political stability, reduction in taxes by the government, opening of the Eldoret airport, government to ease visa processing, supervision of mushrooming companies offering low rates to potential clients that are open during the peak season and close shop during the low seasons, review policies such as tourism policy, transport, government policy on tourists, and operation of western Kenya tourist circuit.

**iv) Sound financial stability**, i.e. availability of marketing funds, micro-financing from Kenya Trust Fund, business location, poverty reduction

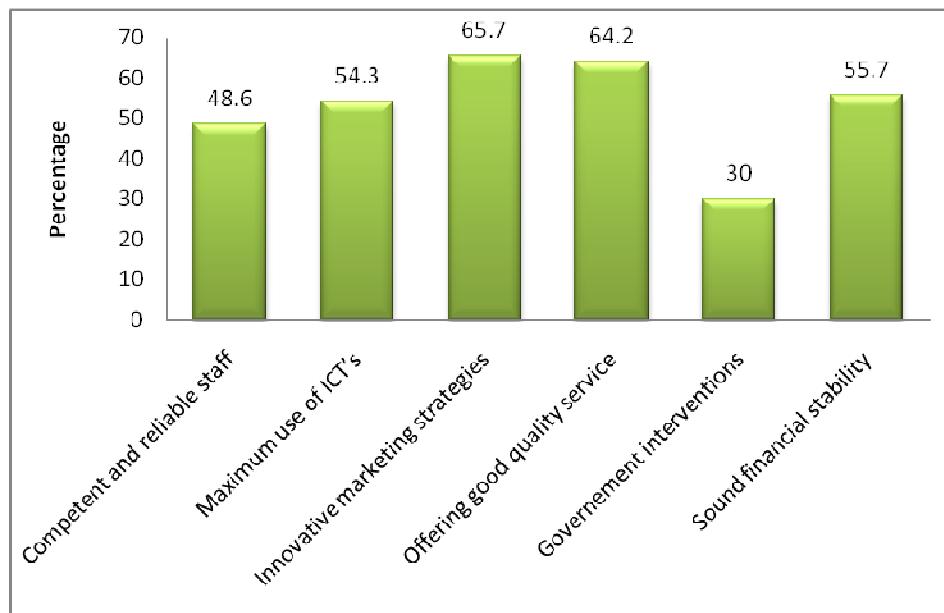
**v) Competent and reliable staff**, i.e. qualified and reliable personnel, guest contact employee training, time management, change of management, attitude of the staff, determination and proper planning, good relations with other stakeholders, sharing information with more tour/travel operators.



vi) **Maximum use of ICTs**, i.e. introducing computer services and the Internet; more computer networks; free or cheap Internet access; modern technology that includes cheaper ICT gadgets and proper information storage/record keeping.

The data in Figure 5.9 indicates that MSE respondents ranked innovative marketing strategies (65.7%), offering good quality services (64.2%), sound financial stability (55.7%) and use of ICTs (54.3%) as major factors that influence the performance and therefore success of most of the MSEs in the tourism industry. The other factors were ranked below average.

**Figure 5.9: Factors that influence the performance of MSEs (multiple responses)**



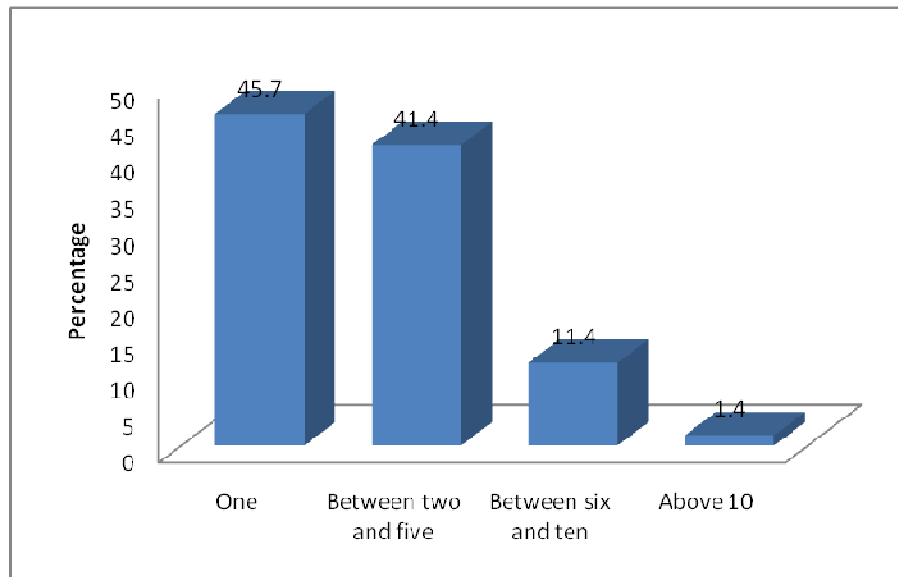
Innovative marketing and strategies were interpreted to mean the application and utilization of strategies for a competitive edge in the market. It was found that information and communication technologies (ICTs) offer opportunities and potential benefits for MSEs, which include the strengthening of customer relationships, reaching of new markets, optimization of business processes and procedures, cost reductions,

improving of business knowledge, attraction of investment and creation of new products and services. Adoption of ICTs, therefore, enables MSEs to be more responsive to, and interact with, customer needs. All these factors contribute to cultivating a competitive edge for the MSEs in the market. It is important to note that the higher percentage (65.7%) of respondents advocating for innovative marketing strategies implies adoption and actual utilization of ICTs to access timely and relevant information about markets, point-of-sale information, and electronic linkages to clients and distributors to counter competition and create a competitive edge in the market. ICTs in use in MSEs were varied and depended on whether the enterprise was micro or small. It was observed that they use mobile/landline phones, computers, fax machines, VHF radios, telex machines, projectors, scanners, and photocopying machines. When asked how they use them, responses were as follows:

- Computer: sending mail to clients; storing information; reservation of air flights, hotels and lodges; research.
- Phone: to inform clients about the reservations.
- Fax: to communicate with the clients if something comes up.
- Printers: printing office documents.
- Projectors: presentations.
- VHF radios: communicating with the drivers during the safaris.

To find out the extent to which MSEs are using ICTs to access information for their business, it was necessary to establish the number of computers, whether networked, connection to the Internet, use of mobile and landline phones, mode of communication channels (e-mail, phone, letters, bulletins, and journals), preferred methods of accessing information, perception of ICTs and software used. The findings indicate that 45.7 per cent of the MSEs had one computer in operation, as shown in Figure 5.10.

**Figure 5.10: Number of computers in operation**



Surprisingly, it was observed that not all enterprises had a computer, despite the fact that most MSEs indicated that they frequently used computers. The majority of those who did not have computers indicated that they had no plans of acquiring them in the near future. This scenario was as result of lack of finances in most MSEs to purchase the necessary ICTs. On the other hand, they could be having other types of ICTs apart from computers, such as mobile phones, landlines and faxes. Some MSEs were of the opinion that it was prudent to use cyber cafes for both the Internet and other housekeeping chores, such as typing letters and producing reports, instead of acquiring computers and related equipment. Only 1.4 per cent of the MSEs had more than 10 computers. This signifies a crop of firms that have been able to survive stagnation and are growing in tandem with the market they serve.

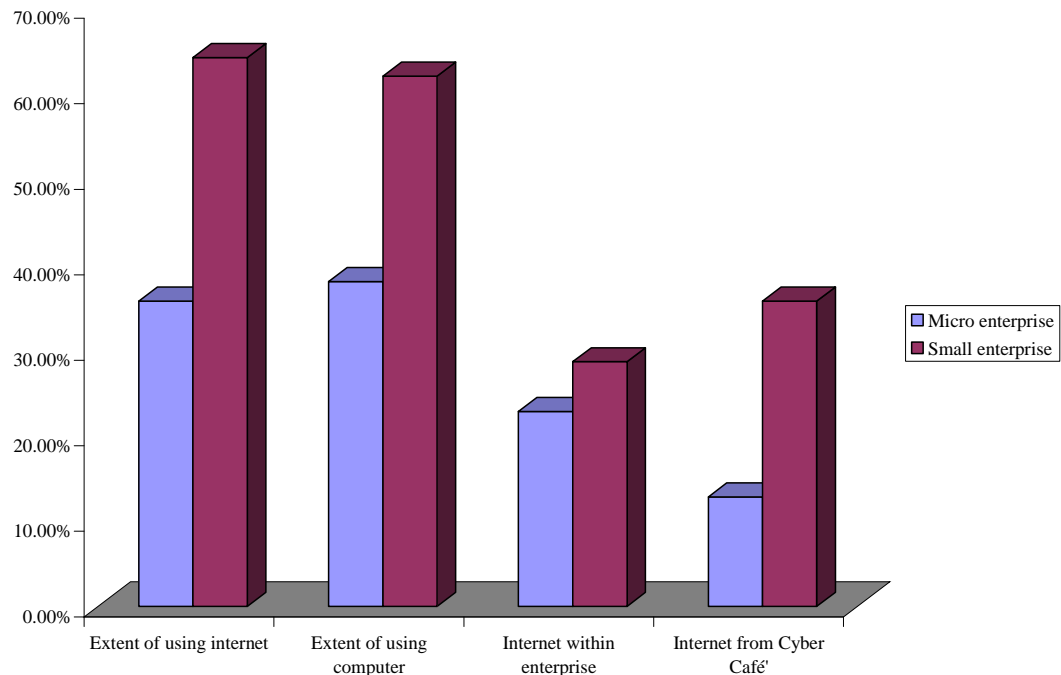
An average number (41.4%) of the respondents reported that their firms have between 2 and 5 computers, although it was observed that some were not in operation and needed to be repaired. Further discussion revealed that maintenance was a big problem. Most were relatively old and thus slow. It was observed that the majority of MSEs had

acquired relatively cheap imported second-hand computers. These were branded computers such as IBM, Dell, Compaq, Fujitsu and Toshiba. Most of these computers were observed to be Pentium 2 and 3 but joint foreign/citizen owned enterprises had Pentium 4s and a few laptops.

Having established that a fairly good number of the MSEs had computers, the next step was to find out if the computers were networked to each other to enhance sharing of information among users in the micro and small enterprises. The findings revealed that only 44.3 per cent of MSEs had their computers networked and enabled them to share resources. In most of the MSEs, the Internet was only accessed through one computer that was using dial-up connection or Asymmetric Digital Subscribers Line (ADSL).

Although most of the MSEs had adopted the use of computers for basic applications such as Microsoft Office applications and storing data, few were networked. This implies that there is limited sharing of information within the enterprises or among users/employees. It is, therefore, important that the MSEs network their computers so that information can be shared promptly and with ease. It was established that networking of computers was not an option with most MSEs since they found it difficult to share information due to competition. When asked to explain how they accessed the Internet, the majority said they were connected to the Internet through ISPs such as Kenya-web, Africa Online, Telkom (lease line, ADSL, Dial up) or UUNET or they accessed the Internet through nearby cyber cafés. It was necessary to further find out the frequency of accessing the Internet. The study findings are as shown in Figure 5.11.

**Figure 5.11: Frequency of accessing the Internet and type of enterprise**



Internet penetration rates for micro-sized firms (1-9 employees) were lower than those for the small enterprises (10-50 employees), with penetration rates of 35 per cent, although there are exceptions. Small firms have a significantly higher penetration rate of 64 per cent (Figure 5.4). The findings imply that overall, the majority of the respondents in small-sized enterprises frequently use the Internet. This was mainly due to adequate finance, more activities that dealt with international clients, and they had grown to a level that they were able to comfortably sustain themselves. Frequency of using the Internet ranged from always, most of the day, approximately 4-8 hours daily, at least 3 hours daily, twice a day, once a day and thrice a week to rarely.

It was found that emerging ICTs offer many opportunities for improving access to information and communication to enhance efficiency and effectiveness of many enterprise processes, and create new business opportunities. These accruing benefits compel many MSEs to adopt and utilize computers and the Internet. When asked how

their enterprises are applying key technology such as the Internet, respondents were able to list down several ways they were using the Internet within the enterprises or through cyber cafes. These include:

- Accessing information on transport rates to different parts of the country, locating various hotels and lodgings and on entertainment
- To market products and services, through websites, updating websites, e-marketing
- Research purposes
- Getting tourist information
- Use of Galileo and Amadeus, which need the Internet
- Making reservations (on-line booking): Air tickets; hotel rooms; car rental
- Communication - with airlines and clients, i.e. sending and receiving emails
- Formal and professional training for worldwide accredited certificates
- Workshops and seminars
- To know how other tour companies are run or organized

In addition, respondents were asked to rank their agreement on a likert-scale of 5 points (from ‘strongly disagree to strongly agree’) with a series of five statements related to perception of ICTs as shown in Table 5.6 below.

**Table 5.6: Perception on the role of ICTs (multiple responses)**

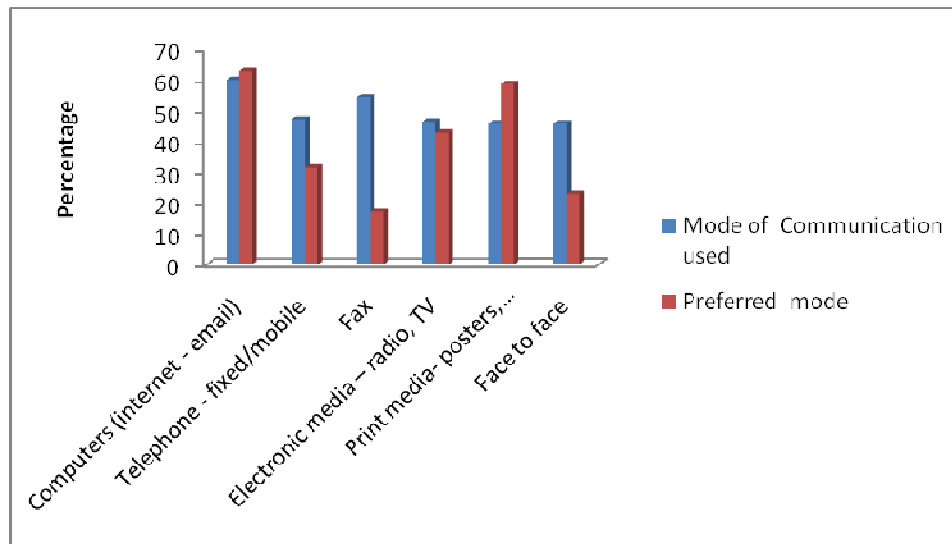
<b>Perception</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Undecided</b>	<b>Disagree</b>	<b>Strongly disagree</b>
Enhance communication within the enterprise	22.9	31.4	15.7	21.4	8.6
Facilitate decision making	38.6	24.3	10.0	12.9	14.3
Facilitate and enhance information access	47.1	20.0	-	17.1	15.1
Enhance communication between enterprises	48.6	25.7	-	21.4	4.3
Facilitate and enhance information processing and storage	45.7	37.1	8.6	8.6	-

The data in Table 5.6 indicates that ICT plays an important role in information

processing and storage. The highest percentage (82.8%) of respondents observed that ICTs facilitate and enhance information processing and storage. This implies that adoption and utilization of ICTs enhances information processing and storage. It was observed that most of the MSEs used ICTs (computer systems) for stand-alone data storage and processing and not for accessing information. Furthermore, the majority of respondents were of the view that ICTs enhance communication between enterprises. However, it was found that the majority of MSEs did not have local area networks and ICTs were therefore underutilized in communication within the enterprise. It was also observed that, in most cases, only one computer was connected to the Internet.

The methods or channels that respondents often used in their everyday business dealings could be categorized into ICTs, face-to-face and through printed materials. The ICTs mentioned included: telephones (landlines) and email, fax, Internet, telex, VHF radios, chat rooms and SMS. The respondents used printed material such as brochures, newspapers, flyers, monthly journals, business cards, courier services and the post-office, while face-to-face channels included verbal, face-to-face meetings, product endorsement, tourist information centres, and door-to-door visits.

**Figure 5.12: Mode of communication of MSEs (multiple responses)**



The findings indicate that 60 per cent of the respondents cited the Internet as the most preferred mode of communication. This was followed by printed media and electronic media (radio and TV), as shown in Figure 5.12. Face-to-face communication was ranked low as a preferred mode of communication.

When asked to indicate the most effective methods/channels of communication for promoting enterprise products/services, the respondents cited mobile phones, e-mails for communicating with tourists from outside Kenya, the Internet, and advertisements on the Internet through websites. Other methods included: tourism programmes - routinely aired over the media providing information about people and events of potential interest, although not all programmes result in positive coverage; photographs; banners - particularly attractive if they feature a famous personality or create a human interest angle; newsletters, brochures, prospectors, leaflets - internal and external - but focused on specific target groups; and personal contact.



The study sought to find out how entrepreneurs received basic skills and training in using ICTs (Internet, and computers, including the application programmes). It was revealed that an average number of the respondents had received basic training in ICTs through private tuition and through apprenticeship. An equal number of MSEs indicated that they had a training plan for their employees. Of those that had received formal training, the majority went through middle level colleges and the rest were IT graduates from university.

Regarding sharing of knowledge, respondents were asked to indicate the degree to which they agreed or disagreed with the opinion expressed in the statements in Table 5.7. Five categories of agreement/disagreement were used: ‘strongly disagree, disagree, undecided, agree and strongly agree’. A significant number (67.19%) of the respondents agreed with the statement that ‘they enjoy exploring new tools’, as shown in Table 5.7.

**Table 5.7: Sharing of knowledge**

Perception of ICTs	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
Enjoy exploring new tools	45.7%	21.4%	11.4%	17.1%	4.3%
Enjoy learning from others	24.3%	31.4%	17.1%	18.6%	8.6%
Other enterprises influence acquisition/utilization of ICTs	40.0%	35.7%	5.7%	14.3%	4.3%

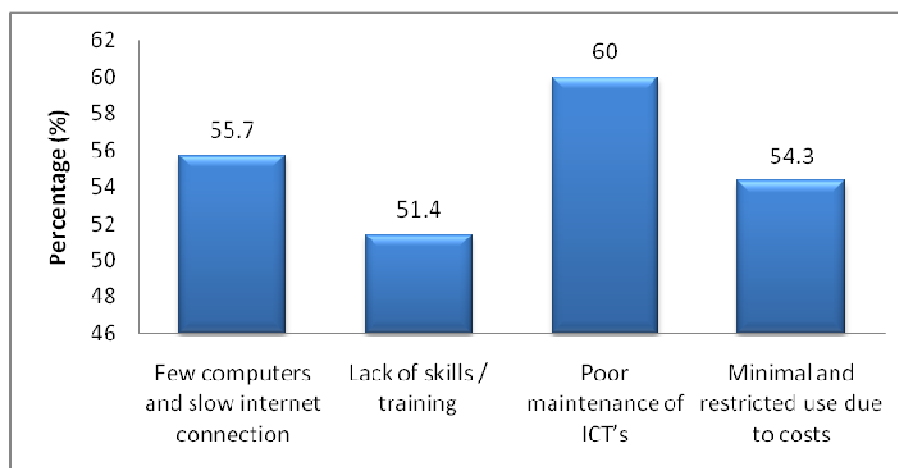
Similarly, a majority of the respondents (75.7%) were of the opinion that other enterprises influenced their acquisition and utilization of ICTs. In addition, an average number of respondents indicated that they enjoy learning from others. It was through apprenticeship at the workplace that they received basic ICT training.

Although the results above indicated lack of an ICT training plan in most MSEs in the tourism industry, when asked whether the owners/managers support use of ICTs, 71.4

per cent of the respondents reported that MSE managers encourage their staff to use ICTs. To them, it is ‘a requirement for all employees to have been trained and those not trained ought to make their own effort to get trained privately without involving the enterprise’.

Having established that owners/managers support the adoption of ICTs, the study sought to find out in what ways entrepreneurs were being a constraint in adopting and using ICTs, either knowingly or unknowingly. The findings indicate that 60 per cent of the respondents reported that the greatest misgiving by MSEs regarding adoption and utilization of ICTs was the poor maintenance of the existing ICT facilities in the enterprise, as shown in Figure 5.13.

**Figure 5.13: Constraints to ICT utilization**



When asked to explain what they meant by poor maintenance, the responses were varied and included: use of old mostly second-hand computers; inadequate maintenance personnel; the server being down frequently; telephone line failures; and power failures.

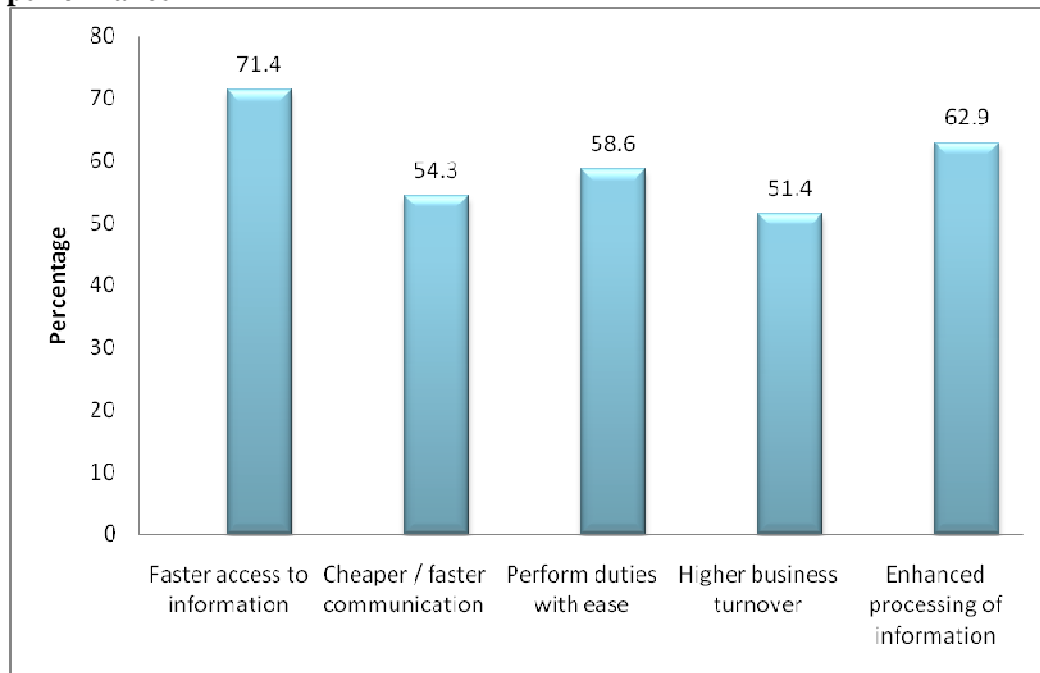
In addition, few computers and slow Internet connection, minimal and restricted use of ICTs due to costs and lack of training were mentioned by respondents as impediments

to utilization of ICTs. Thus, although there is a general goodwill by the management towards adoption and utilization of ICTs, the enterprises are not making a follow-up of the benefits accruing from adoption and hence the poor investment and maintenance. This scenario can be attributed to the fact that the financial capacity of most MSEs was inadequate and they could not afford to hire qualified ICT maintenance personnel to oversee the use, repair and replacement of such equipment.

Other constraining measures cited include lack of ICT training opportunities for employees. It was found that most employees did not possess basic ICT training and had to rely on friends with such expertise or enrol for private classes. This constrained employees who were not provided with the necessary skills through regular training. When the respondents were asked how enterprises have supported use of ICTs, 58.6 per cent mentioned through acquiring necessary ICTs and modern programmes (software), removal of manual applications, faster computers and connection to the Internet. 48.6 per cent of the respondents mentioned employee training through refresher courses, while a similar percentage mentioned maintenance of ICTs. Other responses that were not categorized included provision of free mobile phones, and encouraging staff creativity in product design.

As regards ICT influence on staff efficiency, 71.4 per cent of the respondents reported that adoption and utilization of ICTs facilitates faster access to information, while 62.9 per cent mentioned that ICTs have enhanced processing of enterprise information, as shown in Figure 5.14.

**Figure 5.14: ICTs' influence on entrepreneur efficiency and enterprise performance**



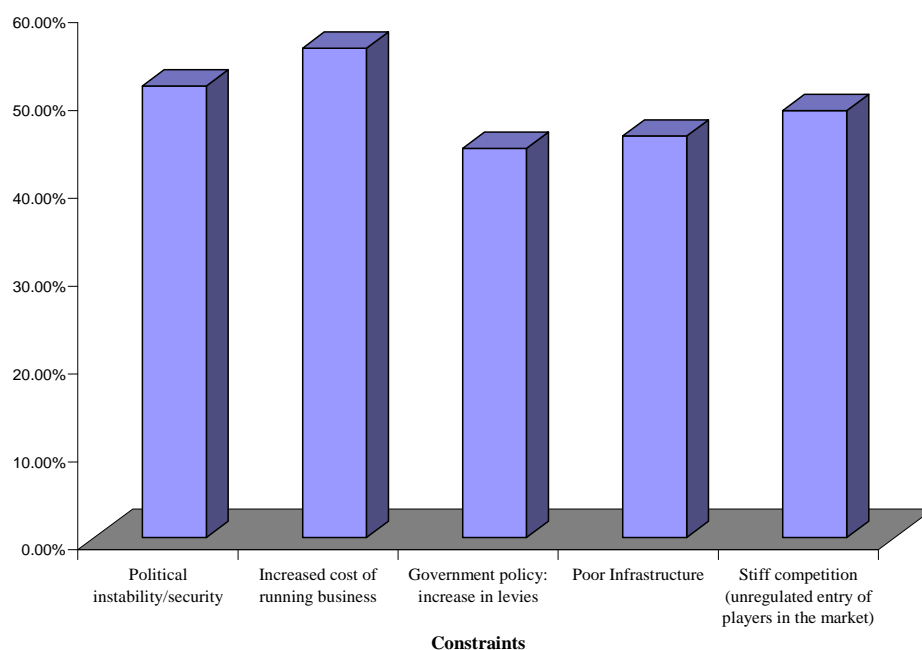
For MSEs that have adopted ICTs, entrepreneur efficiency has greatly improved due to: on-line communication with clients; fast access of information; on-line advertisements; low cost due to the use of the website; easier record keeping; and reduced delays in responding to the customers. Enterprises, on the other hand, have experienced high business turnover due to visibility and enhanced organization's image, increased client base and better promotion of products and services.

### **5.7 Government and Institutional Policies and their Effects on Use of ICTs**

It was found that most MSEs were not aware of any initiatives to promote ICT diffusion and utilization and were not even aware of the existence of either a national ICT policy or their role in it. Mansell (2002) has observed that successful use of ICTs require improved awareness in the public and business sector. There is therefore a communication barrier between the government ICT machinery and the key players in the nation's economy - MSEs. When respondents were asked to list down the biggest

constraint that may prevent the attainment of business goals, the results were as shown in Figure 5.15.

**Figure 5.15: Constraints that may prevent the attainment of business goals (multiple responses)**



Increased cost of running businesses was ranked as the highest constraint by respondents. This constraint is a product of the sum total of the other constraints that are shown in Figure 5.15. The government plays an important role in creating an enabling environment for business to thrive, more so the MSEs. Micro and small enterprises need to be protected from unfair competition from multinationals and unnecessary government levies. It was observed that MSEs were willing to invest in ICTs if facilitated through tax reduction on ICTs and manageable business loans and when the ICT infrastructure was in place. Poor ICT infrastructure means high cost of doing business. Political instability/security was another constraint that was reported as having a devastating effect on MSEs in the tourism industry as witnessed in January 2008.

Kenya's tourism earnings dropped by 32 per cent in the first half of the year 2008 from the same period in 2007 after a bloody post-election crisis caused massive cancellations. The Kenya Tourist Board (KTB) reported that tourist arrivals dropped by 36 per cent to 561,313 in the first six months compared to 873,433 in the same period the previous year. Earnings dropped to Ksh 23.12 billion (\$341.7 million) (Mail and Guardian Online, 2008). Therefore, if MSEs are to continue being the drivers of the economy and help in achieving Vision 2030, the government ought to support diffusion and utilization of ICTs among MSEs through sound policies.

It was noted that there is no one organization in the Government of Kenya with a clear responsibility for coordinating ICT matters. Currently, different aspects of the responsibility are shared among several entities that include the Ministry of Information and Communication, Communications Commission of Kenya (CCK), the Government Information Technology Service (GITS), National Communication Secretariat (NCS) and the Directorate of E-Government.

In addition, other institutions in both the private sector and civil society have also been influential in ICT matters. They include Telecommunications Services Providers Organization of Kenya (TESPOK), which represents telecommunication providers in Kenya, Kenya ICT Federation (KIF), which represents all private sector organizations with interest in ICT, and Kenya ICT Policy Action Network (KICTANET). In summary, there are policies and institutions in place that are influencing use of ICTs in Kenya, but only at government level. In this regard, the government has established a web portal, <http://www.kenya.go.ke> and created websites for all ministries, as well as mainstreaming the use of emails within the civil service. The government has established a dedicated fibre connection for all ministries within the city of Nairobi to

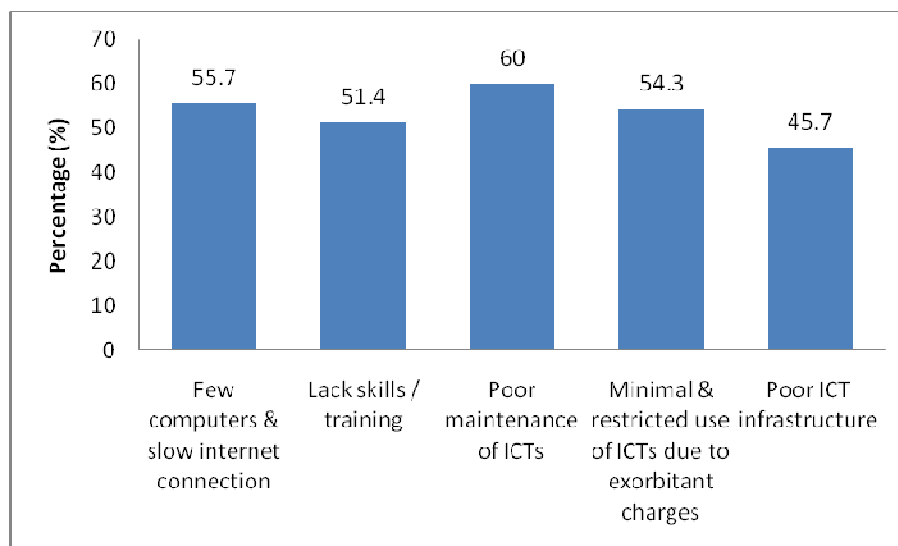
allow for efficient communication between various government agencies. The ICT sector has been directly involved in mapping, collection and management of data for planning purposes.

The enactment of the ICT policy brought in the required impetus for the development of initiatives that will make the ICT sector a significant part of the growth strategy envisioned in the Kenya Vision 2030 first medium term plan 2008-2012. This will see the establishment of Business Processing Outsourcing/Off-Shoring (BPOs) and digital villages to enhance the low cost of provision of ICT goods and services, while also facilitating productivity and growth of other sectors of the economy.

### 5.8 Challenges Encountered in Using ICTs by MSEs in Accessing Information

Respondents were asked to state the challenges they encountered in using ICTs when accessing information. Their responses are summarized in Figure 5.16.

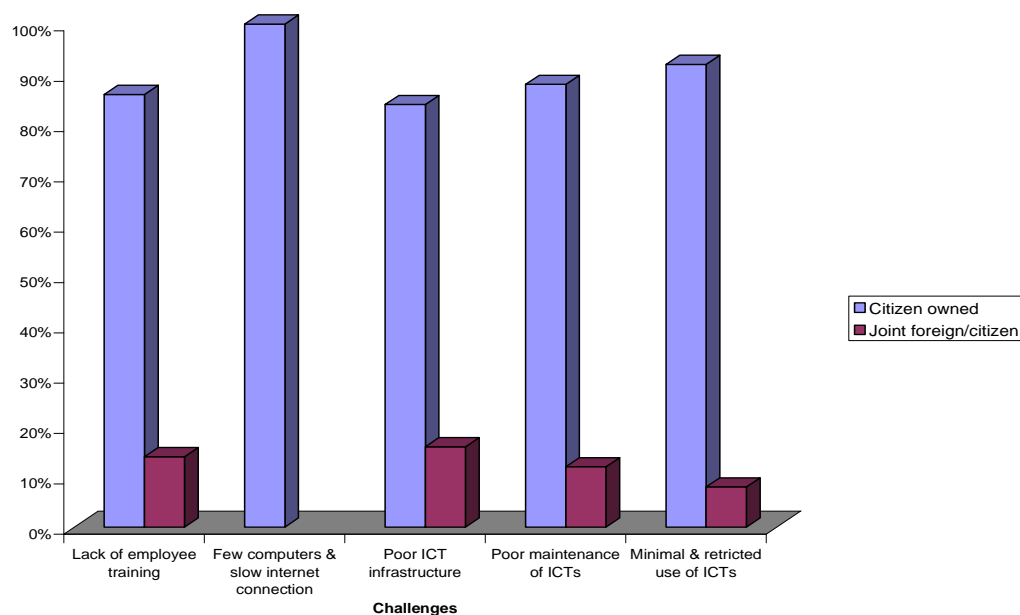
**Figure 5.16: Challenges of ICTs diffusion and utilization (multiple responses)**



Poor maintenance of ICTs was ranked highest with 60 per cent followed by few computers and slow Internet connection at 55.7 per cent. Poor ICT infrastructure was

ranked lowest at 45.7 per cent. The analysis indicated the importance of ICTs maintenance within MSEs. It was revealed that some MSEs acquire used ICTs, which in the long-run prove to be difficult or expensive to maintain. Similarly, other enterprises, particularly those with foreign links, have influenced locally owned MSEs to acquire and utilize ICTs without first planning how they will be used within the enterprise. Furthermore, the skills required for long-term budgetary allocation for purchase and maintenance and the desired effects on the enterprise performance should be factored in the plans and implementation of ICTs. When the challenges were cross-tabulated against form of ownership of the MSEs, the results showed that, overall, the challenges were ranked high by locally-owned MSEs. Of significance is that having few computers and minimal and restricted use of ICTs was ranked highest as a challenge by locally-owned MSEs, but it was never mentioned by any of the joint foreign/citizen-owned MSEs, as shown in Figure 5.17. To the joint foreign/citizen-owned MSEs, poor ICT infrastructure ranked high.

**Figure 5.17: Utilization of ICTs challenges and form of ownership (multiple responses)**





The joint foreign/citizen MSEs enjoy the financial resources and skills that come with the linkage.

## **5.9 Summary**

This chapter has dealt with the data analysis and presentation of the data obtained from field studies in Eldoret, Nairobi and Mombasa. Micro and small enterprises seemed to be enthusiastic about ICTs, but lacked proper implementation in their business enterprises. There seemed to be a digital divide among MSEs in the tourism industry in the country when it comes to mainly computer-related ICTs. Results showed large differences in adoption, degree of use and kind of use regarding computer and even more regarding Internet among the MSEs. The data showed that the characteristics of MSEs vary and there was a significant difference between micro and small enterprises, citizen and joint foreign-citizen owned enterprises in terms of ICT use. Informal sources of information are still predominant in micro enterprises. Educational level appears to be one of the strongest characteristics in explaining the level of computer adoption, use and knowledge. Acquisitions of computer-related ICTs as well as frequency of use are very much related to the level of education respondents had. The higher the level of education, the more likely that a computer is present in the business and also the more it is used.

Most MSEs have access to ICTs but they have not been able to derive full benefits from this access because they lack the skills, resources and support. However, the motivation to satisfy their information needs have pushed them to acquire and use ICTs. More networking and coordination is required among MSEs and with government agencies in the tourism industry to enable them to use ICTs to capture and access information. The

data indicates that MSEs require more resources and training to facilitate use of ICTs in accessing information.

## **CHAPTER SIX**

### **DISCUSSION OF FINDINGS**

#### **6.1 Introduction**

This chapter discusses the findings based on the overall objectives of the study. The discussions are presented under the following sections: ICT ownership and applications in accessing, processing and dissemination of information; information needs of MSEs in the tourism industry; information systems addressing information needs of entrepreneurs in the tourism industry; factors that influence use of ICTs among MSE entrepreneurs in Kenya; ICT policies and programmes put in place by the government and institutions and their effects on use of ICTs among MSEs in the tourism industry; challenges encountered in diffusion and use of ICTs in MSEs in the tourism industry; and finally a recommended model for improving ICTs diffusion and utilization in enhancing information access among MSEs in Kenya.

The findings confirm the assumption that there are problems with ICTs diffusion and utilization in accessing information by micro and small entrepreneurs in the tourism industry in Kenya despite the efforts made by the Ministry of Tourism, its agencies and other government institutions. While there are benefits to be derived from the use of ICTs, the data shows that there is still limited use of these technologies in the MSE sector of the tourism industry. There is also need to set up tourism information portals that are accessible to MSEs, and develop content to improve the quality of information and make it more focused on their information needs. There is need to increase ICT training for MSEs, and create awareness of information sources and services available to MSEs, provide finances through micro finance institutions so that MSEs can invest in ICTs, and increase funding to support organizations such as KTB and KTF. There is

need also for the government to incubate new ICT applications for MSEs in the tourism industry, if it expects faster and sustainable adoption of ICTs. To improve ICT infrastructure in the country, the government should readily encourage private enterprises and foreign investors to invest in infrastructure development in both rural and urban areas. Despite the existence of these challenges, there is potential for increased use of ICTs in accessing information by entrepreneurs in micro and small enterprises in the tourism industry in Kenya. The following section discusses the results according to the objectives of the study.

## **6.2 MSEs' ICTs Ownership and Applications in the Tourism Industry**

The study was informed by a combination of Roger's innovation diffusion theory (1995) and models from Wilson's general model of information behaviour (2006) and the Peansupap and Walker model (2005a) as discussed in Chapter 3 (Figure 3.9). The model highlights the role played by each of these individual theories and models. It highlights factors that influence diffusion and utilization of ICTs from the information needs, individual adoption decisions and changes within an individual and enterprises to learning and sharing of ICTs knowledge.

The primary observable feature in all the four components of the diffusion theory is the significance of the adopter, the individual. Adoption is the individual-level decision to use new technology while diffusion is the aggregation of a number of adoption decisions. Diffusion research is then concerned with finding patterns across a large number of adoption decisions. It focuses on five elements: (1) the characteristics of an innovation which may influence its adoption; (2) the decision making process that occurs when individuals consider adopting a new idea, product or practice; (3) the characteristics of individuals that make them likely to adopt an innovation; (4) the

consequences for individuals and society in adopting an innovation; and (5) communication channels used in the adoption process.

To understand the characteristics of individuals that make them likely to adopt an innovation, the study sought to investigate ICTs ownership and applications in the tourism industry. The findings indicate that the majority of the respondents are aged between 21 and 30 years. A closer analysis of the findings indicates that age was a major factor in influencing utilization of ICTs by MSEs in the tourism industry. On average, a higher number of respondents aged 21-30 used ICTs every day compared to respondents aged 41-50. It is also important to note that a significant percentage, 24.6 per cent, of all the respondents reported that they rarely use ICTs. That is, they use them once a month and in most cases from cyber cafes. This comprises a large population of entrepreneurs, thus there is need to encourage them by improving their ICT skills and knowledge regardless of age or level of education. It was also revealed that the micro and small entrepreneurs working in the tourism industry are young; 72.1 per cent of the entrepreneurs were between 21 and 30 years old and 11.5 per cent were between 31 and 40 years old. Only 16.4 per cent of the respondents were between 41 and 50 years old. The MSEs in the tourism industry are relatively new ventures, explaining why mostly only the younger generation is involved.

The findings agree with Odunga (2005) who found out that age negatively affected the likelihood of use of some ICT equipment in the workplace. In addition, UNDP (2003) indicated that the technology was most likely to be adopted by the young generation, since it amounts to change, which sometimes takes time as people get old. From the findings, it was evident that a higher percentage of younger males use ICTs more frequently than the females. It also indicated that more males were involved in the

tourism industry compared to females. The results are consistent with previous adoption research, which has shown that early adopters of innovation tend to be younger, male and better educated, with higher income levels (Rogers, 1995; Lin, 1998; Cheong, 2002). This group is in the category of the early adopters. They tend to be on the lookout for advantages and tend to see the risks as low because they are ready to take financial risk, are more personally confident, and are better informed about the particular innovation. Often, they will grasp at innovations on the basis of no more than a well-worded news article. The rest of the population, however, see higher risks in change, and therefore requires assurance from trusted peers that an innovation is easy to use and provides genuine benefits. What early adopters say about an innovation determines its success.

The findings indicated that only 27.9 per cent of respondents who have adopted ICTs actually utilize it every day. Much as it was observed that many of the enterprises visited had computers, some rarely used them. For a good number of enterprises, they were used for word processing. These findings draw the difference between adoption and utilization. Xie (2000), in his study in China, found that the majority of MSEs had adopted ICTs but rarely made effective use of them. As such, the enterprises did not benefit from the adoption and ended disposing some of the ICT equipment because it became obsolete before being effectively utilized. On the other hand, Waibochi (2002) observed that the benefits accruing from adoption of any technology lie in the way the technology is utilized. For full benefits, the technology must have trained personnel and be maintained in good condition at all times (Forman and Goldfarb, 2005).

It was found that respondents with secondary school education used ICTs every day. This can be interpreted to mean this category of staff in MSEs use ICTs for data entry

and producing reports. It could also indicate the general initiative by the 'lowly educated' to keep up with the rest of the workers by ensuring their level of education does not hinder them from undertaking activities in the business enterprise. Observation and discussion with some of the respondents indicated their major task as data entry and production of reports for managers. These are tasks that require the use of ICTs in the daily operation of business by MSEs. It could also imply they are willing to undergo further training in the use of ICTs so that they can become more productive to their enterprises.

On the other hand, entrepreneurs with postgraduate education are either proprietors or managers and, as such, their role was to utilize reports generated by those at operation level for decision making. They spend less time using ICTs as compared to those at operational level. Jiqui, Xiaoming and Banerjee (2006) found that the lowly educated groups of workers were most likely to be proficient in their duties since they always put extra effort because of the perception they think their colleagues have of them; that of being ICT illiterate and slow learners. They, therefore, would like to erase this perception. In terms of ICT utilization, the lowly educated are the most frequent users since most of them cultivate a natural curiosity in the workplace (Ikoja and Ochola, 2004). However, the majority of micro and small entrepreneurs working in the tourism industry as tour operators have formal education and most have gone beyond secondary level. One of the respondents explained that:

In this business you interact with people of all walks of life and therefore you have to be educated in order to communicate and transact business with them. It is also important to learn another foreign language apart from English, such as Germany, French or Italian.

It was also observed that entrepreneurs with a higher level of education had invested a lot in ICTs and in most cases had a website. They also depended a lot on the Internet to

transact their businesses.

It was found that joint foreign-owned enterprises used Internet and computer-based information systems more frequently (every day) as compared to the citizen-owned MSEs. This shows a big discrepancy in usage on the basis of ownership. Foreign-owned firms are very likely to possess and utilize new technology that other indigenous-owned firms may not access since they are more stable financially and are linked to multinational enterprises that have adequate funding, knowledge, skills and who are able to transfer technology and provide training to them (Kimuyu and Omiti, 2000). As such, most of these foreign/joint-owned firms have access to ICT equipment through the mother firms that are often abroad and in most cases in developed nations. This puts the citizen-owned MSEs in an unfair position when it comes to competing with foreign/joint-owned MSEs as they have an upper hand in technology, thus, resulting in unfair competition (Kimuyu and Omiti, 2000). The outcome of the foregoing scenario is that most of the citizen-owned MSEs stagnate and do not graduate to larger firms. Some even collapse immediately after they are setup due to competition. This was confirmed when respondents were asked the biggest problems/constraints that prevent them from achieving their business goals. They pointed at the mushrooming companies offering low rates to potential clients and opening only during the peak season and closing during the low seasons. These observations imply that form of ownership has an influence on the frequency of use of ICTs when looked at in terms of financing and maintenance of some of the ICT equipment. One of the constraints that affects most MSEs and hinders their growth and graduation to larger firms is lack of funds to finance their operations. As such, most MSEs may be willing to purchase and adopt ICT tools and services in their business operations, but they are limited by lack of finances to purchase such tools. This scenario is explicitly portrayed by the fact that 22.6 per cent



of the citizen-owned MSEs indicated that they rarely used (once a month) ICTs (Table 5.5).

Further, a significant number (48.6%) of the MSEs have been in operation for a period of less than five years. The results indicate that MSEs are relatively new in the tour operator business. However, one of the most prominent problems affecting MSEs in most developing countries is lack of graduation to larger firms, and stagnation before the end of five years (Peansupap, 2004). It was further revealed that most MSEs collapse before five years in operation. *“Sometimes business is not good and when it’s not good you close shop and wait for the situation to improve”*. These enterprises affect other established ones because they offer low rates to potential customers, a trend that cannot be sustained over time. The reasons given for this observation include lack of experience, low levels of education, lack of financing, poor business networks and not utilizing new technologies. A similar observation was pointed out by Green (2001) in *Communication, Technology and Society*. This implies problems with sustainability and growth. Various studies (World Bank, 2005; Veal, 2006; Kenya, Central Bank of, 2008) are in support of these findings, arguing that most MSEs are unable to cope with the competitive business environment and, therefore, collapse within the first five years of operation. Some of the reasons cited for the above scenario include lack of diversification in products and services and the ability to deliver according to the needs of the emergent information society and economy bearing in mind that most of MSEs’ large markets are from the developed countries. The new information society is an ICT-enabled society. This in essence means that it depends on ICTs to carry out its core social, economic, and governance activities (Outa *et al.*, 2006). MSEs in the tourism industry being in the service industry, one of the fastest growing sectors in the global economy have to adapt to the new environment. The findings highlight the fact that

characteristics of the enterprise and the size are contributory factors to the extent of adoption and exploitation of ICTs by MSEs in supporting business processes as earlier observed by Shiels, McIvor and O'Reilly (2003).

It was observed that adoption and use of ICTs enhances increased efficiency and reliability, and MSEs were able to capture markets virtually over the Internet. For example, business activities that used to take hours to complete now take less than five minutes to transact over the Internet. Furthermore, MSEs are able to book tickets for their clients and pay on-line without having to travel to the airport physically. It was found that MSEs that had extensive use of ICTs were most likely to be successful and profitable. One such enterprise intimated that: *many a times we receive phone calls and e-mails enquiring on our services and products from tourists who have visited our website*. It was also noted that ICTs enhanced quick delivery of services, resulting in customer satisfaction. Other attributes of ICTs included convenience in service delivery as well as cutting down on business running costs. For example, if the MSE can book flight tickets on-line without having to travel to the airport, then they are saving on business running costs since they do not have to incur any transport costs.

### **6.3 Information Needs of MSEs and Challenges in Accessing Information**

Wilson's general model of information behaviour (2006), Chapter 3 Figure 3.5, shows that information need is the driving force behind information seeking behaviour. The model indicates that a user will go for the convenient system or source of information to satisfy an information need. The convenient system or source could involve or be facilitated by the use of ICTs, as shown in Figure 3.6., path e category B. This could imply that an individual will adopt an innovation if this innovation is seen to facilitate the satisfaction of the information need. The adopter continues to use the new

innovation because they have had a positive outcome as a result of their use of the innovation.

To understand the context in which information needs influence diffusion and utilization of ICTs in accessing information by entrepreneurs in the tourism industry, the enterprises were asked to list down their information needs and the constraints they face in accessing information.

The results showed that the information needs of MSEs in the tourism industry include:

- (i) Marketing information and means of marketing, where to set up ones business, accessibility - the public, detailed maps, list of hotels, product prices, weather conditions and oil rate fluctuation, how to increase visitor numbers from other countries and locally;
- (ii) Information about the tourist and tourist destination, i.e. age, sex, income, interest, exchange rates of different currencies, airfares to different destinations, global stability (security), tour packages and rates, political environment of the area, visa regulations, updates on existence and changes in tourism facilities locally and regionally, flight schedules;
- (iii) Training manuals, i.e. how to handle/serve and maintain customers, information on how to get qualified staff, information on how to introduce Galileo and Amadeus systems and information on tourism destination managing systems;
- (iv) Loaning facilities/partnership, source of income, tourism and business license, tourism movement at any time of the year; and
- (v) Government rules and regulations regarding tours and travel, legal issues, standards of service, among others.

This finding concurs with Duncombe and Heeks (1999) in their study on *Information, ICTs and small enterprise: Findings from Botswana*. They observed that small enterprises, like any other enterprise, require various types of information relating to different things as a result of their daily operations. First, they need information relating to supply, such as the availability and sources of finance, labour, technology, raw materials, and other enterprise inputs. Second, they need information about demand, including market opportunities and characteristics of these markets' demands, like location, price, size, and quality. And third, they also need information about other environmental factors, such as competitors, laws, etc.

The findings indicated flight information as the most sought information represented by 71.4 per cent respondents. In addition, 50 per cent of the respondents indicated that marketing and sales are the category of information mostly utilized by MSEs. The findings tend to conform to Kijo (2003), who found that MSEs required marketing and sales information, mostly because of their delicate and quick-fix business transactions that require prompt action and service delivery. Tourism being a service industry, entrepreneurs require technology that is able to assist them locate, access, organize, process and disseminate information in the shortest time possible with a lot of accuracy.

A significant number (62.8%) of the respondents cited scarcity of finances as a hindrance to access to information required by the MSEs. They lamented that:

Most of the journals/magazines with such information/data are expensive; seminars/workshops discriminate on participants and are not free; high cost of internet connection; high cost of making international calls; and time and money wastage in sourcing information from informal contacts.

This implies that there is a general weakness of MSEs regarding sourcing of finances, mostly because they are owned by self-starters, some of whom do not have enough

experience to run the businesses and possess very few sources of financing since they do not have any collateral. A significant number (65.7%) cited poor networking as a difficulty in accessing information. In this case, there is rarely any contact between MSE players in the tourism industry. This is because most of the MSEs perceive themselves in isolation and do not build business networks that are vital for cultivating a competitive edge and serving as a springboard during poor business times. These findings only agree partly with Powel (2005), who observed that lack of financing is not the major problem facing MSEs in developing countries. Powel (2005) found that lack of diversification, as well as poor business networking skills were the negative attributes facing the growth of most MSEs in the African continent. The discrepancy in the findings above could be explained by the fact that the majority of the MSEs seemed to agree that most of the ICT equipment was expensive and, therefore, the core determinant of whether they adopt the technology or not was the availability of finances and manager/owner support.

Respondents suggested several ways in which access to good quality information can be improved, which gave weight to a centralized one-stop information portal. These include:

networking of all tour operators and travel operators; increased use of ICTs, particularly the Internet; training of entrepreneurs on how to use ICTs by organizing seminars/workshops regularly and incorporating all stakeholders and having qualified staff; and government involvement in terms of facilitating information access through tax incentives on ICTs and development of an information infrastructure that covers the whole country, which would enable tour operators to access information and communicate.

It is encouraging to note that the Tourism Trust Fund (TTF) was supporting the development of a web portal that promotes and publicizes Kenya via one-stop access point. The Kenya Association of Local Tour Operators (KALTO) was also trying to

address the challenges of locally-owned micro and small-scale companies in the tourism sector. Through this association, they are able to share information. The Ministry of Tourism, through its official website, is also providing tourism information and is currently compiling a list for suppliers for the tourist trade, including all goods and service suppliers for the tourist industry.

#### **6.4 Information Systems Addressing Information Needs of Entrepreneurs**

Wilson (2006) observes that information needs are the driving force behind information-seeking behaviour. He further points out that a user will seek out the most convenient system or source of information to satisfy an information need. Alternatively, the user may seek information from other people rather than from systems (Figure 3.5). Currently, the world of business is being profoundly transformed by the Internet and electronic commerce (Kim and Galliers, 2004). The rapid advancement of Internet technology and its applications holds promise for the expansion of business opportunities in the global digital economy. Internet systems support a world-wide communication capability, a mechanism for information dissemination and a medium for electronic commerce between organizations and customers across countries. Tourism being a competitive industry, entrepreneurs are bound to seek sources that provide access to accurate and timely information so as to have an edge over their competitors.

It was observed that the Internet was being used to address the information needs of entrepreneurs. An average number (51.4%) of the respondents cited the Internet as the most important source of information in their businesses. Through the Internet, they are able to access global travel distribution systems such as Amadeus, Galileo; communicate through e-mail; and market their products and services by developing

their own websites. This emphasizes the role of ICTs in the day-to-day running of MSEs in the tourism industry. Computers serve as the most important link between most MSEs and their business operations (Kareithi, 2003). For example, 88.9 per cent of the respondents who cited the Internet as a source of information mentioned that it was an effective source of information.

“The Internet has made us visible to the outside world through our websites, we are able to capture a market hitherto was not possible”.

Thus, the computer era has come to revive and professionalize the way small and micro enterprises do their business. Through ICTs, a business is able to obtain the necessary information, process and disseminate it within a reasonable timeframe (Mittman, 2001). Further, the study sought to establish the sources of information and the frequency of use of ICTs. It was revealed that the Internet as a source of information is educative and flexible and gives the information seeker the upper hand in deciding what kind of information is most preferable (Coetzer, 2001).

Other significant sources of information included the print media, workshops, seminars and conferences, and staff consultations. However, it was observed that 21.1 per cent of those who use print media rarely use it. The same applied to workshops, seminars and conferences. It was revealed that only the MSEs that are financially stable and have created networks make use of workshops, seminars and conferences. Most indicated that: *‘organizers discriminate on respondents/they are not free for all’*. This goes a long way in emphasizing the importance of computers and the Internet over the print media with regard to source of information and frequency of usage. This observation is supported by Foster (2004), who points out that the relevance of computers and the Internet ensures that they are frequently used. However, this is bound to change as regards workshops, seminars and conferences. The Ministry of Tourism and Wildlife

and other stakeholders have seen the importance of seeking out MSEs and involving them in workshops, seminars and conferences as a means of educating them and providing them with information. Regarding the mode of storing business information, a significant number (65.7%) of the respondents reported that they store their information in form of soft copies. However, the study found that very few (30%) of the respondents reported using Galileo, a travel distributed system, as a source and mode of storing business information. Further discussions with respondents revealed that much as they use the Internet as a source of information, they largely depended on their immediate surrounding for information. *'Word of mouth, use of personal experience and friends, relatives and neighbours'* dominated the answers from respondents. This agrees with Mutula and Brakel (2007) and Ikoja-Odongo and Ocholla (2004), that while ICT has the potential to play a major role in communication, its use is over-shadowed by strong consideration for the human element.

The study also established the use of ICTs among MSEs in accessing information. The findings indicated that 45.7 per cent of the MSEs had one computer in operation. Only 1.4 per cent of the MSEs had more than 10 computers. The rest made use of computers in cyber cafés. Mobile phones were observed to be used by all MSEs under study. They were mainly used for social networking and consultation. A few demonstrated how they used them to access the Internet and e-mail. However, for the majority, computers were the tool of choice in accessing the Internet, and for emailing. Other types of ICTs used to access information include television (TV) and radio to a lesser extent. A significant number (67.18%) of the respondents reported use of ICTs facilitated information access. The result shows that there are higher levels of ICT use amongst MSEs. This clearly indicates the important role played by ICTs in information access. Information access, processing and dissemination were found to be major factors in the utilization of ICTs.



The drive to use ICTs to access information resulted from a need for certain information that concerns international tourists among the MSEs in the tourism industry. Access to this international market and business transactions are through the Internet.

Information has long been regarded as a very important aspect of informed decision making (Mutula and Brakel, 2006). For MSEs in the tourism industry to benefit from the value of information, they need high quality and effective systems to deliver information fast and efficiently. Information and communication technologies (ICTs), particularly the Internet, have proved they can be used to develop information systems to meet the information needs of MSEs in the tourism industry. The same was also observed by Chacko and Harris (2002) in their study on *ICT and Small, Medium and Micro Enterprises in Asia Pacific - Size Does Matter*. Using ICTs, MSEs generally stand to gain from ICTs in such areas as reduced transaction costs, information gathering and dissemination, inventory control, and quality control. Further, as the world economy continues to move towards increased integration as a result of advances in information and communication technologies, and the increasing reduction in trade barriers, some of the greatest opportunities for small businesses will derive from their ability to participate in the regional and international markets (Mutula and Brakel, 2006). Therefore, information needs play an important role in diffusion and utilization of ICTs by MSEs in the tourism industry.

Although most of the MSEs had adopted the use of computers, few were networked, implying that there was no sharing of information within or among MSEs through computers within the enterprises. It was established that digital networking was not implemented in most MSEs due to lack of finance and lack of appreciating its potential as a means of sharing information and overcoming many of the problems of

geographical isolation due to inadequate knowledge. Some thought that networking would expose their business and impact negatively on their competitive edge. Others were just cutting on costs by ensuring that only one computer was connected to the Internet. The research findings, however, showed that most of the MSEs used computers in cyber café's for e-mail and to access information. Computers in the workplace, for the majority, were used for Microsoft Office applications, storage, printing of letters and reports. Many of them were observed to be old second-hand computers with minimal application software. The observation concurs with Chiware and Dick (2008) in their study on the business information needs, information-seeking patterns, and business information services for small, medium and micro enterprises (SMMEs) in Namibia. Many computers were obsolete and not in good working condition. Respondents pointed out that: *"it was cheaper to buy second-hand or refurbished computers than to invest in new ones"*. Interestingly, it was observed that some MSEs had websites, which they accessed and updated from cyber cafés. Chacko, *et al.* (2002) observed that networking of computers is a major boost to sharing vital information among users with ease and confidentiality. The International Telecommunication Union (2009) found that the use of landline phones was being slowly phased-out by computers and mobile phones. The desire to access information, communicate and transact business with international clients was pushing entrepreneurs in the tourism industry to adopt ICTs. Indeed, the transformation to information societies is being driven by an ICT-enabled society and it is prudent that MSEs in the tourism industry embrace ICT so that they can reap from its benefits.

Internet penetration rates for micro-sized firms (1-9 employees) were found to be lower than those for the small enterprises (10-50 employees), with penetration rates of 35 per cent, although there are exceptions. Small firms (10-50 employees) were noted to have a

significantly higher penetration rate of 64 per cent. Data available from studies in some countries indicate that MSEs use the Internet (and e-mail) for better external communication and as a means of obtaining business information (Organization for Economic Cooperation and Development, 2004b). It was observed that Internet and e-commerce made MSEs remain in local and regional markets because of lack of information and marketing capability, and mechanisms to gain access to new customers and to expand their markets geographically. Internet technology makes it possible to transmit business transaction information seamlessly between different systems. It can, therefore, provide small enterprises with an opportunity to join and compete in a wide variety of supply chains, including those previously inaccessible because of the use of costly closed electronic data interchange (EDI) networks.

Through their website, MSEs in the tourism industry can attract potential clients and international tour operators seeking products and services for their clients by providing information on their products and services. Some of the MSEs were observed to have websites that were mainly used for marketing. The sites had information about the enterprise and the services offered but clients could only book and confirm through e-mail. That is, no business could be transacted on-line. MSEs with websites were observed in all the three clusters: Nairobi, Mombasa and Eldoret. Further discussions with MSEs revealed that they are setting up websites to make their business more visible to customers and potential customers. Micro and small enterprises in the tourism industry in Kenya are yet to embrace sales and purchases over the Internet, besides those MSEs with foreign links. These have gone beyond advertising and are offering full dynamic sites capable of electronic trading.

Common barriers raised by respondents included:

..enabling factors (availability of ICT skills, qualified personnel, network infrastructure, faster connection time); cost factors (costs of ICT equipment and networks, software, web hosting, access); and security and trust factors (security and reliability of e-commerce systems, suitable payment systems, legal frameworks).

Respondents pointed out that there is need to establish a central information bureau for tourism-related interests. Therefore, there is need to have an information portal and a dedicated information system to enable MSEs to access information relevant to their business. They may not also have the necessary skills to isolate what is relevant and useful to their businesses. Respondents highlighted the lack of knowledge, skills and experience to the current technologies as a difficulty that they encounter in obtaining information. Particularly, they pointed out that ICTs have provided a competitive edge to their competitors.

The tourism industry stakeholders should establish a data handling centre where data can be processed and made available to MSEs. As such, the government needs to step in and improve on ICT infrastructure in the country and through major stakeholders in the industry, and establish a one-stop centre for tourism information. Respondents also pointed out poor infrastructure and government policies that do not encourage them to do business, and harassment from the local authorities as some of the difficulties they experience. For example, *“lack or poor access to the changes in airfares due to poor communication networks, slow Internet connections which translate to high costs, telephones that do not work and transport to attractive tourist sites were inaccessible”*.

Some enterprises, due to lack of information and knowledge, were of the view that it was better to retain their current business model and avoid the risks associated with new investments and new business models that entail using the Internet for sales and

purchases. They were reluctant to transact business on-line, particularly electronic money transfer over the Internet, because of fear of insecurity and the risk of losing money.

MSEs generally lack the personnel with skills needed for ICT and e-commerce because they focus on day-to-day operations and lack the time to understand the benefits of new technologies. Even when they are aware of the potential benefits of adopting e-commerce, they require know-how or qualified personnel (Mutula and Brakel, 2006). The firms that adopt the Internet and e-commerce are likely to have within the establishment someone who has a reasonable amount of knowledge of the specific technology and/or technology in general. A study of small ICT companies with 3-80 employees suggested that the Internet was adopted by firms with personnel who understand the technology (Mehrtens *et al.*, 2001). The study found that these were not necessarily ICT professionals, but simply people interested in technology. The research found that most MSEs could not afford to adopt sophisticated ICT solutions (a website with a secure environment for credit card transactions). The results showed that technology phobia is still very much apparent among the MSEs. These findings are in agreement with what was observed of MSEs in Europe, where Internet penetration was much higher (Organization for Economic Cooperation and Development, 2004a). To solve this problem, MSEs should join together and form a virtual company that will enable them to transact business on-line. In addition to sharing their respective skills and resources, the combined results will look like one large company that will be able to handle big orders and have permanent on-line real-time availability.

Overall use of ICTs, including the Internet, amongst MSEs in the tourism industry was seen to be on the increase but it was highly uneven. Joint foreign/citizen-owned firms

were observed to make use of sophisticated information systems, unlike their counterparts, the citizen-owned firms. Similarly, small-scale enterprises were a head in adoption and use of ICTs as compared to micro enterprises. This adoption was being fuelled by the need for information. The high cost of Internet access has become a hindrance to information access. For example, in Kenya, local calls are charged by the minute. Even with relatively low Internet access charge, the combined cost of Internet access is still high. This discourages MSEs from connecting their businesses, thus they opt to use cyber cafés instead. It is hoped that with the landing of the fibre optic cable and the national fibre optic ring that cover key towns in the country, the cost of accessing information and doing business over the Internet will reduce dramatically.

## **6.5 Factors that Influence Use of ICTs**

The model in Figure 3.9 pointed out key factors that influence diffusion and utilization of ICTs in accessing information in the tourism industry. Among them was the management strategies undertaken by MSEs and learning and sharing knowledge among MSEs. Specifically, the concern was in the following areas: training, sharing knowledge, support from owner/manager, enterprise constraining use of ICTs, attitude towards ICTs use, impact of ICTs on staff efficiency, the links between investment in ICTs and/or utilization of ICTs by MSEs and the market extension/growth of MSEs. Innovation and information needs factors were covered in the preceding sections (6.1, 6.2 and 6.3).

As regards training and sharing knowledge, an average number (50%) of the respondents had received basic training in ICTs through private classes and through apprenticeship. An equal number of MSEs (55.7%) indicated they have a training plan for employees as regards ICTs but this has not been implemented, except for a few. This

clearly indicates lack of strategy in capacity building by some of the MSEs, since the employees have to enroll for private classes in order to acquire the necessary ICT skills. It also implies scarcity of finances at the disposal of the owner/manager. Hence, the MSEs may not afford to retrain the employees. On the other hand, the findings imply employees are enthusiastic and willing to learn and utilize ICTs, since they are enrolling for private classes to enhance their skills in the use of ICTs at the workplace. In addition, 48.5 per cent of the respondents reported that they had received their basic training in ICTs while in college. While this may seem alright, it is not viable in the long-term since ICTs are changing technologies and require regular training if one is to be productive.

When respondents were asked why there were no ICT training plans for staff working in the enterprises, the general response was lack of funds. Some indicated they did not have any plans, others train when need arises and for others it was a requirement for all employees to have been trained. To some, training was important but there were more pressing issues that needed to be accomplished before embarking on training. This was the case as the following statements testify: *'I am trying to put all the logistics in place to have a sound training plan for the staff'* and *'We are waiting for the company to finish paying debts'*. On a positive note, the findings also indicated a general willingness by employers to train the employees at the workplace since 45.7 per cent of the respondents mentioned that they received training at the workplace. This is positive and needs to be encouraged, since on-the-job training is the most effective type of training in the above case.

Regarding sharing of knowledge, respondents were of the opinion that this has helped them a lot, particularly where ICTs are involved. Most entrepreneurs have learned a lot

from colleagues about ICTs and their applications in businesses. Colleagues have also influenced their decision to acquire and utilize ICTs after seeing the effect these ICTs have had on their businesses. Some of their responses were:

we are in the same business, thus it is advisable to follow what others are doing particularly the big firms', 'to compete with them, we need to have similar tools', 'shared knowledge and learned from those already using ICTs.

This explains why respondents indicated that they received basic training in ICTs at their work place through apprenticeship.

On the other hand, there was a general goodwill by the owner/managers regarding adoption and utilization of ICTs, but they could not see the importance of staff training and effective use of ICTs. This can be pegged on the fact that the management of some MSEs understand and appreciate the vital role ICTs play in the operations and profitability of MSEs, especially in a competitive environment. However, acquisition does not translate to utilization. Some MSEs acquired ICTs through the influence of others without a plan by '*just observing the market trends*'. This explains the negative reception from employees. It was found that those managers who were more willing and supportive of their employees regarding adoption and utilization of MSEs had cultivated a competitive edge in the market. The results are consistent with Shiels *et al* (2003) in their study: *Understanding the Implications of ICT Adoption: Insights from MSEs*, where they observed that the commitment of senior management was a driving force in the adoption and exploitation of technology. Battisti, *et al.* (2005) also found out that organizational and managerial practices enhance use of ICTs within an organization.

Research findings from micro and small enterprises in the tourism industry showed that there was a great diversity of information demands that needed to be fulfilled, which



included, among others, information on enhancing business growth; marketing trends; training opportunities; new products; consumer needs and government policies, laws and regulations. Further discussions with respondents revealed that the majority, 65.7 per cent of the respondents argued that *“use of innovative marketing strategies in the business was a sure way to improve the performance of most of the MSEs in the tourism industry”*. The study interprets this to mean the application and utilization of competitive strategies in order to have a competitive edge in the market. Saunder, Lewis and Thornhill (2003) found that use of innovative marketing strategies determined the survival of an MSE after five years. Their study established that the market share as well as general goodwill of the MSE products determined, to a large extent, the survivability and profitability of the MSE. The study found that information and communication technologies offer opportunities and potential benefits for MSEs, which include the strengthening of customer relationships, reaching new markets, optimization of business processes and procedures, cost reductions, improvement of business knowledge, attraction of investment and creation of new products and services. This is made possible through timely and detailed information about markets, point-of-sale information and electronic linkages to clients and distributors, enhancing their capability to provide tailor-made products and services to consumers and create market niches. Therefore, adoption of ICTs enables MSEs to be more responsive and interactive with customer needs. These factors result in cultivating a competitive edge for the MSE in the market.

As regards perception of entrepreneurs on the role of ICTs, there was a general agreement that ICTs facilitate and enhance information processing and storage. This response points to the fact that most MSEs used ICTs, especially computers, for stand-alone word processing and data storage and not to access information or to

communicate through e-mail, let alone for business transactions. This group of entrepreneurs were not aware of the potential of ICT to enhance their business operations, or they considered that these technologies and techniques were not applicable to the products and services they offer, or the manner in which they choose to do business. However, those who had invested in ICTs indicated that they enhance communication within enterprises, facilitate decision-making, facilitate and enhance information access and enhance communication between enterprises.

ICTs featured prominently as the preferred method or channel of communication by MSEs in their everyday business dealings, particularly the mobile phone and e-mail. Other methods included face-to-face and through printed media. ICTs mentioned were telephones, email, fax, telex, VHF radios, and SMS. At the same time, the analysis indicated that 62.8 per cent of all the respondents would prefer to use e-mail as a mode of communication. E-mail was seen to be more tangible than word of mouth through either face-to-face or telephone. An average number (54%) of the respondents used fax as a mode of communication, but only 17 per cent would prefer it for communication. This implies that the benefits resulting from the use of computers by MSEs are substantial and are taken to be important in terms of fast communication and information access, processing and dissemination. Indeed, Shiels *et al.* (2003) suggested that many small firms recognize the opportunities offered by global markets as increasingly important to the success of their businesses. By allowing the dissemination of information on a global basis, the Internet has the potential to provide an efficient channel for advertising, marketing and even direct distribution of certain goods and services. Therefore, MSEs in the tourism industry would prefer to use computers and the Internet as a mode of communication instead of fax, face-to-face and even the telephone. However, the high initial set-up costs, purchase of computers and Internet

connection fees and perceived ongoing costs of ICTs and e-business were reported to be beyond the means of many MSEs.

As regards ICTs' influence on staff efficiency, entrepreneurs were of the opinion that their efficiency has greatly improved due to on-line communication with clients via email and mobile phone, faster access to information through the Internet, and wide market reach through on-line presence. In particular, respondents were of the opinion that:

Mobile telephones have opened up new avenues for communication, thereby increasing communication options for our enterprises.

Similar observations were recorded by Kyobe (2004), that mobile telecommunications have had a huge impact on enterprises' ability to win and retain customers. Enterprises, on the other hand, have experienced high business turnover due to visibility and enhanced organization image, increased client base and better promotion of products and services. These observations imply that ICTs play a vital role by enhancing information access, processing and dissemination. The study found that most MSEs used the Internet to get customers, establish their needs/packages and then strive to fulfil them through service delivery. As such, ICTs were being used to search for necessary information, access such information, process and disseminate it with the aim of making profit and satisfying customer needs in the long run. Other ICT influences on staff efficiency that were cited include: quicker processing of information and higher business turnover. The latter influence is pegged on the fact that adoption and utilization of ICTs cuts on business running costs.

#### **6.6 Government and Institutions Policies and Programmes to Facilitate ICT Diffusion and Utilization in the Tourism Industry**

The responsibility for ICTs resides in a number of institutions in the government of

Kenya. Currently, different aspects of the responsibility are shared among several entities that include the Ministry of Information and Communication, Communications Commission of Kenya, National Communications Secretariat (NCS), Government Information Technology Services (GITS) and the E-government Directorate. The latter is mandated with the implementation of e-government strategy and assists the Government of Kenya to more effectively deliver services to its citizens. GITS provides computer services to government ministries and departments and some parastatal organizations. The services provided include writing relevant computer applications, updating existing systems, and conducting feasibility studies. The Communications Commission of Kenya regulates the telecommunication sector and oversees the activities of investors with interests in telecommunication installations and operations. It is also mandated with the responsibility for developing and coordinating the policies and strategies with respect to telecommunications services in Kenya. The National Communication Secretariat is responsible for telecommunication policy within the Government of Kenya; it advises the Ministry of Information and Communications on telecommunications policy. These are policies that promote the development of the country's technological capabilities, deliver social services and foster economic growth, and encourage competition and efficiency. These institutions are fulfilling their assigned responsibilities without an overall coordinating mechanism that links all these entities together, thus there is bound to be confusion and integration of ICT across all ministries and other government organizations. This notwithstanding, the government of Kenya, the private sector and the civil society have made efforts to integrate ICTs as an essential tool for delivery of national socio-economic development plans. With the enactment of the ICT policy, it is hoped that the government will use it to foster ICT usage, regulation and growth. The national ICT policy recognizes that the current ICT

infrastructure is poor and in need of improvement, and it has also emphasized use of open source software.

Despite adopting Internet technology fairly recently, there are already 250,000 Internet accounts, mainly through dial-up connections, implying almost three million Internet users in the country (Communications Commission of Kenya, 2006). This makes Kenya the largest Internet using market in the region, followed by Uganda and Tanzania. The government is also involved in e-commerce and e-government initiatives by building the infrastructure required for public information. This will provide the digital certification required for secure e-commerce and e-government transactions. In many developing countries, MSEs that lack Internet accounts are able to access the Internet through Internet cafés. It is encouraging to note that there are over 1000 Internet cafés in the country, providing access in even the smallest towns. However, many are closing down due to limited demand and consolidation within the market. This trend has been brought about by the use of mobile phones, which are well-diffused to access the Internet.

In terms of Internet services, the country is well served by several private companies that are able to develop web services, hosting and website design. This is encouraging because ICT adoption and usage in tourism industries usually involves using advanced communication technologies such as e-mail and the Internet. Having an on-line presence creates an important new marketing channel for the MSEs. The Kenya Tourism Board could play the role of creating a portal that leads to individual websites to help increase site traffic. It could also establish an e-commerce platform that MSEs can sign up for without having to adopt it themselves.

Privatization of the telecommunication sector has brought in other players other than Telkom Kenya, which include Safaricom, Essar Telkom Kenya (previously known as Econet), Zain and Orange the mobile section of Telkom Kenya. Competition for customers between these service providers has seen calling charges drop within and across networks. Value added services such as money transfer and M-payment have also been increased and improved.

Shortage of ICT skills was mentioned as one of the various obstacles that MSEs face in using ICTs to access information. However, there exist both private and public training colleges in almost all major towns offering training in a variety of subjects from basic computer literacy to Internet and software training. Some vendor-related programmes are also offered, such as by Cisco and Oracle. Others include Galileo distributed systems, Enterprise Resource Planning (ERP), etc. Although public and private initiatives to-date will serve to encourage the adoption of Internet technology, a number of issues remain, and suggestions for addressing these outstanding issues are offered in the recommendations.

#### **6.7 Challenges Encountered in Diffusion and Utilization of ICTs by MSEs in the Tourism Industry**

Emerging information and communication technologies (ICTs) have introduced opportunities for improving access to information and communication to enhance efficiency and effectiveness of many enterprise processes, and creating new business opportunities (Chacko and Harris, 2002). Thus, perceived ICT benefits have motivated numerous MSE entrepreneurs to adopt and invest in this technology. However, understanding the benefits of ICTs is confused by the difference between adoption and usage (Forman and Goldfarb, 2005). Many firms adopt technology on the surface but,

unless it is frequently and properly used, it will not have a positive impact and may even have a negative one. However, entrepreneurs cannot make frequent use of ICTs unless they are aware of the potential of ICT to enhance their business operations and have the necessary ICT skills to engage in the digital economy. Some MSEs occupy small and clearly defined niche markets, sometimes entirely local, that do not need the global connectivity available through the Internet. These are niches where word-of-mouth acts as the guarantee of quality, service and reliability, and these are businesses where trust and stability underpin successful operations as pointed out by Taylor and Murphy (2004). Chowdhury *et al.* (2003) observe that such investment does not have any significant impact on enterprises' returns, nor does it determine enterprises' exporter (non-exporter) status.

The research results showed that a good number of respondents reported that their enterprises have between 1 to 5 computers, even though the majority are not networked internally or connected to the Internet. In some cases, respondents reported that many computers were old and not operational, and those that were in good working condition were only being used for Microsoft Office applications and preparing reports. These results should be treated with caution, in particular when such data is used to quantify ICT diffusion and usage in MSEs. Much of this data measured the purchase of relevant hardware and not actual use of ICTs among MSEs. This observation was supported by the findings that 60 per cent of the respondents indicated that the greatest misgiving by MSEs regarding adoption and utilization of ICTs was the poor maintenance accorded to already existing ICT equipment in the enterprises. This was followed by few computers and slow Internet connection, and minimal and restricted use of ICTs due to exorbitant charges, respectively. Further discussion with the respondents indicated that once ICTs have been acquired, little attention is paid to maintenance. However, this could also

mean that MSEs acquire cheap second-hand ICTs or obsolete technologies, which in the long run prove to be difficult or expensive to maintain. Similarly, other enterprises, particularly those with foreign links, have influenced locally-owned MSEs to acquire and utilize ICTs without first having worked out plans on how they will be used within the enterprise and the desired effects expected on the enterprise performance. Some micro and small enterprises just acquired any cheap computers they could get in the market. This was observed when 85 per cent of the respondents reported that there were no studies done before introduction of ICTs and, therefore, most were being used for housekeeping, word processing and information storage. These observations agree with Martin and Matlay (2001), who observed that purchase of hardware does not equal utilization or adoption of ICTs.

Lack of relevant data about everything in the tourism business from materials, suppliers and market prices to government regulations was also mentioned as a challenge in the use of ICTs. *'Why spend money and time on the Internet and what you get will not be of help?'* some of the respondents argued. MSEs need access to new locally-contextualized information that is relevant and meets their needs. Thus, there is need to capture and disseminate locally generated information that informs and supports specific activities of interest to MSEs in the tourism industry, and also provide avenues for the accessibility and storage of this information. This was well captured when respondents pointed out that there is need to *'create a body that will give information to investors'*.

Similarly, lack of global market awareness and that of the potential of ICTs, in particular the Internet, was also identified as a challenge to diffusion and utilization of ICTs in accessing information. Many micro and small enterprises that lack international awareness do not perceive their operation in international or global terms, and have



therefore avoided the Internet as a result. ICT is seen as inappropriate for their needs as they typically serve the Kenyan-based market. This concurs with Martin and Matlay's (2001) findings in their study on *'Blanket' Approaches to Promoting ICT in Small Firms: Some Lessons from the DTI Ladder Adoption Model in the UK*.

On the other hand, minimal and restricted use of ICTs due to exorbitant charges emanate from the fact that ICTs are relatively expensive. The high initial set-up costs and perceived ongoing costs of ICT and e-business can act as a barrier to take-up among MSEs. There is limited ICT infrastructure in the country, and the players in this sector have a monopoly. It is widely accepted that the availability of a wide range of Internet connections and other communication services, preferably at competitive prices, is very important in that it allows micro and small businesses to choose different and appropriate services according to their specific needs and (initial) expectations from on-line activities. Fixed telecommunication networks are likely to continue to serve as the primary means of Internet access for many MSEs, because of their relatively lower cost. Increased competition in the telecommunications industry has been driving down access costs. Currently, two other mobile providers, Telkom and Essar Telkom Kenya (previously known as Econet) have rolled out their services in addition to Safaricom and Zain, bringing the total number of mobile service providers in the country to four. This has seen access costs going down to a low of Ksh 7 and Ksh 8 across network for Telkom and Zain, respectively, and most of the country has been linked. This is expected to encourage MSEs to utilize these services for communication, payment of services and access to the Internet, where fixed lines are not available. The country will also experience a lot of activity after the fibre optic is laid out and major towns connected. This is hoped to further improve the country's network infrastructure, and

hence provide MSEs with access to many information resources and markets available locally and internationally.

There is a wide range of reasons why MSEs are not exploiting the potential of ICTs in accessing information. These reasons vary widely among local and foreign-owned enterprises. Among them is lack of awareness; lack of adequate ICT infrastructures; high cost of ICTs and Internet connectivity; slow Internet access; lack of security guarantees; the use of obsolete technologies and shortage of skills. Some of these issues, which fall under the domain of MSEs, need to be addressed to facilitate the exploitation of ICTs.

A significant number (64.2%) of the respondents had received basic training in ICTs through private classes while at the workplace. This clearly indicates lack of interest or awareness of the potential of ICTs by the owners/managers, since the employees have to enroll for private classes. It could also imply scarcity of finances at the disposal of the employer, hence a constraint to retraining the employees. On the other hand, the findings imply that the employees have the general initiative and willingness to utilize ICTs, since they are enrolling for private classes to enhance their skills in the use of ICTs at the workplace. In addition, 34 (48.5%) of the respondents said they had received their basic training in ICTs while in college. Attewell (1992) and Love *et al.* (2001) pointed out that the rate of adoption and usage of ICT by employees is affected by the training provided. This is supported by research findings that suggest more technology is not what firms need. Indeed, the level of computer usage is often very low among firms that own one computer. What is most needed is raising the skills and overall capacity of MSEs to access and use new technologies, as well as to upgrade their

managerial capabilities and skills, marketing, financial services and credit arrangements (Pigato, 2001).

Many entrepreneurs simply do not know how to make proper use of computers for their business operations. Attewell (1992) suggests that internal technological knowledge and expertise could influence technology diffusion and utilization. That is, better ICT knowledge brings about enthusiasm on the part of the owner/manager and employees, which drives them in adopting and using the new technology. While this may seem alright, it is not viable in the long run, since ICTs are a changing technology and require regular training if one is to be productive. In this regard, the owner or manager of the enterprise has the power to influence and motivate the employees to adopt and use the new technology through internal and external ongoing training. The influence and motivation of the owner/manager of the enterprise can also come in the form of their knowledge of ICT and the perception of the benefit obtained from using ICTs (Attewell, 1992). However, even if they have the will and financial resources to integrate ICT into their core business, MSE owners/managers are often at a loss when needing to choose the most appropriate and cost-efficient product. Similarly, even if MSE owners/managers have a strategic understanding of why they should adopt ICTs, their staff is often untrained. Training costs both time and money—resources that MSEs usually lack.

On a positive note, the findings also indicate a general willingness by employers to train the employees at the workplace, since 32 (45.7%) of the respondents indicated that they received basic training at the workplace. Similarly, 70% of the respondents reported that MSE managers encourage their staff to use ICTs. This is positive and needs to be encouraged, since on-the-job training and encouragement from managers or proprietors

to use ICTs are some of the most effective factors in the utilization of ICTs. Chowdhury *et al.* (2003) found that employers who were supportive of their employees' technology initiatives produced better results from their workplaces.

Support for the employees and investment in ICTs requires financial resources. Utomo and Dodgson (2001) found that resources, especially financial resources, are needed to finance the ICT adoption process. Since MSEs have limited financial resources, it might be difficult to obtain desired ICT products. An average number of the MSEs (59.4%) spent less than 5 per cent of their total income on ICTs. Similarly 62.9 per cent of MSEs mentioned scarcity of finances/resources as one of the major contributing factors that hinder them from getting the necessary information for their business. Limited financial resources also force MSEs to be very careful in selecting and implementing ICTs. This limitation manifests itself in the effort of MSEs to prioritise which features of ICT solutions should be selected. An incorrect ICT investment decision can have significant financial consequences for MSEs, and in extreme conditions may lead to a bankruptcy. The associated high risk of ICT investment could discourage some owners/managers from adopting ICT for their companies (Love *et al.*, 2001). Limited financial resources also mean that MSEs might not be able to hire people with the necessary technical expertise to pursue an ICT strategy or provide additional training for their staff. MSEs would have to rely on the availability of government assistance or employees within the firm.

It was found that MSEs obtain information and advice for their business from various sources. These included the Internet, colleagues in the tourism industry through telephone, print/electronic media (radio, TV, guides, journals, directories, and etc), Kenya Tourism Board, the Ministry of Tourism and staff consultations. The observation

concurs with Mutula and Brakel (2006), who, in discussing e-readiness of MSEs, suggested that MSEs in general obtain information from various sources, including: the Internet; brochures; consultants; training seminars; trade catalogues; visits to relevant offices; international databases such as trade and product maps; and the worldwide networks of business information. This information is not accessed from a single portal, making it difficult and time consuming. Therefore, there is need to make use of ICTs to harness and store knowledge and information produced in this sector and to provide an access point for MSEs.

A major weakness of most ICT initiatives by governments and enterprise-support agencies targeting MSEs is the assumption that the sector should be provided with technology, information and knowledge. The assumption is that MSEs are net consumers and do not produce knowledge and information as observed by Moyi (2003). This is so because much of the knowledge and information produced by MSEs is disseminated informally, through word of mouth, and most of it is lost over time because of the mode of storage. There are no mechanisms to capture this information centrally and make it available to those who need it.

Moyi (2003) pointed out that the same knowledge and information should be blended with foreign knowledge in ways that do not alienate MSEs in the developing countries. The study findings indicated that there are limited formal structures that support the flow and exchange of information in the MSE sector. Enterprises in this sector were found to access business information through informal networks due to the absence of formal information systems and organizations that would otherwise capture and disseminate this information. In most cases, they got the information from their colleagues within the same sector through word of mouth and using either telephones or

e-mails accessed through cyber cafes. That is, they rely heavily on personal interaction, which they supplement with the use of ICTs, an observation that was also noted by Fink and Disterer (2006).

The utilization of ICTs to access information does not go beyond the enterprise boundaries, since there is no ICT used to facilitate links with the outside world; customers, suppliers, business partners and competitors. In order for micro and small enterprises to benefit from the value of information there is need to develop high-quality and effective systems to deliver information. Respondents were of the opinion that: *“there is need to establish local information/digital centres located strategically with the approval of local tourism associations”*. They should be integrated within the digital villages currently being rolled out in every constituency by the government. This observation was also noted by Chiware and Dick (2008) in their study on *The Use of ICTs in Namibia’s MSE Sector to Access Business Information Services*. The centres should be located within easy reach of MSEs and be linked to each other and also have the necessary ICT infrastructure to facilitate communication and dissemination of information. The centres should strive to increase local content on the Internet as a means to make it more relevant and therefore generate interest among MSE operators in ICTs.

Further discussions with the respondents revealed that they would wish to form a company in order to aggregate capabilities and resources for knowledge sharing, economies of scale and scope. In an increasingly competitive environment for destination market share, and the dominance of MSEs in destinations, lack of local micro and small enterprises’ capacity, and consequently lack of ability to engage effectively with other tourism stakeholders, results in loss of competitive advantage for

the destinations. One area that MSEs in the tourism industry and stakeholders could look to is that of a common website, which would enable potential tourists to find much more than basic information on a destination. They could use these sites to create their own tailor-made holidays away from packaged holidays. Besides, the same site can be used by member MSEs to share and disseminate information creating an MSE databank.

## **6.8 Summary**

In summarizing this chapter, the study found that information and communication technologies (ICTs) have introduced opportunities for improving access to information and communication to enhance efficiency and effectiveness of many MSE processes and creating new business opportunities. At the same time, the results of this qualitative study of ICT diffusion and utilization in accessing information for micro and small enterprises in the tourism industry in Kenya are consistent with the current innovation diffusion and utilization literature. In particular, ICT adoption seems to depend on information needs, change management, learning and sharing knowledge, innovation characteristics and readiness, and the process by which the innovation is communicated (Peansupap and Walker, 2005a; Rogers, 1995; Eveland and Tornatzky, 1990; Troshani and Doolin, 2005). While it was observed that many MSEs have had an experience with ICTs or experienced growth in the number and type of ICTs acquired and used, there had been little to show in terms of information systems put in place. That is, they have not reached the stage where ICTs can be usefully employed, for example in establishing computer-based networks that will link internal systems with external ones and enable them access business information locally or globally. The types of ICTs used include simple technologies such as fax, printers, photocopiers, mobile phones, Microsoft Office applications and e-mail. There are no inter-organizational systems. From the foregoing, it implies that there exists a real difference between diffusion and utilization

of ICTs. This means that some MSEs may have ICT equipment but fail to utilize it when need arises. As such, acquiring and utilization of ICTs by MSEs are two different things and should never be tied together.

It was found that some ICTs, such as computer-based databases and the Internet, were not used because they required a high level of expertise, which was lacking in most enterprises. Galileo was only used in established MSEs; those that had invested heavily in ICTs. They had computers that were networked and connected to the Internet, and had a link with foreign tour operators. However, there is pressure to become efficient and effective through the use of ICTs; this pressure is being brought about by the competitiveness and high customer expectations. Therefore, the drive for ICT utilization in accessing information is more likely to emerge from the industry's customers, suppliers, business partners and competitors. The study proposes the adoption of the conceptual model in Chapter 3 (Figure 3.9), which highlights the importance of information needs as one of the factors that influence diffusion and utilization of ICTs in accessing information by MSE entrepreneurs in the tourism industry.

The next chapter provides the summary of findings, conclusion and recommendations on what needs to be done and on future areas of investigation in diffusion and utilization of ICTs in accessing information by MSE entrepreneurs in the tourism industry in developing countries, and specifically in Kenya.



## **CHAPTER SEVEN**

### **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **7.1 Introduction**

This chapter provides a summary of the findings of the factors that influence diffusion and utilization of ICTs in accessing information by entrepreneurs in the micro and small enterprises in the tourism industry in Kenya, based on the discussions in the preceding chapters. These are findings that can have practical implications for the development of ICT utilization strategies for MSEs in the tourism industry in Kenya and similar national contexts. It also gives recommendations that attempt to address the current weakness in diffusion and utilization of ICTs in MSEs in the tourism industry. The chapter finally suggests areas for further study.

The purpose of this study was to explore the factors that influence diffusion and utilization of ICTs by micro and small enterprises in the tourism industry in Kenya and recommend a model for improving their utilization in accessing information by entrepreneurs in the industry.

#### **7.2 Summary of Findings**

Based on the study findings, for MSEs in the tourism sector to get the required quantity and quality of information and the capacity to continuously access and absorb useful information selectively, they need to adopt and utilize ICTs. ICTs would enable them not just to be capable of accessing information anywhere in the world but also provide them with the capacity to select and fine-tune information that is relevant to the development and growth of their enterprises. Although MSEs in the tourism industry in

Kenya are making efforts to integrate ICT in their firms, they face many challenges. Next is a summary of the findings as per the objectives of the study.

#### **7.2.1 Ownership and Application of ICTs in Micro and Small Enterprises in the Tourism Industry in Kenya**

Study findings indicate that the majority of MSEs in the tourism industry are using ICTs for their businesses. More and more MSEs are now aware of what they stand to gain from ICTs and are making efforts to acquire and use them. It was observed that they had acquired phones (landlines and mobile), printers, computers, fax, VHF radios, telex, projectors, scanners, and photocopying machines, which they use to improve their businesses. However, access to advanced ICTs (Internet, email, fax, and computers) was very low, except among small-scale firms and those that are joint foreign/citizen-owned. Even among firms that own a computer, usage levels were low and most were not connected to the Internet. Most of the micro-scale enterprises use cyber café's for their Internet and email services. Computer systems were being used for basic housekeeping services such as word processing, spreadsheets, printing and storage of data. A few of the enterprises were connected to external information systems such as the Tourism Destination Management System (TDMS) and the Global Distribution Systems (GDS)/computer reservation systems such as Galileo, Amadeus, Sabre and Worldspan. Some had acquired relatively cheap imported second-hand computers.

The mobile phone was observed to be a crucial communication device particularly for micro enterprises, even though it was largely used for private and not work-related activities.

### **7.2.2 Information Needs of MSEs in the Tourism Industry and Challenges in Accessing Information**

On information needs, the findings suggest that there is a large information needs gap across a wide range of micro and small enterprise activities. This gap was measured as the difference between the stated demand for information from entrepreneurs and their success in obtaining such information. The greatest information gap, found in roughly three-quarters of all the formal, tourism enterprises studied, was an urgent need for market information pertaining to foreign and new local customers and/or the need to expand into local markets.

Other important information gaps relate primarily to markets, finances and skills. Some enterprises also suffered information gaps in relation to loaning facilities, consultancy, and supply of materials, markets, and transport. Overall, the lack of required information was directly reducing income and raising costs for these tourism enterprises. It was also affecting the growth of these enterprises. Information gaps (the difference between the information an enterprise needs and its capacity to provide that information) exist for all types of small enterprises, especially in relation to markets, to finance, and skills. These gaps harm enterprises by reducing incomes and increasing costs and their competitive edge. The gaps have been felt much more by locally-owned enterprises outside Nairobi and Mombasa, for example, those in Eldoret. This is because information on tourist attractions in this region is lacking and tourism high season is affected by the athletics calendar in addition to the weather. The situation is hurting micro and small enterprises in this region and needs to be addressed. There is need, therefore, for a supportive policy to encourage the establishment of information centres and information networks to generate, capture and provide information to MSEs at an affordable price. At the same time, there is also need to set up an institute of emerging

technologies that will, among other things, research and promote local development of information systems that will be relevant to the needs of MSEs.

### **7.2.3 Extent to which Existing Information Systems are addressing the Information Needs of Micro and Small Entrepreneurs in the Tourism Industry**

The findings suggest that MSEs are using ICTs mostly to access information that will improve their business and to market their products and services, thus giving them a competitive edge. Half of the MSE enterprises had automated accounting and customer invoicing systems using basic computer applications. E-mail and the Web were used very or quite often by almost all of these enterprises. All respondents regarded further upgrading and continued expansion of ICT-based systems as critical or very important to the future success of their businesses.

However, interview evidence showed that such enterprises had applied and adapted such systems without putting into consideration their business needs. In many cases, they lacked the employee skills and infrastructure to effectively manage the systems that had been acquired. In other cases, the acquisition was not a planned venture to support a particular business process. These enterprises would benefit from a strategic approach to ICTs' acquisition and implementation. Computerized Information systems should be developed to fit into their current manual systems or to support their current systems. Micro and small entrepreneurs need to be trained to effectively manage these systems and be ready to change their current business process. Given that majority of enterprises interviewed were aware of the benefits of ICTs and some had adopted them, it can be argued that they should be prioritized for ICT-related interventions.

Gaining access to the Internet can make an important difference to MSE owners, especially those in small towns far from the capital, and viable domestic and overseas markets. It can help them obtain industry knowledge, for example tourist attraction sites and contact business partners, suppliers, and consultants cheaply and easily, which, in turn, can boost their clientele base, sales and profits. Enterprises can also obtain commercial, technical, product or service information directly relevant to their business area from informed and specialist sources.

The study found that MSEs are going on-line to find partners, locate suppliers, identify markets, hook up with consultants, obtain industry knowledge, secure financing, lower costs and clinch sales. In the process, the Internet and other technologies are becoming not merely alternative distribution channels; rather, they are also changing the way business is done. For instance, the Internet and other technologies allow for intensive two-way communication between firms at low cost; new technologies offer a great opportunity for firms to gain information, reduce costs and increase market penetration and coverage and target service to customers; firms can interact with large numbers of potential suppliers and customers and link to global supply chains; and on-line financial services can make it more possible for local banks to extend credit to smaller firms and offer services such as credit checks. Therefore, the Internet and other electronic forms of business can promote higher quality of business products and services, thus lowering costs and increasing productivity.

#### **7.2.4 Government and Institutional ICT Policies and their Influence on Use of ICTs by MSEs in the Tourism Industry**

As regards the government and institutional ICT policies, the Kenyan national ICT policy falls short of a visionary project, since it fails to outline measures that are being taken to ensure ICT access to the nation and even fails to outline the role of key

stakeholders such as TESPOK. The national ICT policy recognizes that the current ICT infrastructure is poor and in need of improvement. It has gone further to highlight areas that need to be addressed to improve the ICT infrastructure in the country. Much effort has been taken in enabling ICTs diffusion in the sub-urban and rural areas. Policies have been developed to enhance the introduction of ICT courses in schools and training at tertiary level.

The national ICT policy has recognized the advantages that accrue from the use of open source software. But there are no clear cut ways on how open source software can be mainstreamed into the business arena. A reality that was observed among micro and small enterprises is that majority were using proprietary software. The government and its development partners, including the private sector, have come up with initiatives that will see the development of a national tourism information portal and building of the infrastructure required for public information. The latter is meant to encourage electronic business transaction, an area that many MSEs were found not to have embraced. The study also found that most of the MSEs were not aware of any initiatives to promote ICT adoption and utilization and were not even aware of the existence of either a national ICT policy or its effect on their business activities. There is, therefore, a communication barrier between the government ICT machinery and the key players in the nation's economy, namely MSEs, which needs to be addressed urgently.

#### **7.2.5 Factors that Influence Use of ICTs by Micro and Small Entrepreneurs in the Tourism Industry in Kenya**

The study was able to identify several factors that were cited as influencing use of ICTs among micro and small entrepreneurs in the tourism industry in Kenya. These included lack of financial resources to support ICTs implementation in MSEs, management strategies of the MSEs, training and sharing of ICT knowledge among micro and small

entrepreneurs, varied information needs and demands of entrepreneurs, lack of awareness of the potential of ICTs in capturing and accessing information, limited use of ICTs either due to lack of knowledge and skills or trust of ICT-enabled systems, enabling ICT policies and high cost of ICTs, among others. Cultural factors and uncertainty and delivery guarantees of business transacted over ICT-enabled information systems were found to influence use of ICTs, with word of mouth and face-to-face taking precedence over any other mode of communication. Financial resources were mentioned as the key determining factor, but on further exploration it was found that lack of awareness, knowledge and skills, and the management strategies of the enterprises were the underlying factors in deciding to allocate funds for acquisition and implementation of ICTs. In some cases, MSEs were found to have acquired computers but did not fully utilize them.

The part played by the owner or manager was very important in influencing utilization of ICTs in an enterprise. For MSEs, the decision making process is mostly centred on one person, the owner/manager or the entrepreneur. An exposed manager/owner, skilled in ICTs, has a lot of influence in determining the acquisition, training, encouragement, connection to the Internet and sourcing for the relevant software and information resources relevant to the enterprise, and therefore facilitates the utilization of ICTs. This is equally made easier by those with higher education. Thus, management skills and relevant experience become vitally important to the decision making process relating to timely utilization of new technology.

#### **7.2.6 Challenges in Using ICTs by MSEs in the Tourism Industry in Kenya**

The study results show that there are a number of challenges to ICT utilization by MSEs. These included: first, many MSEs were not aware of the potential of ICTs to

enhance their business operations through access to relevant information. Second, some MSEs occupied small and clearly defined niche markets, sometimes entirely local, that did not need the global connectivity available through the Internet. Word- of- mouth was found to be sufficient, either through face-to-face or through mobile telephony. Third, there were unresolved perceived security and privacy issues associated with the use of the Internet, particularly those associated with making commitment and payments on-line, and they discouraged MSEs from adopting this technology as a way of doing business. Fourth, many MSEs lacked the necessary ICT skills and knowledge to enable them engage in the digital economy. Some were willing to engage in the digital economy but found it difficult or too expensive to hire people with the necessary technical expertise to help them out.

The high initial set-up costs and perceived ongoing costs of ICT and e-business acted as a barrier to adoption and implementation of ICTs among MSEs. These enterprises found that they cannot finance the necessary additional investment necessary. Equally, they reasoned that investment in ICTs may not be cost effective, and it might be better for the enterprise to use cyber cafes and bureaus. Overcoming these challenges is a major challenge for policy makers, stakeholders and MSEs alike. However, it was also observed that these challenges varied between micro and small enterprise and, on the other hand, between joint foreign/citizen and citizen-owned enterprises.

#### **7.2.7 Proposed Model for Improving ICT Utilization in Enhancing Information Access by MSEs in the Tourism Sector in Kenya**

This research used a theoretical approach and model to present empirical evidence regarding how ICT utilization is influenced by information need factors. The results confirmed the crucial role of information needs as a motivating factor for both the initiation of individual ICT utilization and in subsequent adoption by MSEs.



Information needs act as the driving force in the development of information systems. ICTs provide more efficient or effective means of handling that information. However, beside information needs factors, other factors also play a major role in the diffusion and utilization of ICTs as indicated in the conceptual model in Figure 3.9. In addition to information needs, change management, learning and training were found to be stronger motivators for continuous ICT usage and adoption than the static factors of innovation diffusion. The study proposes a model (Figure 7.1) for improving ICT utilization among micro and small entrepreneurs in the tourism industry. The proposed model comprise four quadrants namely information needs factors, technology factors, organization factors and learning and sharing knowledge factors, that all converge in the continuous utilization of ICTs by MSEs in accessing information (see section 7.4.5).

Finally, in concluding this section, the study found out that emerging ICTs have introduced opportunities for improving communication and access to information through quality information systems that are bound to enhance efficiency and effectiveness of many MSE processes and create new business opportunities. However, to increase the uptake of ICTs and ICT products within the MSEs in the tourism industry, there is need to demonstrate the relevance of ICTs to everybody in the MSE sector, ensure content on ICT platform is relevant, provide knowledge and skills that will enable them use ICT products, reduce prices of ICTs and ICT products, provide credit facilities, and improve on infrastructure and provide reliable power. Therefore, there is need to critically address the factors enumerated above and in Figure 7.1, which contribute to the utilization of ICTs by MSEs in accessing information.

### **7.3 Conclusion**

The findings in this research have shown that MSEs are using ICTs to access information and for better information management. The findings have also highlighted the factors that influence diffusion and utilization of ICTs and how ICTs are being used to support business processes. Characteristics of the entrepreneur and industry sector have had an effect on the diffusion and use of ICTs to support business processes, which suggests that the findings have the potential for transferability to other industrial sectors and beyond the geographic restrictions investigated initially. This research set out to explore factors that influence diffusion and utilization of ICTs in accessing information within a sample of MSEs in the Kenyan tourism industry. Other factors highlighted in the diffusion and utilization conceptual model (Figure 3.9), which includes diffusion of innovation, change management and factors of learning and sharing knowledge were also considered. From the study findings, the following conclusions have been drawn.

#### **ICTs in Micro and Small Enterprises in the tourism industry in Kenya**

Competitive environment in the tourism industry and new requirements for service delivery demand access to relevant business-related information. This has necessitated use of ICTs for better information access and management. Most MSEs have access to ICTs, but they have not been able to derive full benefits from this access because they lack knowledge and skills, financial resources and support. Their level of understanding of ICTs' potential is limited. It was established that there were large differences in ownership, adoption, degree of use, and kind of use regarding computers, telephone (fixed and mobile), fax, computer-based global distribution information systems, computer reservation systems and even more regarding the Internet among the MSEs.

### **Information needs of MSEs in the tourism industry and challenges encountered in accessing information**

Research findings revealed that, lack of relevant information in the required quantity and quality, and the capacity of MSEs to continuously access and absorb useful information was directly reducing the enterprises' income and raising costs. The need for information and subsequent seeking behaviour was found to be an important factor in the adoption and utilization of ICTs in accessing information for MSEs in the tourism industry. Information needs act as the driving force in the development of information systems.

The challenges encountered in accessing information included: cost of ICTs and internet access; poor networking among MSE players; knowledge and skills to access information; micro and small entrepreneurs' awareness that they need information or where to get information (sources of information); complexity of range of electronic sources, including origin, accuracy, reliability - increasingly, information comes unfiltered; local content not available that focus on their businesses; poor information infrastructure; and assumptions that MSEs are net consumers and do not produce information. Much of information they produce is disseminated informally through word of mouth, while some of it is lost over time due to mode of storage. There was no systematic mechanism to capture this information centrally and make it available to those who need it. Therefore, there is need to develop local content and provide applications that specifically address the needs of micro and small enterprises. The content should highlight the varied and diverse tourist attractions in each region within the country and unique activities for tourists found in those regions. This is beside the popular national parks, the breathtaking mountain scenery, splendid beaches and coral

reefs, spectacular lakes and deserts, and extensive savannah grassland. This will generate greater demand and positive multiplier effects from ICT adoption.

#### **Extent to which existing information systems are addressing the information needs of MSE entrepreneurs in the tourism industry**

MSEs in the tourism industry have relied on informal information systems, such as telephones, newsletters and word of mouth. However, this is changing due to the changing needs of the market and the global nature of the industry. Research findings indicate that access to and availability of ICTs did not translate to improved business for MSEs in terms of business processes or relations with customers and other businesses due to uncertainty and delivery guarantees of business transacted over ICT-enabled systems. This explains why informal information systems (mouth to mouth and face-to-face) took precedence over formal systems for most MSEs. The study findings established the following as barriers to development of information systems that would address the information needs of MSEs. They included: enabling factors (availability of ICT skills, qualified personnel, network infrastructure, faster connection time); cost factors (costs of ICT equipment and networks, software, web hosting, access); security and trust factors (security and reliability of electronic information systems, legal frameworks); and limited formal structures that support flow and exchange of information in the MSE sector.

#### **Factors that influence use of ICTs by micro and small entrepreneurs in the tourism sector in Kenya**

Information needs of an individual or enterprise play an important role in the diffusion and utilization of ICTs. It was established that an individual will adopt an innovation if it is seen to facilitate the satisfaction of an information need and continue to use the innovation because they have had a positive outcome. Information access, processing

and dissemination were found to be a major factor in ICTs' utilization. The need for effective and efficient systems to access, deliver information, and to transact business with international clients was also pushing entrepreneurs to adopt ICTs. Manager/owner influences and support was also found to be a driving force in the adoption and exploitation of ICTs. Training and sharing knowledge among entrepreneurs were observed to be necessary but not implemented due to lack of funds and fear of competition. Other factors that influenced diffusion and utilization of ICTs by MSEs included: colleagues influence; perception of the role of ICTs by entrepreneurs, which resulted in limited use due to lack of knowledge, skills and trust of ICT-based systems, cultural factors and initial cost and maintenance costs. However, in most cases, availability or access to ICTs was not combined with real changes in the business structure of MSEs, either in internal processes or in relation with external actors (customers or other businesses). As such, various interventions are needed by both the government and the MSE sector in the tourism industry to ensure ICT utilization in accessing information. Such interventions would address issues relating to lack of access to relevant information; lack of awareness of the potential of ICTs; poor telecommunications infrastructure; lack of an enabling policy and legislation framework for e-business; lack of government and associated stakeholders' support; and finally a shortage of critical ICT skills. These interventions work better if addressed together as part of a coordinated strategic approach.

#### **Government and institutional ICT policies and their influences on use of ICTs by MSEs in the tourism sector**

Government and institutional interventions are necessary to create an enabling business environment for MSEs through policies and legislation framework and other related support. Similarly, infrastructure development needs to be prioritized to benefit from the

global economy, and thus improve domestic productivity. The establishment of an MSE business information portal with information on business opportunities, which includes markets and market trends, pricing, legislation, products and services, and partnerships was found to be important in encouraging utilization of ICTs. Similarly, the Ministry of Tourism should establish business information centres in major towns in the country to provide a one-stop-shop and a full range of management and technical assistance to MSEs. Besides, the centres would be used to provide reliable information on markets, services and products. Ways that governments can also help increase ICT utilization by MSEs include: hosting training workshops that are flexible and tailored to specific tourism industries, employees' position and role, or software/hardware applications; providing subsidies for ICT training; and creating opportunities for firms to try the technologies hands on. Governments can increase the affordability of ICT through grants, credits, leasing options, and tax incentives.

### **Challenges encountered in the use of ICTs by MSEs in the tourism sector in Kenya**

Challenges encountered in utilization of ICTs by MSEs varied depending on whether micro or small and between local and foreign/jointly owned MSEs but can be summarized as: lack of awareness of the potential of ICTs to enhance their business operations; minimal ICT skills and knowledge to engage in digital economy—many MSEs do not know how to make proper use of computers for their business operations; MSEs reluctance to transact business on-line due to security and trust, privacy, fear of losing money; lack of relevant locally generated data that focus on local situations/business—meets their needs; support and commitment of owner/manager; initial set-up costs and perceived ongoing costs of ICT and e-business—internet connection cost still high even with the implementation of fibre optic cable; MSEs spend less of their total income on ICTs and their related costs such as training,

consultancy, etc; and lastly most MSEs were found to rely heavily on personal interactions, which they supplement with ICTs.

The tourism industry is an information-intensive service made up of several producers and, as such, it depends to a larger extent on information that is shared among the various sectors of this industry. Access to this information is important for the growth and development of this industry. Thus, the drive to meet the information needs of an individual or organization through the development of quality information systems plays an important role in the utilization of ICTs. However, to ensure utilization and sustainability of ICTs, other important factors must be considered, such as change management factors, learning and knowledge sharing factors and diffusion of innovation factors. Information needs act as drivers of diffusion and use of ICTs; the other factors, technological, organization and learning and sharing are enablers. All these factors should be embraced if micro and small enterprise entrepreneurs in the tourism industry are to benefit from ICTs. Although results of this study cannot be generalized to a larger population or used in a predictive fashion, they suggest areas that MSE stakeholders and policy makers need to focus on to better understand and interpret the experiences of micro and small entrepreneurs in adopting ICTs.

The research was important because globalization has brought a completely new competitive environment in the tourism industry and new requirements for service delivery. It has also brought new players into the tourism distribution sector, and new roles for the traditional actors in the tourism industry, especially those in the micro and small-scale enterprises. Direct communication between customers and suppliers, transparency of the market and low barriers to entry are producing dramatic changes in

the tourism value chain. It is fundamental to the tourism sector to understand and measure the adoption and the impact of these new services as a result of globalization.

#### **7.4 Recommendations**

Recommendations emanating from this study can be categorized into four different perspectives that complement each other, and are seen as enablers and drivers of ICT utilization in accessing information for micro and small entrepreneurs in the tourism sector. They include: technological factors that determine ICT adoption decision; organization factors that include policies that will encourage diffusion and utilization of ICTs, affordability and ICT infrastructure, government and enterprise-support agencies intervention; learning and knowledge sharing among entrepreneurs in the tourism micro and small enterprises; and information needs factors that determine continuous utilization of ICTs after the initial adoption;.

##### **7.4.1 Organizational Factors**

The study findings indicate that MSEs in the tourism industry are not receiving adequate support that would facilitate adoption and use of ICTs in accessing information from government and other stakeholders in the tourism industry.

The government, through the Ministry of Tourism in conjunction with the Ministry of Information and Communication and that of Industrialization, should come up with strategies for the implementation of policies to guide the diffusion and utilization of ICTs in the country. The Kenya Association of Tour Operators (KATO), Kenya Association of Local Tour Operators (KALTO) and Kenya Association of Hotel Keepers and Caterers should be involved to safeguard the interests of the entrepreneurs in the tourism industry. These strategies should be pegged on the considerations that:



first, in order to promote greater diffusion of ICTs, it is important to craft the right framework in terms of policy and regulatory environments. The second policy consideration is to develop human capacity through public awareness of the role of ICT in development and providing training in ICT skills. This would encourage individuals to use ICTs and enable them to maximize the benefits of having access to ICTs. The third is for the government to promote the use of ICTs through the national ICT strategy, e-government initiatives, promotion of local content, and the creation of an environment where freedom of communication and expression can prevail. The fourth policy consideration is that international trade plays a very important role in ICT diffusion, and governments must reduce tariff and non-tariff barriers to ICT imports. In addition, those factors such as training and technical support, financial resources in terms of credit facilities for MSEs, and reforming the financial systems, legal and regulatory reforms, and workplace support should be addressed by the government through the Ministry of tourism and stakeholders if ICT is to be adopted and be effectively utilized by MSEs in the tourism industry. These factors were highlighted in the Section 6.4 as factors that influence utilization of ICTs.

If ICTs are to have an impact on MSEs in the tourism industry in Kenya, then ICT plans need to be mainstreamed into the national socio-economic development plans, particularly those that target MSEs. In this way, ICTs as outlined in the ICT policy and plans would be integrated as essential tools for the delivery of national socio-economic plans.

There is need to improve organizational competency by ensuring that MSE entrepreneurs develop their ICT skills through training, seminars and workshops to maximize ICT exploitation so as to gain business advantages. Short ICT courses

specific to the industry can be organized jointly by the Kenya Tourism Federation and the Ministry of Tourism as a matter of policy (see section 6.4). This should be in consultation with the Kenya Industrial Research Institute (KIRDI), which is mandated to facilitate the SMEs' vertical growth, entry into new markets, and promotion of new value added products. This is because ICTs can be used not only to compete with each other but also to cooperate. This strategic view should be adopted by MSEs' management.

Pricing structures for ICT goods and services are increasingly being determined through a regulated, competitive market and, for many, affordability is likely to be the critical access issue around emerging technologies (see section 6.6, discussion of findings). This will increasingly be the case as private networks evolve and user technologies such as mobile and radio telephony become more adaptable in receiving, processing and transmitting a wider range of increasingly locally published content. The hope is that market liberalization and competition will, over the long term, lead to lower prices for universal business access to ICTs. To increase ICTs uptake by MSEs, the Ministry of Tourism through the Kenya Tourist Development Corporation and the Kenya Tourist Board should partner with willing banks or micro-finance institutions to provide credit to MSEs for the purchase and implementation of ICTs information systems in their enterprises. In order to improve access to information and technology, the following actions should be taken:

**i) Establish a tourism business portal and develop local content**

There are no businesses or national portals that are specific to tourism as yet, although there are several emerging privately-owned sites locally such as the Magical Kenya <http://www.magicalkenya.com/>, Eco-tourism Kenya (<http://www.ecotourismkenya.org/>)

etc. The development of local portals (apart from the government portal [www.kenya.go.ke](http://www.kenya.go.ke) which is not specific to tourism) has been left entirely to the private sector. The Ministry of Tourism's official site has general information on tourism. There is also the Tourism Trust Fund web portal (<http://www.ttfkenya.org/>), which promotes and publicizes Kenya via a one-stop point. These websites cannot be classified as interactive. The Kenyan government should be involved in the creation of a tourism business portal that can be hosted by the private sector and should contain links to key government sites. The chambers of commerce and the Kenya Tourism Board should be encouraged to provide information, especially on the local market, to MSEs in the tourism industry through the digital villages and other information centres for ease of access. The tourism board can play the role of creating a portal that leads to individual websites to help increase site traffic. It can also establish an e-commerce platform that MSEs can sign up for without having to adopt it themselves. They should also develop and distribute digital content, including expanding the commercial use of information about tourism products. The National ICT Policy, in discussing content development, has pointed out that the main challenge is the under-development of local content. ICT is a conveyor of information, providing opportunities for local people to interact with each other, expressing their own ideas, knowledge, heritage and culture in their own languages. This information needs to be captured and made accessible to those in need. Improving local content will entail: rallying all stakeholders and development partners' support in creating local content and identifying, selecting and capturing information and knowledge available in various formats.

The Ministry of Tourism should also establish Tourism Destination Management Systems (TDMS), similar to those established in Europe. These are computerized systems designed specifically to facilitate the distribution of all tourism enterprises in a

given geographical area. TDMS requires, firstly, creation of a network (login and password protected and accessible only by local tourism service providers) providing a database of regional tourism supplies. Secondly, it requires a publicly accessible website offering information about the region and tourism products purchasable on-line. This would cater for the new market created by the “independent traveller”. This category of tourists searches for information about destinations, accommodation/travel conditions and prices through direct contact channels with local tourism organizations.

**ii) Develop frameworks for ICT skill formation**

The roles of the Ministry of Tourism, the Kenya Association of Tour Operators (KATO), and Kenya Association of Local Tour Operators (KALTO) should be strengthened to improve basic ICT skills and developing frameworks to encourage higher level ICT and e-business skill formation (including marketing, organizational, security, trust and management skills in addition to ICT skills) in conjunction with education institutions, businesses and individuals. This will help reduce ICT skill impediments to the growth of MSEs. The Ministry of Tourism, Kenya Tourism Board and other relevant institutions in the tourism industry should hold workshops to create awareness and sensitize micro and small entrepreneurs on the benefits of ICTs. They should also run or facilitate short courses on ICTs and their applications in the tourism business.

**iii) Develop an institutional and legal framework for electronic transactions**

The institutional and legal framework governing electronic transactions in Kenya remains undefined. Businesses have no authority for recourse in electronic disputes. The legal framework needs to be developed and then the courts need to be sensitized to the new framework. It is vital that this initiative is followed up to ensure timely and suitable

improvements to the current legal framework. Recently, the government has come up with e-commerce law, but this is yet to be diffused sufficiently. The challenge is for the country to establish an adequate legal framework and capacity to deal with national security, network security, cyber-crime and terrorism, and to establish mechanisms for international cooperation to combat cross-border crimes. This will entail developing an e-security structure. The National ICT Policy has also clearly pointed out mechanisms for electronic business protection, for example evidential value of electronic information, but the appropriate e-commerce laws and digital indicators need to be worked out. These are currently being addressed through Kenya's Electronic Transactions Bill 2007, and the Information and Communication Bill 2008.

**iv) Increase bandwidth accessibility and reduce tariffs**

Some businesses complained that they do not receive the bandwidth that they need, either because it is too expensive or is not available and the quality was poor. This is a reflection of the Communications Commission of Kenya's inability to provide the necessary infrastructure to ensure that bandwidth prices are brought down. The problem is slowly being resolved with the laying of the fibre optic cable and the setting up of a countrywide fibre optic backbone by Kenya Data Networks (KDN). Greater competition in the telecommunication sector is needed to solve this problem (despite privatization, Telkom Kenya remains a monopoly in the fixed line). Moreover, private users are also restricted by the high connection rates, both locally and internationally. The government should encourage the use of computer-based and mobile phone-based technology services through tax reduction and tax incentives to service providers as the country is increasingly witnessing the introduction of value added mobile-phone based services that include Internet and money transfer.

**v) Increase national ICT awareness**

Increased countrywide awareness of the benefits of ICT to the public is still required to bring about cultural and attitudinal change, and increase business usage of the ICTs (see section 6.5, discussion of findings). This should be a joint effort by government institutions with responsibilities for ICT, such as the ICT Board and the Kenya Information and Communication Technology Federation (KIF). The Kenya Tourism Board and the Kenya Association of Tour Operators should endeavour to sensitize their members through seminars and workshops on Internet usage and other MSE tailor-made software packages for accounting, information management, production and technical processes. These initiatives help the MSEs in the tourism sector to learn more about the benefits of ICT and e-commerce. E-government services to enterprises should also be used as a tool to improve efficiency of government interactions and operations with MSEs.

**7.4.2 Technological Factors**

A significant number of MSEs were not fully exploiting the potential of ICTs to improve on their businesses. The study findings reveal that they did not have the capacity to derive benefits from ICTs in terms of knowledge and skills, and many lacked financial resources to get technical assistance. The enterprises themselves have a big role to play in ensuring that they use ICTs adequately to access business information services. In this regard, MSEs should consider the following issues: increase the use of information technologies in their business operations; use technologies to enhance the various business and social networks that exist, and that are often used as sources of business information; increase the use of information technologies to enhance marketing and production processes, especially in improving their global competitiveness; increase the use of information technologies in enhancing their

technical capabilities in order to respond effectively to customer needs and take advantage of changing service and production patterns.

In the business area, the majority of MSEs in the tourism industry in the country are adopting the basic uses of ICTs, but relatively few enterprises have reached the most sophisticated levels of use. In general, investment in ICTs is likely to yield gains for businesses only if there is parallel investment in learning, organizational change, and measures to enhance the perceived safety of networks and on-line transactions. This calls for owner/managers' commitment to invest in ICTs and acquisition of the necessary skills and knowledge to make use of ICTs. They should also be ready to manage the change process from manual to computerized systems and between any two systems. The Ministry of Tourism and tour operator associations (KATO and KALTO) should initiate business and management training modules specific to tour operators, more so the micro and small entrepreneurs.

#### **7.4.3 Government and Enterprise Support Agencies Interventions**

The study revealed that a number of initiatives for enhancing ICT adoption by MSEs in the tourism industry did not reflect their development aspirations. Consideration should be made of the existing information systems, which are already working, and ICTs should be deployed to improve on them. Government and enterprise-support agencies' interventions should be more needs-driven rather than supply-driven. They should place greater emphasis on demands and less on supply. Initially, interventions relating to small enterprise were too supply-driven: determined by what agencies could provide. This was problematic and the response has been to make interventions more demand-driven: determined by what entrepreneurs said they needed. Demands-driven elements need to be expanded to incorporate early involvement of users in intervention planning;

participation and consensus amongst stakeholders and users; and prototyping/testing of new information systems prior to widespread application. This will improve the relevance of interventions. Such a participatory approach to intervention formulation and implementation also reduces the risk of overstating the importance of information in the development process, particularly new information that is likely to be transmitted through ICTs. This calls for the involvement of tour operator associations (KATO, KALTO) in the development of interventions. On the other hand, Grindle *et al.* (1989) have pointed out that demand-driven approaches are flawed in that when entrepreneurs are asked what they need, they have a tendency to over-emphasize finance and to under-emphasize knowledge and skills. Some have a tendency to try to second-guess what agencies can supply (Grindle *et al.*, 1989). This has particularly been the case for weaker/poorer entrepreneurs. Supply and demand-driven approaches must, therefore, be tempered with needs-driven investigation, identifying what enterprises actually need to survive or grow. This would necessitate 'infomobilization', a concept based on socio-technical systems theory, whose focus is on concurrent processes of technological and social change and on the joint optimization of human and technical processes within the targeted group (Harris, 2008). Through its application, targeted groups come to appreciate the capability of ICTs and, more importantly, they learn how to integrate them into their own development aspirations.

The research presented here recommends a needs-driven approach that brings together the Ministry of Tourism, stakeholders (KATO and KALTO) and MSEs in the tourism industry to first undertake an in-depth analysis of micro and small enterprises' ICT requirements in relation to their information needs before their implementation. This would ensure that ICTs have optimal impacts for development within MSEs in the tourism industry.



#### **7.4.4 Information Needs**

The study findings showed that MSEs had difficulties in accessing information relevant to their business. Information systems and resources that would provide for their information needs were lacking. The single-most important benefit associated with access to new ICTs is the increase in the supply of information (see section 6.2, discussion of findings). Reducing the cost of producing and transmitting information increases its availability and accessibility, which in turn reduces uncertainty. Reduced uncertainty will generally lead to better decision making and allow for new forms of organizational innovation, thus reducing transaction costs and inefficiencies. Before launching any ICT interventions, the information needs of MSEs should be thoroughly assessed. Already, there are a very wide range of resources and applications in the market that are of potential use to MSEs. However, it is information that has a direct impact on the growth and competitiveness of the MSEs that matters most, and any application should be developed only after an accurate assessment of these needs. The Ministry of Tourism and all statutory institutions affiliated with it, such as Kenya Tourism Board and the Kenya Tourist Development Corporation, should spearhead and coordinate the assessment and development of content that is specific to the tourism industry.

Once the information needs of the community are assessed, content and software applications should be developed with continuous involvement and feedback from the MSE community in the tourism industry. The lack of local participation in content creation, and in software development, may make much of the information lie unutilized. To improve on content and software applications, an incremental approach needs to be followed, whereby content that responds to the most pressing information needs of the MSEs, and software that is appropriate for the local conditions, are

developed in collaboration with enterprise-support agencies, stakeholders and MSE representatives such as Kenya Association of Tour Operators (KATO), The Kenya Association of Local Tour Operators (KALTO), Kenya Association of Travel Agents (KATA), Kenya Association of Hotel Keepers and Caterers (KAHKC), etc. Local ownership and participation in the initiative will ensure continuity, while a top-down approach will most probably lead to a waste of resources in the initial period of the project, without ensuring its future sustainability. Particular efforts should be made to improve local MSE access to information. In Kenya, local MSEs generally have many challenges as pointed out in section 6.6, discussion of findings, due to lack of competence, exposure and capital. There is need to find means to get MSEs that are locally owned involved in the use of ICT and in particular to ensure that they are trained to become information kiosk operators, failure to which there is a high probability that they will be further marginalized.

Finally, when dealing with information needs of enterprises and information handling within an enterprise, interventions should balance between demand-side factors and supply-side factors. Supply-side factors (money, skills, access to ICTs) are the *enablers* to more formalized information handling, including use of ICTs. It has been relatively easy for governments and enterprise-support agencies to think about and to try to address these explicit enablers. However, they have been less good at dealing with the other implicit enablers such as knowledge, motivation, trust and empowerment. In general, the impact of supply-side measures has always been weak; they should be complemented with demand-side measures.

Interventions should also be needs-driven, not agency or entrepreneur-driven in the planning of interventions. The latter two approaches have, in the past, presented a

skewed picture of enterprise needs. They place greater emphasis on supply, and less on demand. This particularly applies when getting enterprises to use formal information and to use ICTs. The Ministry of Tourism and other stakeholders need to think far more about the drivers that make enterprises want to use ICTs, such as the need for information, and place less emphasis on the enablers (money, skills, access to ICTs) that allow enterprises to use the same.

The main message from studies of ICT diffusion and utilization in the industrialized countries is that use depends on social, economic, political, cultural and organizational factors. These factors need to be addressed in order to enhance utilization of ICTs. A supportive policy to encourage the establishment of information centres and information networks to generate local content and provide information to MSEs at an affordable price should be put in place. Before the implementation of any new systems, studies should first be undertaken to establish MSEs' information needs, current information systems and gaps in the current systems. At the same time, there is also need to set up an institute of emerging technologies under the Ministry of industrialization's Kenya Industrial Research Institute (KIRDI) that will, among other things, research on and promote local development of information systems that will be relevant to the needs of MSEs.

In this study, information needs factors, change management, learning and sharing knowledge, and innovation-related drivers and inhibitors influencing diffusion and utilization of ICTs in accessing information for micro and small enterprises in the tourism industry in Kenya have been discussed. Because of the potential role of ICTs in enhancing intra- and inter-organizational information supply chains, it is the opinion of the researcher that the findings of this study constitute an important contribution to the

area of information provision to MSEs using ICTs and e-business. In addition, these may have practical implications for the development of ICT utilization strategies of MSEs in the tourism industry in Kenya and similar national contexts.

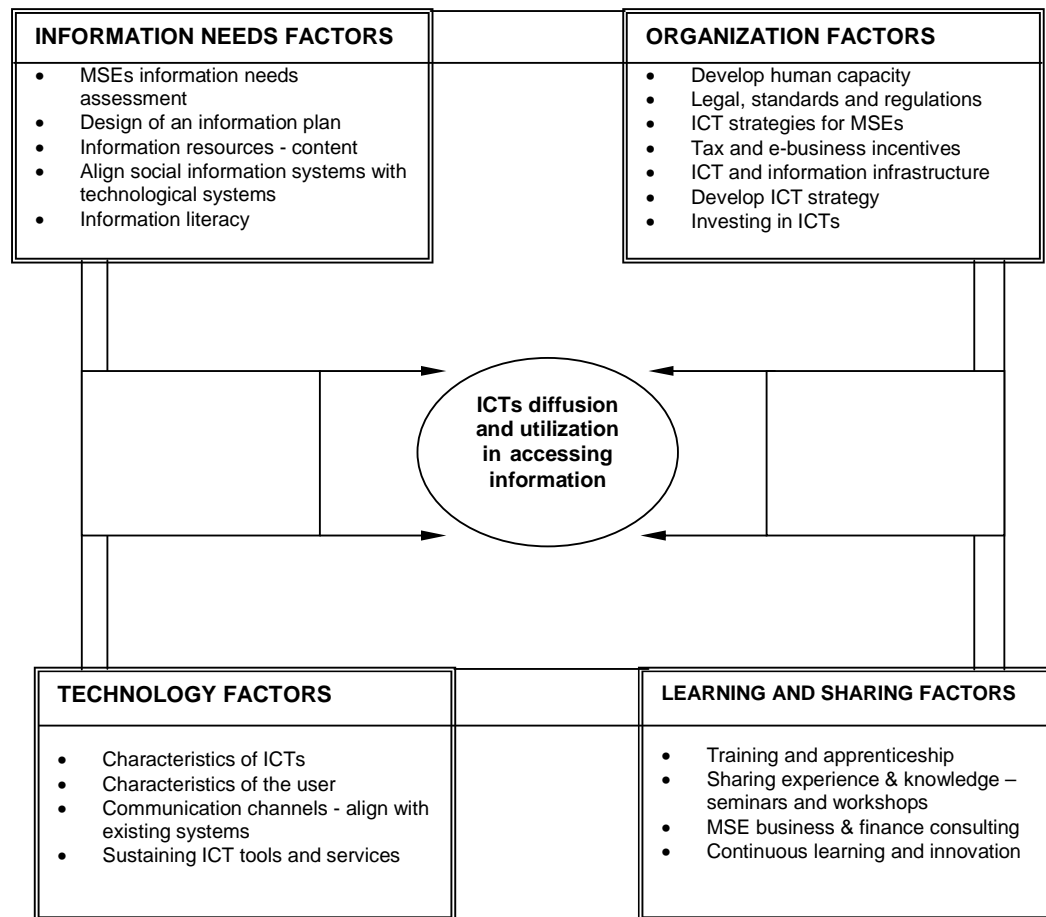
#### **7.4.5 Proposed Model to Enhance Utilization of ICTs by MSEs in the Tourism Industry in Kenya**

The presentation and interpretation of the data in the preceding chapters have shown that information requirements of MSE entrepreneurs play an important role in their decisions to adopt and use ICTs in their businesses. The high customer expectations and pressure from suppliers, business partners and competitors to become efficient and effective and the emerging information society that is an ICT enabled-society has given impetus to the drive for ICT diffusion and utilization. Thus, based upon the findings within this study and review of relevant literature, including Peansupap's and Walker's (2005a) diffusion model, Rogers's theory of innovation diffusion, and Troshani and Doolin (2005) three major factors that play a significant role in innovation adoption, the study was able, to some extent, to corroborate the suggested integrated conceptual model, Figure 3.9, on diffusion and utilization of ICT in accessing information for MSEs in the tourism industry. However, it was found necessary to include other factors in the proposed model that sustain continuous utilization of ICTs by MSEs in the tourism industry. The proposed model incorporated information needs and organization factors that, when combined with the other factors adopted from Peansupap and Walker (2005a), were found to facilitate ICT diffusion and utilization in accessing information by MSEs.

The discussion in Chapter 6 has shown that diffusion and effective utilization of ICTs in accessing information by micro and small entrepreneurs in the tourism industry is sustained by the following key elements. One, aligning existing social information

systems with technological systems. Two, conducting information needs assessment to determine their information needs. This will help in developing information products specific to them and their needs. Three, creating awareness of the existing information resources and capabilities of ICTs in accessing and manipulating these resources; Four, motivating MSEs to acquire the requisite knowledge they will require in order to exploit ICTs; and Five, facilitating and encouraging communities of practice. This is in addition to government and stakeholders' interventions, which include developing a legal framework, standards and regulations for ICTs use, developing ICT strategies for MSEs, building an ICT infrastructure and motivating MSEs to acquire new knowledge needed to effectively use ICTs. The proposed model to enhance utilization of ICTs by MSEs in the tourism industry in Kenya highlights four key factors: information needs of the micro and small entrepreneurs; technological factors; organization factors (enterprise interventions, government and stakeholders' interventions); and learning and sharing knowledge factors, as shown in Figure 7.1.

**Figure 7.1: Proposed model for ICT utilization by MSEs in the tourism industry in Kenya**



*Diagram adopted from Changsu and Galliers (2004))*

Figure 7.1 provides a graphical representation of the proposed model for enhancing utilization of ICTs by micro and small entrepreneurs in the tourism sector in Kenya. The literature review and study results have shown that continuous utilization of ICTs is sustained by the dynamic factors after the initial adoption, which is pegged on the technological factors.

MSE information needs assessment should be a bottom-up, demand-driven approach, such that it begins with appreciating the needs of MSEs as they would express them. The design and development of an information plan should identify sources of business

information, services, pricing, accessibility and seeking behaviour of micro and small entrepreneurs. The information plan should also include how to generate, capture and process local content relevant to MSEs. The study has shown the continued importance of the interpersonal, face-to-face or word of mouth over the phone interactions in building and maintaining trust between micro and small entrepreneurs. MSEs also have a strong preference for personal contact with customers. A majority of the enterprises regarded face-to-face contact as being very effective for promoting their businesses. That is, micro and small entrepreneurs still value social information systems as opposed to technical systems. Therefore, when designing information systems, it is prudent to align the technological systems with the existing social systems. Another important factor is information literacy. Micro and small entrepreneurs ought to possess a set of competencies to: realize the gaps existing between existing and desired information; understand form, format location and access methods of information resources; and understand the capability of ICTs for accessing and manipulating information.

Technological factors are factors referred to by Peansupap and Walker (2005a) as static factors of innovation diffusion, which include factors that influence the ICT adoption decision. They include: characteristics of ICTs (i.e. relative advantage, ease of use, compatibility, triability and observability) influence the individual's adoption decision; communication channels (i.e. mass media and inter-personal communication) facilitate ICT diffusion by disseminating information regarding ICTs and by pooling individual experience; and the social context, personal and social behavioural interactions (i.e. characteristics of micro and small entrepreneurs, manager/owner opinion and cultural issues). These factors are used to determine the primary individual's adoption decision. However, for sustained and continuous ICTs utilization in an organization, other dynamic factors come into play. These are the dynamic factors of change management

and learning and sharing knowledge categorized as such by Peansupap and Walker (2005a). The proposed model categorizes them into organization factors and learning and sharing knowledge factors.

The organization factors are grouped into micro and small enterprise interventions, government and stakeholder's interventions. MSE interventions include manager/owner support by investing in ICTs, training, developing strategies that ensure effective use of ICTs, developing mechanism for sustaining ICT tools and services, motivating and supporting staff innovations and applications while using ICTs, and commitment to the changes brought about by utilization of ICTs. It has been noted that ICTs have functionalities that are not fixed; they can be innovated endlessly depending on the people who use them or interact with them and as a result of evolving MSE needs. Thus, MSEs need to be sensitized on the capability of ICTs for accessing and manipulating information and be motivated to acquire new knowledge and skills they will require to exploit ICTs. From the discussion of findings, the government and stakeholder's interventions include: developing ICTs standards and regulations, ICT strategies for MSEs, tax incentives for investing in ICTs, subsidizing ICT training for MSEs, creating incentives for e-business, building ICT infrastructure, investing in research and development for MSEs, financial support through provision of credit facility and providing MSE business and finance consulting.

Peansupap and Walker (2005a) observed that innovation diffusion needs a sharing and learning organizational environment. Discussion of findings indicated that learning and sharing knowledge among entrepreneurs was prevalent and contributed immensely towards ICT utilization. This involved training and apprenticeship, sharing experience and knowledge through seminars and workshops, MSE business and finance consulting



and continuous learning and innovation of ICTs' functionality to suit the evolving needs of micro and small enterprises in the tourism sector.

The proposed model recognizes the importance of information needs as a major motivating factor in the utilization of ICTs to access information. The model comprises four quadrants that all converge in utilization of ICTs within an enterprise in accessing information, and highlights the fact that the motivation to seek information is a product of information needs. The necessary search paths that may be used by an information seeker to satisfy their information need must be identified and addressed. This would involve not only acquiring ICTs but exploiting them to develop information systems that will align with the existing information system and link the user to information resources. That is, it provides support for the design of information systems and information management and can be a starting point for stakeholders in the implementation of ICTs in MSEs in the tourism sector.

The proposed model would also allow MSEs in the tourism industry, government agencies and policy makers to focus concurrently on the key factors that need to be addressed if ICTs were to be diffused within and utilized by MSEs in the country. Similarly, by analyzing an MSE using the model, it presents an opportunity for entrepreneurs to define where they are currently, and which quadrant they need to concentrate on to enhance ICT diffusion and utilization in accessing information.

The model proposed in this study has the potential to offer a structured approach to ICT exploitation through continuous utilization by MSEs in accessing information. The potential of this model should be further investigated to determine whether it could be

established as a tool for mapping performance improvement through the exploitation of ICTs.

## **7.5 Recommendations for Further Study**

The study focused on utilization of ICTs in accessing information by micro and small entrepreneurs in the tourism industry in Kenya. It has revealed several issues that require further research regarding factors that influence diffusion and utilization of ICTs by micro and small entrepreneurs in the tourism industry.

- Information needs factors were revealed to influence diffusion and utilization of ICTs by MSEs among other factors. A study should be replicated to find out, empirically, the degree to which information needs factors contribute to diffusion and utilization of ICTs as compared to other factors highlighted in the model, Figure 3.9 and the proposed model Figure 7.1.
- Lack of local content and ICT-enabled information systems emerged as a challenge to diffusion and utilization of ICTs by micro and small entrepreneurs in the tourism industry. A study should be done to explore strategies for developing information content and ICT-enabled information systems for MSEs in the tourism industry, more so those in the developing countries.
- Finally, a study should be done to find out why access to technology does not necessarily lead to its use, that is to find out factors and processes that influence utilization after the adoption decision has been made by MSEs in developing countries of Africa, particularly Kenya.

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## **APPENDICES**

### **Appendix A**

Diffusion and utilization of ICTs by micro and small entrepreneurs in the tourism industry in Kenya

#### **Interview schedule**

Dear Participant,

We are conducting a research on diffusion and utilization of ICTs by micro and small entrepreneurs in the tourism industry and we are asking you to spend a few minutes to answer a few questions and be assured that your response will be treated with utmost confidentiality.

The research sets out to explore factors that influence diffusion and utilization of ICTs in accessing, processing and disseminating information among micro and small enterprises in the tourism industry in the Kenyan urban centres, examine their influence on enterprises performance and assesses opportunities for ICT application in strengthening and developing information systems for micro and small scale entrepreneurs.

The outcome of the research will give some insight into the factors that have inhibited diffusion and use of ICT by micro and small enterprises in the tourism industry in Kenya and therefore provide stakeholders in this sector with remedial measures that need to be undertaken in addressing the challenges facing MSEs in this era of globalization and information society.

G. G. Njoroge

PhD Researcher

**SECTION A: BIO-DATA****Confidential****Interview  
schedule No:****Organization:** \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

- Q1** Please indicate whether you are  
(*Tick one Box*)
- |        |     |
|--------|-----|
| Male   | (1) |
| Female | (2) |
- Q2** **What is your age?**  
(*Tick one Box*)
- |            |     |
|------------|-----|
| Under 21   | (1) |
| 21 – 30    | (2) |
| 31 – 40    | (3) |
| 41 – 50    | (4) |
| 51 or over | (5) |
- Q3** **Please state your nationality**  
(*Tick one Box*)
- |             |     |
|-------------|-----|
| Citizen     | (1) |
| Non-citizen | (2) |
- If non-citizen, please specify nationality
- Q4** Please indicate your highest level of  
**educational achievement** (*Tick one box*)
- |               |     |
|---------------|-----|
| Primary       | (1) |
| Secondary     | (2) |
| College       | (3) |
| Vocational    | (4) |
| Graduate      | (5) |
| Post graduate | (6) |
- Q5** **Please specify the number of employees currently  
in your enterprise** (Full time equivalent including  
yourself)
- In the past two years has your labour force:**
- |             |     |
|-------------|-----|
| Expanded    | (1) |
| Contracted  | (2) |
| Not changed | (3) |

**SECTION B: The Enterprise****Q6** Please state the year in which your company  
was established

- Q7** Please specify the form of  
ownership of the enterprise  
(*Tick one box*)
- |                             |     |
|-----------------------------|-----|
| Citizen-owned               | (1) |
| Foreign-owned               | (2) |
| Joint foreign/citizen-owned | (3) |
| Foreign-owned subsidiary    | (4) |
| Franchise                   | (5) |
- Q8** Please state the type of your business  
(*Tick one box*)
- |             |     |
|-------------|-----|
| Micro scale | (1) |
| Small scale | (2) |

Q9. Please list the main products and/or services that are offered by your enterprise

---

Q10. What percentage of your total sales for the previous financial year, does it constitute customers from overseas?

---

Q11. What are the most important markets for your services?

---

Why is it so?

---

### **SECTION C: Information needs**

Q12. What sort of information do an MSE entrepreneur/ enterprise in the tourism industry require?

---

How easy is it to obtain such information?

---

Q13. What difficulties do you encounter in obtaining such information?

---

Q14. How can the provision of good quality information to your enterprise be improved?

---

Q15. What categories of information do you have or generate in your enterprise?

---

Q16. What information do you need most urgently in your business at the moment?

---

Q17. What sources of information and advice do you use in the day-to-day running of your business?

---

How often do you use these sources of information and advice?

---

---

Q18. How important have these sources of information and advice been to the success of your business? (Very important, important, not important)

---

---

Q19. What type of information do you most frequently receive?

---

---

Q20. What additional information would you like to have?

---

---

**SECTION D: ICTs diffusion and utilization**

Q21. Please indicate which methods/channels of communication are used most often in your everyday business dealings.

---

Q22. Which methods/channels of communication do you find most effective for promoting your products/services?

---

Q23. How do you store your business information?

---

Q24. What methods do you use to disseminate and share this information?

---

Q25. What sort of ICTs do you have in your enterprise? (For example computers, mobile phones, fax, etc)

---

How do you use them?

---

Q26. Please indicate the number of computers/PCs operating in your business

---

Are your computers networked?

---

Q27. To what extent do you use computers in your daily business activities? (Everyday, twice a week, once every month, never)

---

Q28. What software application programs are used in your business?

---

How compatible are they with the previous system/work procedure

---

---

Are they better than the previous system?

---

Q29. How do you access the Internet?

---

How frequently do you use the Internet?

---

If not. Why?

---

Q30. How is your enterprise applying key technology such as the Internet?

---

Q31. In your opinion do you think ICTs

- Facilitate decision making (Strongly agree, agree, undecided, disagree, strongly disagree)
- Enhance communication within the enterprise (Strongly agree, agree, undecided, disagree, strongly disagree)
- Enhance communication between enterprises (Strongly agree, agree, undecided, disagree, strongly disagree)
- Facilitate and enhance information processing and storage (Strongly agree, agree, undecided, disagree, strongly disagree)
- Facilitate and enhance information access (Strongly agree, agree, undecided, disagree, strongly disagree)

Q32. What is the percentage of your total Enterprise's annual income do you spend on ICTs (in Ksh '000)?

---

Q33. Please suggest ways in which ICTs can be used to enhance information access

---

Q34. In your opinion what steps should be taken to ensure the development of internal information systems among MSEs in Kenya

---

#### **SECTION E: Learning and sharing Knowledge**

Q35. How did you receive the basic skills of using ICTs (Internet, computers including the application programs?)

---

---

Do you enjoy exploring new tools? (Strongly agree, agree, undecided, disagree, strongly disagree)

---

Do you enjoy learning from other? (Strongly agree, agree, undecided, disagree, strongly disagree)

---

Q36. In your opinion do you think other enterprises/entrepreneurs have influenced you to acquire/utilize ICTs? (Strongly agree, agree, undecided, disagree, strongly disagree)

---

Q37. Do you have an ICT training plan for your staff?

---

If not, why?

---

**SECTION F: Change management**

Q38. Before the introduction of ICTs in your enterprise were there any studies conducted? If yes how was this done?

---

---

Q39. Does the supervisor/manager encourage the use of ICTs?

---

---

Q40. Name the important factors that will determine the success of your business over the next 2 –3 years?

---

---

Q41. In your opinion what will be the biggest problems/constraints which may prevent you from achieving your business goals?

---

---

Q42. Generally in what ways has the enterprise constrained your use of the ICTs?

---

---

Q43. How has the enterprise supported your use of ICTs?

---

---

Q44. How has the utilization of ICTs in accessing information affected the performance of your enterprise?

---

---

Q45. What impact do the ICTs have on staff efficiency in meeting the information needs of the enterprise?

---

---

**Thank you**

The interview schedule was informed by a questionnaire used by Duncombe and Heeks (2001) IDPM, University of Manchester URL: <http://www.man.ac.uk/idpm/ictsmeaf.htm>

## Appendix B

### INTERVIEW SCHEDULE FOR KEY INFORMANTS IN THE TOURISM INDUSTRY

Name of the researcher: George Gitau Njoroge

Course & University of study: Ph.D. Department of library, record management and information studies

Title of Research: *Diffusion and utilization of ICTs by micro and small entrepreneurs in the tourism industry in Kenya*

Position/Designation:

---

Q1. When did Micro and small enterprises in the tourism industry in Kenya first introduce ICTs?

---

Q2. Was a detailed analysis of system requirements carried out before the introduction of ICTs?

---

Q3. Were any studies conducted before the enterprises acquired ICTs?

---

Q4. How were the management and staff trained to use ICTs?

---

Q5. Briefly explain how ICTs have enhanced information access in the tourism industry in Kenya

---

Q6. What part did you/your organization play in facilitating the adoption of ICTs?

---

Q7. How accessible are the relevant service providers (e.g. for Internet, telephone and electric power supply and so on), whenever a need arises in these enterprises?

---

Q8. How do the enterprises cope with the need to adopt rapidly changing demands for improved hardware and software?

---

Q9. What impact do the ICTs have on staff efficiency in meeting the needs of the enterprises?



---

Q10. What impact do the ICTs have on the overall performance of the enterprises?

---

Q11. What other benefits do you feel have come as a result of these enterprises using ICTs?

---

Q12. What strategies have been put in place in order to enhance information access through ICTS?

---

If not, why?

---

---

**Thank you**

## Appendix C

Diffusion and utilization of ICTs by micro and small entrepreneurs in the tourism industry in Kenya

### Observation checklist

<b>Enterprise:</b>	Micro (1-9 employees)	<b>Comments</b>
	Small (10-50 employees)	
<b>Address:</b>	Nairobi	
	Eldoret	
	Mombasa	
<b>Number of computers</b>	New	
	Second hand	
<b>Type of computers/Model</b>		
<b>Computer Specification</b>		
<b>Information system in use:</b>		
<b>Databases</b>		
<b>Software used</b>	Proprietary	
	Free Open Source	
<b>Type of Network</b>		
<b>Internet Connection</b>	Type of connection	
	Speeds	
<b>Internet use</b>		
<b>E-mail/usage</b>		
<b>Website/ last updated</b>		
<b>Other ICTs:</b>	Fax	
	Telephone	
	Printer/type	
	VHF radios	

**Print material:** Newsletters, brochures, prospectors, leaflets: internal and external but focused on specific target groups;

**Observe any usage of the items above and skills demonstrated while using them:**

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## Appendix D

### REGULATED TOURIST ENTERPRISES UNDER CAP 381 OF THE LAWS OF KENYA (TILA licences)

Class	Category of tourist licence	Retain/Guillotine	Reason for retention/guillotine
A1	Tour/Safari Operator	Retain	Necessary to regulate to prevent malpractices in the industry
A2	Motor Vehicle Hire	Retain	Need to curb unroadworthy vehicles used in tourism businesses
A3	Local Air Charter Company	Retain	Important to ensure airworthiness of such planes for tourists' safety
A4	Travel Agencies (IATA-appointed agents)	Retain but omit <i>IATA-appointed agent</i> clause	Not all agents are IATA-appointed. Regulation important to ensure only trustworthy operators are licensed
A5	Water sports	Retain	Important to regulate boat operations to ensure they are seaworthy to carry tourists/prevent accidents
A6	Balloon Safaris	Retain	Need to regulate them to ensure safety of tourists
A7	Boat Excursions	Retain but under Class A5 (water sports)	Both activities are much related and need regulation to ensure safety of tourists
A8	Game Ranches	Retain	In order to ensure safety of tourists to such ranches which tend to be less regulated as majority are private-owned
B1	Proprietors, owner-drivers and self-employed drivers of passenger vehicles used partly or wholly in tourism business	Retain	Most operators under this class lack high capital base hence apt to engage in malpractices if unregulated
B2	Safari outfitters including shopkeepers, staff-holders and any other person offering garments of souvenir value for sale to tourists as a substantial part of their business	Guillotine	Can be adequately licensed under the municipal council by-laws
B3	Game-Fishing Outfitters	Guillotine	Can be adequately licensed under the Department of Fisheries
B3	Proprietors of enterprises offering camps and camping equipment for hire	Guillotine	Can be adequately licensed under the Local authority by-laws
B5	Motorcycle and Bicycle Hire	Retain	Crucial for ensuring safety of tourists
B6	Nature Parks	Guillotine	Can be adequately licensed under the Local authority by-laws and KWS
B7	Amusement Parks	Guillotine	Can be adequately licensed under the

<b>Class</b>	<b>Category of tourist licence</b>	<b>Retain/Guillotine</b>	<b>Reason for retention/guillotine</b>
			Local authority by-laws
B8	Non-Citizen Tour Leaders/Guides	Retain but under class A9 where they would pay more	Need to regulate to ensure they do not compete unfairly with the local guides
C1	Shopkeepers, stall-holders and any other person offering for sale to tourists as a substantial part of their goods made from indigenous raw materials and manufacturers of such goods	Guillotine	Can be adequately licensed under the Local authority by-laws
C2	Local Traditional Boat Operators	Retain but under class A5	Need to regulate them to ensure safety of tourists
C3	Professional Safari Photographers	Guillotine	Can be adequately licensed under the Film Production Department
C4	Travel bureau or booking offices other than those of an airline which operates international routes and does not carry any tourist activities in Kenya	Guillotine	Travel bureau rarely exist solely but as a desk among tour operators
C5	Interpreters	Guillotine	Most are foreigners on special pass who rarely stay in the country for more than 3 months
C6	Private Zoos	Guillotine	Can be adequately licensed under the Kenya Wildlife Service Acts
C7	Cultural Centres	Retain but as a free licence	Necessary to promote upcoming community tourism
C8	Citizen tour leader/driver/ guides	Retain	Necessary to ensure professionalism in the industry