



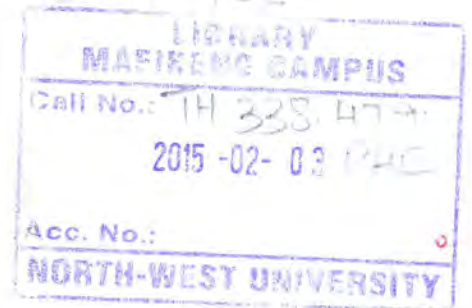
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TOURISM SMME ADOPTION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN NGAKA MODIRI MOLEMA DISTRICT OF THE NORTH WEST PROVINCE OF SOUTH AFRICA

BY

S. H. PHETLHE

**Mini –dissertation submitted in partial fulfillment of the requirements for the degree
Master of Business Administration (MBA) at the Mafikeng Campus of the North-West
University**




SUPERVISOR: PROF. THEUNS PELSER

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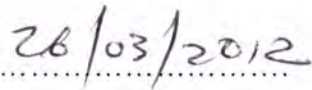
DECLARATION

I, **Sybilon Herman Phetlhe**, declare that the mini-dissertation hereby submitted in partial fulfillment of the Masters Degree in Business Administration is my own work and has not been previously submitted by me for any degree at any University. It is my own work in design and execution. The material herein has been duly acknowledged.



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Signature



.....

Date

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Last but not least I dedicated this study to my late parents Raphakwa and Senani Phetlhe

ABSTRACT

This paper reports on the investigation of ICT adoption of tourism SMMEs in Ngaka Modiri Molema District of the North West Province in South Africa. Self-administered questionnaires were distributed to 200 tourism enterprises with the response rate of 68%. The results indicate, that the level of adoption of ICT is highly influenced by the perception of ICT adoption of tourism SMMEs. Most of the tourism SMMEs use ICT for business purpose and factors such as size of enterprise; location of enterprise; knowledge among owners; improvement of business performance in terms of revenue and financial resources and initial ICT costs have an impact on ICT adoption by tourism enterprises.

Keywords: ICT, SMME, ICT adoption

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ABBREVIATIONS

ASGISA – Accelerated and Shared Growth Initiative for South Africa

CRS – Computer Reservation systems

ERP – Enterprise Resource Planning

GDS – Geographic Distribution System

GIS – Geographic Information System

GPS – Global Positioning System

ICT- Information and Communication Technology

KMS – Knowledge Management System

OECD – Organisation for Economic Co-operation and Development

MMS – Multi-media Message System

NMMD – Ngaka Modiri Molema District

SMS – Short Message System

SMME – Small Medium Micro Enterprise

WiFi – Wireless Fidelity

WiMAN – Wireless Metropolitan Area Network

VOIP – Voice-Over Internet Protocol

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CHAPTER ONE

STUDY ORIENTATION

1.1. Introduction

The diffusion and adoption of Information and Communication Technology (ICT) and its wide usage have transformed the way of communication as well as the processes through which human beings traditionally perform their exchange functions. Businesses are, one of the advantageous groups, achieving their competitiveness in utilizing ICT to perform their promotion, communication, customer service and exchange functions. Cost, convenience, speed, efficiency and other uniqueness of the technology are the stimulating factors of successfully utilizing ICT in different functional areas.

The issue of Small-Micro-Medium-Enterprises (SMMEs) utilizing ICT to maximize profit has come into sharp focus in recent times. The opportunity for SMMEs to exploit information and communication technology has increased due to the improved affordability and sophistication of computing equipment, along with the development and utilization of the Internet (Jones et al., 2003). In his paper, McGregor (2003) argues that SMMEs have been slow to adopt ICT use despite the profound benefits these businesses should be able to achieve. This portrays the need to determine what factors contribute to the levels of adoption of ICT by one of South Africa's most important business sectors, the tourism sector with specific reference to SMMEs in the Ngaka Modiri Molema District (NMMD) of the North West Province.

In South Africa, SMMEs, as enterprises have some economic roles to fulfill. They contribute to a country's national product by either manufacturing goods of value, or through the provision of services to both consumers and/or other enterprises, encompassing the provision of products, and to a lesser extent, services to foreign clients, thereby contributing to overall export performance. From an economic perspective, SMMEs are not just suppliers, but also consumers, who have an important role to play if they are able to position themselves in a market with purchasing power.

The accommodation sub-sector of the tourism industry, which has been a particular focus for attention concerning the birth, development and dynamics of tourism SMMEs, is a prime example of a sector that has been profoundly impacted by ICT (Thomas, 2004). The diffusion and adoption of ICT in various sectors and organizations represents a key area of investigation. In recent years, quite a number of studies have been done on the barriers to ICT adoption by SMMEs (MacGregor, 2003; Jones et al., 2003; Teo et al., 2004:98). Within the context of disintermediation and info-mediation, understanding what reasons are used for SMMEs to adopt ICT, and for what purposes, have become important research questions (Raymond, 2001). A review of studies from researchers in this area reveals the importance of further research into perceived barriers to ICT adoption by SMMEs as well as factors which influence the decision to adopt and implement ICT in their businesses (Pease and Rowe, 2003; Lawson et al., 2003; Jones et al., 2003; MacGregor, 2003; and Jensen, 2003). Pease and Rowe's (2003:2) and Kiong (2004:19) identified a number of internal and

external factors affecting the adoption of ICT by SMMEs and in their study of the factors which influenced ICT adoption by regional SMMEs, the authors established the need for ICT adoption, as well as facilitating a broader understanding of why SMMEs have been slower in their uptake of ICT compared to big businesses.

This study investigates the factors that influence the adoption and use of ICT by tourism SMMEs in the Ngaka Modiri Molema District of the North West Province of South Africa.

1.2. Problem Statement and Motivation

Tourism SMMEs arguably form a significant proportion of economic development in South Africa. In South Africa, the government encourages the development of SMMEs as a part of an industrial portfolio to complement existing businesses and industries. More importantly, SMMEs have been promoted as one of the tools driving the Accelerated and Shared Growth Initiative for South Africa (ASGISA), introduced in 2006.

The reasons for concentrating on this topic are two-fold:

- The existence of limited research on ICT adoption by SMME businesses in developing countries, particularly in Africa; and
- The virtual lack of research on ICT adoption by SMME businesses in the Ngaka Modiri Molema Region of South Africa.

In the literature, much of the research done on ICT has focused on developed countries (Banker and Kauffman, 2004; Grandon and Pearson, 2004; Mbarika et al., 2005). According to Molla and Licker (2005), the adoption of ICT by businesses in developing countries, especially Africa, has not been sufficiently researched. Considering the limited research in ICT adoption by businesses in developing countries, one might ask whether the results from such studies done in developed countries are applicable to developing ones. Most definitely, findings from developed countries cannot be directly transferred to developing countries. In fact, in their paper, Dewan and Kraemer (2000) showed that differences in country-contexts can lead to different ICT use and impact patterns. A buttress to this assertion is provided by the findings of Clarke (2001). The non-transferability of findings from developed-country-based studies is not the only reason for the necessity of this study, but also because of limited understanding of what drives ICT adoption among businesses in developing countries (Molla and Licker, 2005). The need for more research to improve understanding of the drivers of ICT adoption in developing countries is, therefore, important.

1.3. Scope of this study

This study focuses on Ngaka Modiri Molema District of the North West Province of South Africa only. It will not, by any means, try to generalize the findings from the adoption of ICT by tourism SMMEs in Ngaka Modiri Molema Region to the North West Province as a whole. Such a generalization can only be done when all four regions making up the North West Province are covered in a study.

1.4. Study Aims and Objectives

The overall aim of this study is to identify the factors affecting the adoption of ICT by tourism SMMEs. Through a study of adoption patterns of in Ngaka Modiri Molema District of the North West Province of South Africa. The aim of the research were met through the following objectives:

- Determining the level of ICT adoption by tourism SMMEs in Ngaka Modiri Molema District;
- Determining the factors affecting adoption and non-adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District;
- Determining the level of perception about and awareness of ICT by tourism SMMEs in Ngaka Modiri Molema District;
- Assessing the benefits realized by tourism SMMEs in Ngaka Modiri Molema District by adopting ICT.
- Examining the factors that could be hindering the adoption of ICT among tourism SMMEs in Ngaka Modiri Molema District.
- Determining which disadvantages of ICT adoption are the most significant for tourism SMMEs in Ngaka Modiri Molema District.
- Determining the business profile of tourism SMMEs in Ngaka Modiri Molema District have any association with the factors, benefits or disadvantages of ICT adoption.
- Determining which benefits of ICT adoption contribute most to the viability of tourism SMME businesses in Ngaka Modiri Molema District.

1.5. Significance of the Study

South Africa has the technological infrastructure comparable to most developed nations, and an existing core of businesses that have harnessed the commercial capability of the Internet. However, the adoption and use of ICT in South Africa, especially among small businesses, is considered to still be in its infancy, when compared with the rest of the world.

This study is significant for a number of reasons. Firstly, it will help fill the knowledge gap about ICT adoption in the North West Province of South Africa, and aims at identifying the factors that are important for encouraging willingness to adopt ICT. Secondly, the study will focus on a relatively unexplored and important sector in South Africa in general and the North West Province, in particular - the tourism SMME sub-sector of the tourism industry. The role and importance of tourism SMMEs in job creation and economic growth has been talked about at length. It is hoped that this new knowledge would help researchers and practitioners alike to better understand the factors that influence ICT acceptance and adoption among tourism SMMEs in Ngaka Modiri Molema District. Such an understanding can be useful for government authorities and private businesses in drawing guidelines on how to encourage and motivate widespread adoption of ICT in the North West Province (Kiong, 2001).

1.6. Structure of the Study

The research study will consist of five chapters, as shown in Figure 2. In Chapter 1, an orientation to the research study was given as well as conceptual framework which will be followed. Chapter 2 presents a review of the relevant literature while Chapter 3 focuses on the research methodology used. In Chapter 4, the data is analyzed and empirical findings discussed. Chapter 5 presents the summary of the study, implications of the findings, and limitations of the study together with recommendations for future research.

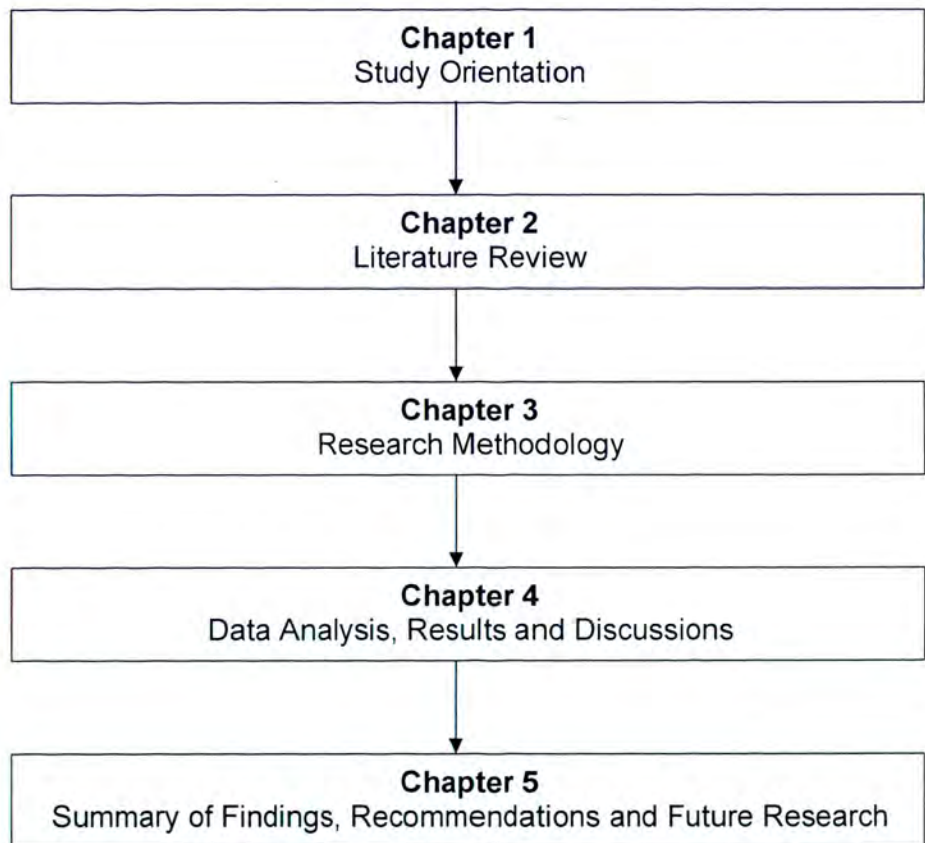


Figure 1.1: Structure of the Study

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Information and Communications Technology (ICT) currently play a prominent role in the field of commerce and trade. While the developed world forges ahead with e-transformation of businesses, the developing world struggles to keep pace with emerging technologies. In challenging the global society, effective use of ICT is critical for the success of businesses especially SMMEs (Kapurubandara and Lawson, 2006:1).

According to Hinson and Boateng (2007:1), in the past 30 years, the tourism industry has been influenced by three major waves of information and communication technologies (ICT): the Computer Reservation System (CSR) in the 1970s; the Global Distribution System (GDS) in the 1980s and the Internet from mid 1990s onwards. Internet seems to have had the strongest impact on the tourism sector as cited from The European E-Business Market Watch (2004).

Kapurubandara and Lawson (2006:3) state that SMMEs are vital to the economy in any country, in terms of wealth and number of people employed. With the development of ICT and the shift to a knowledge-based economy, e-transformation and the introduction of ICT is becoming an increasingly important

tool for SMMEs, both to reinvigorate and promote growth of the national economy.

Kapurubandara and Lawson (2006:2) indicate that despite advances in ICT and the acceptance by large organisations of such technologies, the same level of adoption is not evident among SMMEs.

SMMEs face significant and unique challenges in adopting ICT and e-commerce (Kapurubandara and Lawson, 2006:2). Despite the opportunities offered by ICT, its use within SMMEs in both developing and developed countries is plagued with many problems (Apulu and Latham, 2009:64).

2.2 What is ICT?

ICT is a broader term that involves the processing of information and transmission thereof. Information Communication Technology (ICT) is an umbrella term that encompasses a wide array of systems, devices and services used for data processing as well as telecommunications equipment and services for data transmission and communication (e-Business Watch, 2008:13). ICT is a broad terminology referring to multiple communication technologies which range from simple and complex namely Cell Phone applications (SMS/MMS), Digital Camera, Internet, Wireless (WiFi and WiMAN), VOIP, GPS, GIS, Convergence (data,voice, media), and Digital radio (Apulu and Latham, 2009:16; Shanker, 2008:50).

From an economic and management point of view ICT has been regarded as a social construction, an information provider, an infrastructure – hardware and software, and business process and system. From marketing point of view ICT has been viewed as: “variety of separate applications (Internet, Databases, PowerPoint), a marketing channel, a communication/promotional medium, a marketing technique, and a tool for relationship marketing. ICT is therefore more than just computers or the internet” (Barba-Sanchez *et al.*, 2007:105).

2.3 Tourism SMMEs

It is generally known that SMMEs are very important to the economy of most countries. They play a very important role in economic growth. SMMEs are the biggest employers of job-seekers and play an extremely important role in innovation.

Different countries use different parameters to define SMMEs. Some use the number of employees, amount of capital invested, amount of turnover or nature of business (Kapurubandara and Lawson, 2006:3). In South Africa SMMEs are defined according to the National Small Business Act 102 of 1996 s1 (xv) as:

- as separate and distinct business entity,
- managed by one owner or more
- include its branches or subsidiaries, if any, predominantly carried on in any sector or sub-sector of the economy

- mentioned in schedule classified as small or a medium enterprise by satisfying the criteria mentioned in the schedule
- based on number of employees, total turnover and total assets as outlined on Table 2.1.

Table 2.1: Definition of SMMEs in South Africa

Micro enterprise	Micro enterprises have less than 5 employees, total turnover of less than R0.20m
Small enterprise	Small enterprise have between 5 and 50 employees and has turnover of R6m or less
Medium enterprise	Medium enterprises have fewer than 200 employees and turnover of R13m or less

(Adapted from National Business Amendment Act no. 26 of 2003:5)

Karanasios and Burgess (2006:3) states that the vast majority of tourism enterprises around the world can be classified as small and medium-sized tourism enterprises. Most of them are micro enterprises (less than 5 employees) that generate a small amount of revenue and are dominated by family businesses, particularly in rural areas.

Small tourism enterprises in general are characterised as being:

- 1) Resource poor;
- 2) Having basic technology needs;
- 3) Informal in nature;
- 4) Family owned and relying on family labour;
- 5) Operating in niche markets and not in direct competition with larger enterprises;
- 6) Suffering from information scarcity; and
- 7) Being in an environment where managerial and financial factors can contribute to business failure.

These characteristics suggest that small enterprises face many challenges to adopting new technology (Karanasios and Burgess, 2006:3).

Types of enterprises that comprise the tourism industry are: (1) tour operators; (2) travel agents; (3) tourist guide services; (4) airlines; (5) transport bureaux; (6) restaurants and cafes; (7) hotels and guesthouses; (8) museums and historical sites and buildings; (9) sports and recreational sports services; (10) nature reserve services; (11) tourism education and training institutions; and (12) craft industries (Hinson and Boateng, 2007:3).

2.4 ICT Adoption, use and diffusion by Tourism SMMEs

Tourism has been identified as one of the priority sectors in the South African Government's Micro-Economic Reform Strategy (MERS) of 2002 and continues

to be one of the sectors that has shown substantial growth in terms of job creation and its contribution to Gross Domestic Product (GDP). The South African tourism industry is characterised by a predominance of SMMEs, with the established enterprises largely white-owned and emerging enterprises generally black-owned. Only a handful of large operators exist (Verhoest, James, Marais and Van Audenhove, 2007:172).

According to Verhoest et al. (2007:172), a preliminary study on ICT diffusion in cultural tourism, and the only one which has been carried out to date in the South African tourism sector, provides evidence that access to ICT is problematic due to high costs ICT equipment, with generally low levels of understanding of ICTs.

According to Taylor (2003), as cited by Golding, Donaldson, Tennant and Black, (2008:6), SMMEs are not homogeneous set of businesses as they vary significantly by size, age, sector, motivation, mode of organisation, ethnic background, location, knowledge base, power and control of resources and innovative capacity. Small and medium size sectors such as tourism tend to be time and resource poor, with their size being the main disadvantage in adopting ICT.

2.4.1 Use of ICT in tourism

Contemporary information society has made Tourism a highly information-intensive industry as ICT has a potential impact on tourism business. The use of

ICT in the tourism industry cannot be underestimated and is a crucial driving force in the current information driven society (Shanker, 2008:51). ICT has been revolutionising tourism sector over the years (Hoonstrakul and Sahadev, 2005:1). It has provided new tools and enabled new distribution channels, thus creating a new business environment. The role of ICT tools in the industry for marketing, operation, and management of customer is widely known (Shanker, 2008:51). Table 2.2 indicates the potential use of ICT tools in tourism industry.

Table 2.2: Potential use of ICT tools in tourism industry

Different aspects of industry	Application
Site development:	Geographic Information System used for identification of Tourism site and destination
Marketing:	Advertisement, promotion
Operations:	Buying and management of supplies and services
Customer services:	Management of customer relationships through booking travel, lodge etc.
Monitoring:	Geographic Information System and Global Positioning System is also used for managing and monitoring tourist sites

(Source: Shanker, 2008:51)



The following are factors that influence the application of ICT in tourism (Shanker, 2008:52):

1. Information Technology education and training for policy makers, managers and other players in the industry.
2. Integration of various sectors like transport, lodge, hotels, restaurants and entertainment.
3. Technical Infrastructure.
4. Human infrastructure, which includes skilled people, vision and management.
5. Legal infrastructure
 - Regulation of telecommunication providers.
 - Subsidies for Internet service providers.
 - Legal framework for online advertisement or official endorsement for online marketing.
6. ICT culture
 - Create and sustain the ICT environment.
 - Maintenance and updating of websites.
 - ICT training for all level of workers.
 - Establish electronic linkages between all related sectors.

Even though the use of ICT in tourism industry cannot be underestimated and has been revolutionizing tourism the above stated factors such as, skills and technical infrastructure, have an influence use ICT by tourism enterprises.

2.4.2 Impact of ICT on tourism SMMEs

Technological progress in the recent years has made tourism enterprises across the globe more innovative than ever before. Following are three important innovations which have redefined the organisational structure of world tourism industry (Shanker, 2008:53), namely:

1. Development of the Computer Reservation System (CRS).
2. Development of the Global Distribution System (GDS).
3. The Internet.

A Computer Reservations System (CRS) is a computerised system used to store and retrieve information and conduct transactions related to air travel. CRS was originally designed and operated by airlines; it was later extended to be used by travel agencies. GDS refers to the network connection integrating the automated booking systems of different organisations which enables the user to access it through the intermediation of a travel agency. The supply of services is presently concentrated with four global suppliers owned by airline companies

namely Sabre, Amadeus, Galileo International and Worldspan (Shanker, 2008:53).

According to AL-allak (2010:88) numerous studies show that the tourism and hospitality industry has been transformed by ICT. The Internet has dramatically changed the way in which consumers plan and buy their holidays and other tourism products.

AL-allak (2010:88) and Shanker (2004:1) indicate that the World Wide Web has profoundly changed the production, distribution and consumption of tourism products and concludes that ICT is probably the strongest driving force for changes within the tourism and hospitality industry.

ICT is the major contributor to the achievement of competitive advantage. Adoption of ICT has leveraged the effectiveness and efficiency of the tourism industry, thus enabling it to achieve sustainable competitive advantage.

In Egypt, Syria and Lebanon, which represents major tourism destinations in the Arab region, the Internet is used mainly as marketing tool, mostly for promotional activities by SMMEs. Among tourism SMMEs in Turkey, a major tourist destination in the Middle East, only 26% had Internet access, and only 11% of those with access incorporated the Internet into meaningful marketing information system (AL-allak 2010:89).

Tourism SMMEs are slow in adopting ICT in their business due to resource constraints. A number of challenges that reduce the uptake of ICT by tourism SMMEs worldwide include lack of training and capital, limited understanding of the potential of technology, and lack of clear business strategies.

AL-allak (2010:90) also states that other organisations in the tourism industry seem to face different kinds of problems and challenges in this domain. Destination marketing organisations (DMOs) are facing intriguing challenges to provide quality information online in an era of information overload. Insufficient knowledge of tourists' online information preferences and search behaviour has hindered them from effective information management.

2.4.3 Factors that determine adoption of ICT by tourism SMMEs

According to Sahadev and Islam (2005:172), the adoption and usage of ICT in the tourism sector has not been very uniform. The extent of adoption and usage has varied across countries as well as among enterprises within the country. It has been observed that the adoption of ICT is determined by factors such as size of the enterprise and the target market of the enterprise. The factors that determine adoption of ICT by tourism SMMEs are classified into three major categories (Sahadev and Islam, 2005:173; Hoontrakul and Sahadev, 2005:4):

Location related factors: refers to the characteristics of the enterprise location, which could have an influence on the intensity of the use of ICT. The geographical location of the enterprise determines the profile of its visitors, the

size of its market and the level of competition it has to face. Based on the profile of visitors, the size of the market, or intensity of competition tourism SMMEs may differ in their levels of adoption.

Enterprise related factors: size of enterprise (e.g. number of hotel rooms), the scope of activities in terms of activities the tourism enterprise is engaged, the grade of the establishment, and age of the enterprise. Large tourism enterprises have been found to be more resistant to change than small enterprises and this only happens as long as the investment is not considered. Tourism enterprise with varied lines of activities would find more use in adoption of ICT than enterprises with relatively less span of activities. The grade which indicates the economic class of the establishment target market may influence adoption of ICT. Establishments of higher grade which targets the high economic class may be more inclined to adopt ICTs due to demand by the customers as well as to enhance their image. Age also is a major influence in adoption of ICT since new establishments find it easier to adopt new technologies that need a complete revamp of the existing system. Several technologies like the installation of an organisation wide property management system will require large scale reorganization of the enterprise which will be highly resisted in old enterprises and will be much easily accomplished in relatively new ones (Hoontrakul and Shahadev, 2005:7).

The technological resources of the enterprise: effective adoption of several ICT technologies requires a substantial investment of resources. Lack of resources may affect the inclination of small enterprises to adopt costly ICT.

2.5 Barriers to ICT adoption

This section outlines recent literature on the barriers for adoption of ICT by SMMEs. A variety of factors that affect SMMEs adoption of ICT have been identified and grouped into several categories. According to Kapurubandara and Lawson (2006:2) despite advances in IT and the acceptance by large organisations of such technologies, the same level of adoption is not evident among SMMEs. The challenges faced by SMMEs in adopting ICT are significant and unique from those faced by large organisations. According to Mpye, Osman and Van Belle, (2007:1) micro businesses have the following barriers to ICT usage: enterprise awareness and access to infrastructure, ICT use among business partners, confidence in security framework, and adaptation of business process.

e-Business Watch (2006:71) indicates that seven reasons were suggested when those companies that claimed that e-business does not all constitute a significant part of the way the company operates:

1. The small size of the company.
2. Costs of e-business technologies.
3. Complexity of e-business technologies.

4. Lacking compatibility of technologies.
5. Security risks and concerns about privacy issues.
6. Perceived unsolved legal issues.
7. The difficulty to find reliable IT suppliers.

Many studies have been carried out in developed countries to investigate the factors that inhibit adoption of ICT and e-commerce. The differences between developed and developing countries do not support generalising the findings for developed countries to developing countries. SMMEs in developing countries are faced with barriers that are specific to them, some more pronounced than would be in the case for SMMEs in developed countries (Kapurubandara and Lawson, 2006:2).

SMMEs are hindered in adopting the technologies due to internal and external barriers. Internal barriers are organizationally related, whereas external barriers arise due to infrastructure (technological, economic), political, legal, social and cultural barriers that exist in the country (Kapurubandara and Lawson, 2006:2). In order to adopt ICT these barriers need to be addressed as they both affect SMMEs. The factors identified relate to three major categories: owner/manager characteristics, organisation characteristics, and costs and return on investment characteristics (Kapurubandara and Lawson, 2006:4).

2.5.1 SME owner manager characteristics

The owner/manager plays an important role in decision making in SMMEs. According to Manuel, Latu and Koh (2007:177) and Mpofu, Milne and Watkins-Mathys (2009:4), business action is driven from the key decision-makers responsible for defining appropriate ICT goals and identifying critical ICT business needs and allocating financial resources to facilitate ICT adoption. Hence it can be concluded that a number of factors that affect the adoption of ICT relate to owner/manager characteristics. Owner's lack of awareness of the technology, perceived benefits, lack of knowledge, low computer literacy, mistrust of the IT industry and lack of time are major barriers to adopt ICT. The SME owners are more concerned on the return of their investments and are more reluctant to make substantial investments particularly when short-term returns are not guaranteed (Cloete, 2001; Dakela and Warden, 2005:5; Kapurubandara and Lawson, 2006:4; Mpye *et al.*, 2007:3; Mpofu, Milne and Watkins-Mathys, 2009:4).

Owner/managers viewed as more entrepreneurial, risk-takers, innovative and invariably creative are considered to be critical to the organisational readiness for ICT adoption (Barba-Sanchez *et al.*, 2007: 107; Mpofu, Milne and Watkins-Mathys, 2009: 4; Golding *et al.*, 2008:6)

Age and experience of owner managers are some of the distinctive characteristics which influence on ICT adoption in small businesses. In terms of age the second generation (youthful) business owners are more receptive to ICT

than their first generation (elderly) counterparts. The second generation (youthful) business owners are viewed as been born and educated during the era characterised by advanced technologies and applications compared to the first generation (elderly) counterparts which were not exposed to these technologies and applications (Mpofu, Milne and Watkins-Mathys, 2009.:4).

According to Mpofu, Milne and Watkins-Mathys (2009:4), social networks also play a crucial role in driving or inhibiting ICT adoption in SMMEs. Size, type and the nature of social links and preference for personal friendships and contacts may have positive or negative influence on ICT adoption in SMMEs. The social networks are crucial to small business owners for sharing information, business experience and technical knowledge especially if SMMEs are experiencing resource constraints which inhibit ICT adoption, formal training and effective innovation as well as growth (Mpofu, Milne and Watkins-Mathys, 2009:17). Information filters through networks and depending on the nature of the networks and the roles of its opinion leaders, new innovations are either adopted or rejected. Opinion leaders can be small business owner managers, friends or other members of the social network who can explain advantages, disadvantages and benefits of ICT adoption through personal contact. These are viewed as intermediaries who can effectively communicate the benefits of ICT adoption and applications in SMMEs (Mpofu, Milne and Watkins-Mathys, 2009:5).

2.5.2 Small enterprise characteristics

Some other factors related to the characteristics of the organisation are current level of technology usage within the organisation, lack of awareness, uncertainty about the benefits of electronic commerce, concerns about lack of human resources and skills, set-up costs and pricing issues, concerns about security, low use of e-commerce by customers and suppliers, concerns about legal and liability aspects, high costs of development and computer and networking technologies for e-commerce. Limited knowledge of e-commerce models and methodologies and unconvincing benefits and limited resources have been identified as barriers to adoption of ICT by SMMEs (Cloete, 2001:4; Kapurubandara and Lawson, 2006:6; Mporu, Milne and Watkins-Mathys, 2009:3).

SME studies of e-commerce issues in developed countries indicate that issues faced by SMMEs in developed countries can be totally different from those experienced by SMMEs in developing countries. Some of these are lack of telecommunications infrastructure (includes poor Internet connectivity, lack of fixed telephone lines for end user dial-up access, and underdeveloped state of Internet Service Providers), lack of qualified staff to develop and support e-commerce sites, lack of skills among customers needed in order to use the Internet, lack of timely and reliable systems for delivery of physical goods, low bank account and credit penetration, low income and low computer and internet penetration (Jacobs and Herselman, 2006:296; Kapurubandara and Lawson, 2006:2).

2.6 Benefits of ICT

Barba-Sanchez *et al.* (2007:110) and Organisation for Economic Co-operation and Development (2004:9) suggest that on the whole ICT applications can provide several benefits across a wide range of intra- and inter- business operations and transactions.

2.6.1 Intra-enterprise level

At intra-enterprise level ICT and its application can (OECD, 2004:9):

- Make communication within the enterprise faster.
- Make the management of the enterprise's resources more efficient.
- Increases the efficiency of transferring information of shared electronic files and networked computers through business processes such as documentation, data processing and other back-office functions (e.g. organizing incoming orders and preparing invoices).
- Allow enterprises to store, share and use their acquired knowledge and know-how through sophisticated ICT applications such as KMS (Knowledge Management System) and ERP (Enterprise Resource Planning).
- Disseminate employees' professional experience from which others can learn.

2.6.2 Inter- enterprise level

At intra-enterprise level ICT and its application can (OECD, 2004:9; Barba-Sanchez *et al.*, 2007:110):

- Contribute to improved information and knowledge management inside the enterprise; can reduce transaction costs; and can increase the speed and reliability of transactions for both business-to-business (B2B) transactions and business-to-customer (B2C) transactions.
- Reduce inefficiencies resulting from lack of co-ordination between enterprises in the value-chain.
- Improve external communications and quality of services for established and new customers.
- Increase the adoption of new organizational, strategic and managerial models.
- Enable the access to new environments as well as the generation of new markets and business models.
- Improve the qualification and specialization of human resources, which increases the efficiency and efficacy.

2.7 Theoretical Approach

Since there are many benefits potentially available from the Internet, more and more companies especially small and medium scaled enterprises (SMMEs) are

moving towards adoption of ICTs (Tan and Eze, 2008:1). There are a lot of issues to be considered when technologies are being introduced in areas where there has never been any form of technology before. For example, who are the possible adopters? Do they have substantial reasons to adopt the innovation? Would the community perceive the need to adopt the innovation (Mapi *et al.*, 2008:75)?

According Mapi *et al.* (2008:75) and Tan and Eze (2008:1), diffusion is a process by which an innovation is communicated through certain channels over a period of time among the members of a social system. It is a process that begins with the introduction of the innovation to the population and ends when the population fully adopts it.

An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption (Tan and Eze, 2008:1). Serrat (2009:2) defines innovation as successful exploitation of new ideas, a profitable outcome of creativity, which involves generating and applying in a specific context a products, services, procedures and processes that are desirable and viable. Innovation is a paradigm shift, a new path or pattern adopted by an individual or society; it is where customers change their old patterns and use the new product (Frey, 2002:4).

Adoption is a decision to make full use of an innovation as the best course of action whereas rejection is a decision not to adopt an available innovation (Tan

and Eze, 2008:2). According to Mapi *et al.* (2009:75), Rogers differentiate diffusion from adoption in that diffusion process occurs within a society to all different groups, whereas adoption has to do with the individual's feelings and needs.

2.7.1 Diffusion of Innovation Theory

Diffusion of Innovation (DOI) theory is concerned with social psychological or sociological theory. This theory is used to describe the patterns of adoption, explain the mechanism and assist in predicting whether and how a new invention will be successful (Rogers. 1983) as cited by Tan and Eze (2008:1). According to Braun (2004:232) and Golding *et al.* (2008:4), Roger's innovation theory is the most frequently cited theory by most researches on diffusion of innovation and still stands as the dominant model in the field.

The important perceived characteristics of innovations in or components of DOI as outlined by Tan and Eze (2008:1); Badnjevic and Padukova (2006:13) and Golding *et al.* (2008:5) are the following:

- **Relative advantage**

Relative advantage refers to the degree to which an innovation is perceived to be better than its predecessor in terms of economic profitability, low initial cost, a decrease in discomfort, savings in time and effort, and the immediacy of the reward. Relative advantage is expressed by perceived benefits (Golding *et al.*,

2008.:4). The greater the benefits perceived by the SMMEs the higher the possibility of ICT adoption (Alam and Noor, 2004:114).

- **Compatibility**

Compatibility refers to consistency with existing values, beliefs, past experiences and needs of potential adopters. Faster rate of adoption occurs when an adopter perceives an innovation as meeting the needs of the client. The organisation should determine the needs of their customers and recommend innovations that fulfill those needs (Golding *et al.*, 2008:4). As needs are met the adoption will occur.

- **Complexity**

Complexity is the degree to which innovation is perceived as being relatively difficult to understand and use. The perceived complexity of an innovation is negatively related to its rate of adoption. Adoption of innovations indicates that the adoption of complex technologies requires organizational personnel to possess sufficient technical competencies (Golding *et al.*, 2008.:4).

- **Trialability**

Trialability means the degree to which an innovation can be used on a trial basis or experimented with before confirmation of the adoption occurs.

- **Observability**

Observability is the degree to which the potential adopter perceives that the results of an innovation are visible to others. Displaying an innovation's superiority in a tangible form will increase the adoption rate.

- **Organisational attributes**

According to Golding *et al.* (2008:5), the impact of organizational attributes on the adoption of ICT has been identified in the literature as an area that warrants further attention. SMMEs are not homogeneous set of business as they vary significantly by size, age, sector, motivation, mode of organisation, ethnic background, location, knowledge base, power and control of resources, and innovation capacity. All these characteristics can directly affect the organisations' adoption of ICT.

Golding *et al.* (2008:5) indicates that small and medium size sectors such as tourism tend to be time and resource poor, with size being the main disadvantage in the adoption of ICT.

- **Management attributes**

According to Golding *et al.*, (2008:5), previous research suggested that managers/owners are a key influence determining use of ICT which is impacted by their attitudes, level of ICT skills, and management orientation.

Managers/owners of SMMEs that are attracted to ICT tend to be entrepreneurial, innovative and risk-takers (Golding *et al.* (2008:5). Education and professional background, attitude and age of manager/owner are significant factors to the adoption of ICT (Braun, 2004: ; Golding *et al.* (2008.:5).

- **ICT Security and Confidentiality**

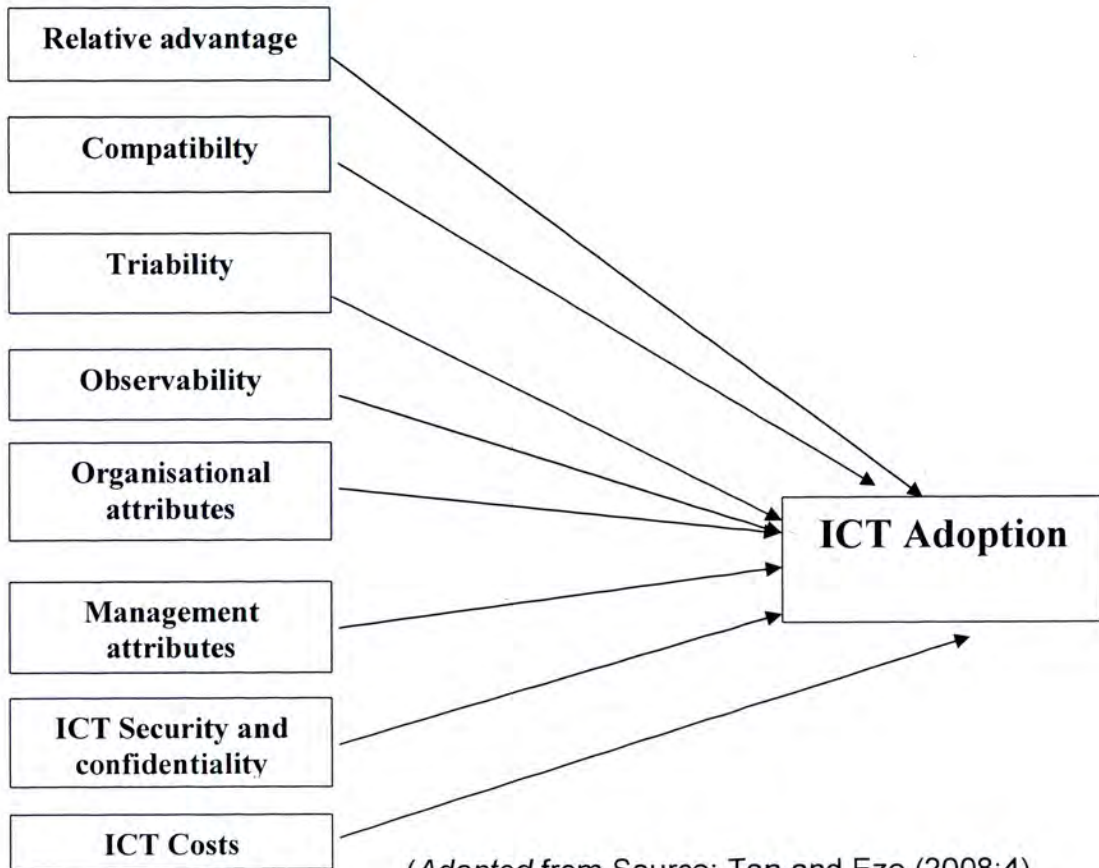
Tan and Eze (2008:3) state that literature review shows that ICT security and confidentiality is one of the main reasons that determine innovation adoption. Many consumers are reluctant to embrace e-commerce mainly because of their concerns towards security issues and lack of confidence in the current e-commerce set-up. Major concerns for SMMEs are data confidentiality with issues related to immature electronic payment methods, Internet security, and limitation of legal framework (Tan and Eze, 2008:3).

- **ICT Cost**

ICT cost refers to the investments costs needed to implement ICT. The higher the investment cost, the less likely the business will adopt innovation (Kim, 2004:3; Tan and Eze, 2008:3). The cost of adoption is an important factor in adoption and utilization of the web. Generally the higher the cost of adoption of the innovation, the slower the pace of innovation expansion is likely to be (Alam and Noor, 2004:114).

After reviewing the related literature generating perceived characteristics of innovation a conceptual framework is outlined in figure 2.1.

Figure 2. 1: Conceptual framework



2.7.2 Stages of Adoption

The adoption of innovation usually follows a number of stages through the life cycle of an innovation. These stages assist in understanding how an individual adopts innovation (Mapi *et al.*, 2009:75). Five stages have been identified (Mapi *et al.* 2009:75) as follows:

1. Awareness

During this stage innovation is introduced to a person who does not have sufficient knowledge about the product or service. The individual does not know about the product or service and does not consider buying or using the product or service.

2. Interest

At this stage one is aware of the innovation and decides to find out more about innovation/product. It is not really known how the innovation will be useful or can be useful in ones life. The individual decides to get more information and knowledge about the product in order to decide whether or not to adopt.

3. Evaluation

During this stage the individual starts making decision about the innovation. The questions with respect to the use of the product, the worth of the product, and whether it would make a difference are asked. If the innovation appears to be useful it will be tried.

4. Trial Stage

During the trial stage the product/innovation is used to a limited extent.

5. Adoption Stage

During this stage the information gathered in the interest and evaluation stages and the results of the trial stage are used to make decisions to adopt the innovation. A lot of opportunities concerning the innovation will be considered before making a decision to adopt an innovation or not. The innovation may be rejected after adoption due to various reasons.

2.7.3 Different Groups of Adopters

Mapi *et al.* (2009:76) and Badnjevic and Padukova (2006:14) state that there are five categories of adopters of innovation divided by their innovativeness, e.g. the time when they first adopt an innovation. Not all will adopt an innovation at the same time.

1. Innovators

This is a group of risk takers, people who calculate the risk and are eager to try new ideas. They are more developed socially, have a larger communication network than others. Innovators play an important role in the society by adopting and launching new ideas.

2. Early Adopters

The early adopters inform themselves before adopting new ideas. They estimate the risk before adopting an innovation and as a result act as role models to their network.

3. Early Majority

Early Majority take long to decide than innovators and early adopters. They are between the very early and very late adopter groups. They are often take some time before totally adopting an idea.

4. Late Majority

This group is skeptical about new ideas. They usually adopt because of the economic necessity or pressure from peers in their social network. They are the last ones to adopt new innovations. They want to see the advantages and check the success of an innovation before they adopt. The group usually has limited resources to adopt new idea.

5. Laggards

The last group to adopt an innovation is referred to as laggards who believe that the new innovation is meant to be used by a particular group of people. If they decide to adopt, this will be done on the basis of some similar idea that has previously been used or been successful.

2.8 Conclusion

Literature has highlighted the change that adoption of information and communication technologies (ICTs) has brought in conducting business in the tourism sector, especially small enterprises. The tourism sector has been proactive in adopting ICT during the last 30 years. Although ICTs offer

opportunities and benefits to SMMEs, its adoption is characterised by challenges. Adoption is not the same everywhere, varies from country to country, within the individual country/state, region or district. There are factors and barriers that affect adoption of ICT within an industry as highlighted in the literature review.

The next chapter on research methodology, discusses the research approach suitable for this study; the research purpose; research strategy; data collection method; and validity and reliability of the research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

The baseline objective of this study is to investigate the factors that influence the adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District of South Africa. In order to address the study aims and objectives, the research methodology which was followed is briefly discussed in five steps.

- Step 1 - the research approach suitable for this study is chosen;
- Step 2 - the research purpose is identified;
- Step 3 - different research strategies are investigated and the strategy appropriate for this study will be then recognized;
- Step 4 - the data collection method used in this study is discussed in two parts - sampling and questionnaire; and
- Step 5 - validity and reliability of the research is assessed.

3.1.1 Research Approach

All research studies involve the use of theory. The extent to which a researcher is clear about the theory at the beginning of the study informs the design of the research study - whether the study should use the *deductive approach*, where a theory and hypothesis, designs and research strategy to test the hypothesis are developed, or the *inductive approach*, where the researcher collects data and

develops theory as a result of his data analysis (Saunders, Lewis and Thornhill, 2000:85). In this particular study, both *inductive and deductive approaches* of design were used.

3.1.2 Research Purpose

According to Robson (1993:41), enquiries can be classified in terms of their purpose. The purpose of a study may be *exploratory, descriptive* and/or *explanatory*.

- *Exploratory studies* aim for basic knowledge within the research purpose. They decide and demonstrate the character of the problem by collecting information through exploration (Robson, 1993:42).
- The tasks in the use of *descriptive studies* are to portray an accurate profile of persons, events or situations (Robson, 1993:42).
- *Explanatory studies* refer to studies which establish casual relationship between variables and the emphasis here is on studying a situation or a problem in order to explain the relationships between variables. Saunders, Lewis and Thornhill (2000:97) states that in explanatory studies, the main interest is to investigate how certain factors affect one another.

Since this study is aimed at finding, testing and describing the factors of perceived strategic value of ICT and factors influencing its adoption among tourism SMMEs, the research purposes encompass all three – *exploratory, descriptive, and explanatory*.

3.1.3 Research Strategy

A research study can adopt one or more of the five main strategies, namely, *experiment and quasi-experimental research, survey research strategy, case study, grounded theory, and ethnography.*

- With experiment and quasi-experimental research, there is the tendency to make use of hypotheses which the experiment seeks either to support or to refute (Saunders, Lewis and Thornhill, 2000:92).
- Research survey as a system for collecting information to describe, compare, or explain knowledge, attitude and behavior. Based most often on questionnaire instruments, structured observation, and structured interview, data are used to describe, compare, or explain knowledge, attitude and behavior.
- Robson (1993:5) defines case study as the development of detailed, intensive knowledge about a single case, or a small number of related cases. The case study strategy is particularly important when the interest is to gain a rich understanding of the context of the research and the processes being enacted.
- The data collection methods include questionnaire instruments, interviews, observation and documentary analysis (Saunders, Lewis and Thornhill., 2000:93).

- In *grounded theory*, data collection starts without the formation of an initial theoretical framework *approach* (Saunders, Lewis and Thornhill, 2000:93). Theory is developed from data generated by a series of observations.
- With *ethnography*, the purpose is to interpret the social world the research subjects inhabit in the way in which they interpret it. This research process is very time consuming and takes place over an extended time period (Saunders, Lewis and Thornhill., 2000:93).

Since this study intended to test the factors of perceived strategic value of ICT as well as factors that influence its adoption by tourism SMMEs, the appropriate research strategy for this study is a survey. In other words, due to the fact that in survey respondents may be asked a variety of questions regarding their behavior, intention, attitudes, awareness, motivation, demographic and lifestyle characteristics (Cooper and Schindler, 2003:295), therefore by using this strategy it is expected to receive suitable answers from tourism business owners and managers in order to test the factors of perception and adoption.

3.2 Data Collection

According to Saunders, Lewis and Thornhill (2003:30), data collection method is greatly informed by the methodology selected. Due to the adoption of *survey methodology* in this study, as well as the information requirements, time

constraints and respondent characteristics, who are owners and managers, with whom is so difficult to interview, survey questionnaire was used as the main data collection tool.

In this study *structured data collection* was used. In *structured data collection*, a formal questionnaire is prepared and the questions are asked in a prearranged order. In this research both *fixed-response alternative* and *Likert scale questions* are used. Fixed-response questions requires the respondent to select from a predetermined set of responses (Cooper and Schindler, 2003:345) from strongly disagree to strongly agree. Using Likert scale response method respondents show their level of agreement to the statements with a numerical score. The employees of North West Parks and Tourism Board assisted in distributing, collecting and administering the questionnaires.

3.3 Sampling Method

The basic idea of sampling is that by selecting some of the elements in a population, one can draw a conclusion about the entire population. In this study, the population of interest is the tourism SMMEs in Ngaka Modiri Molema District of South Africa. The unit of analysis is the owner/manager of these tourism SMMEs. The sampling method in this study is *probability sampling* – a method based on the concept of random selection. It is most commonly associated with survey-based research where the researcher needs to make inferences from a sample about a population to meet the research objectives (Saunders, Lewis and Thornhill., 2003:153).

According to de Vaus (1991) as cited by Saunders, Lewis and Thornhill (2003:157), where the population is less than 10 000, a smaller sample size than minimum sample size, called the adjusted minimum sample size (n_{adj}), can be used without affecting the accuracy. Theoretically, n_{adj} can be computed from the relation:

$$n_{adj} = \frac{n * N}{n + N}$$

where n is the minimum sample size, which can be achieved from sample size table, and N is total population. Using the information on tourism SMMEs in Ngaka Modiri Molema District available at the database of the Research and Planning Unit of the North West Parks and Tourism, an adjusted sample size was determined and used to obtain the sample for the study.

One hundred and fifty (150) questionnaires were distributed among the tourism SMMEs in Ngaka Modiri Molema District of North West Province that appear on the database of Research and Planning Unit of the North West Parks and Tourism Board. One Hundred and three (103) responses were collected from the survey, making a response rate of 69 percent.

3.4 Questionnaire

Questionnaires are mostly used for descriptive or explanatory research. A descriptive studies such as this one, by questionnaire used attitude and opinion of respondents to enable the researcher to identify and describe the variability in different phenomena (Ghorishi, 2009:51). The design of a questionnaire

instrument differs according to how it is administered, in particular the amount of contact you have with the respondents. A questionnaire instrument can be *self-administered* or *interview administered* as shown in figure 3.1 below.

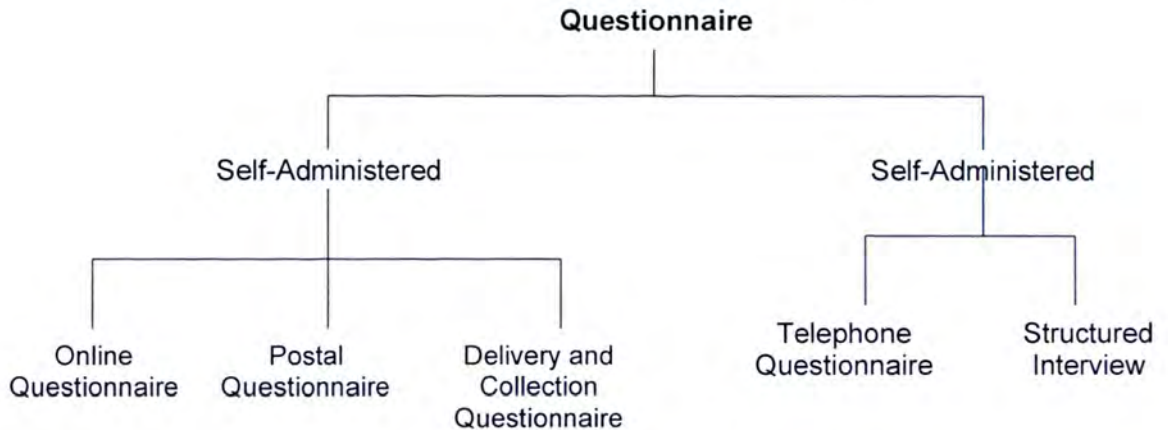


Figure 3.1: Types of Questionnaire (Source: Saunders, Lewis and Thornhill, 2000:282)

While *self administered questionnaires* are usually completed by the respondents, responses to *interview-administrated questionnaires* are recorded by interviewer on the basis of answers provided by a respondent. In this study, *self-administrated questionnaire* (Annexure 'B') with the method of *delivery and collecting questionnaire* were used.

The questions within the questionnaire expected respondents to reply on how they feel about the factors of perceived strategic value and the factors of adoption using Likert scale from strongly disagree to strongly agree as well as some open-ended questions.

The questionnaire has seven sections, namely:

- I. Section A: General perception about Information and Communication Technology (ICT). Seven questions related to efficiency benefits from relative advantage of ICT over traditional methods of communicating with customers and others.
- II. Section B, C, D and E: There are three questions in each section intended to predict the types of ICT uses. Four types of use of ICT for business purposes were measured to evaluate the adoption behaviour.
- III. Section F: Eleven questions that seeks to investigate on issues and barriers affecting adoption of ICT.
- IV. Section G: Seven questions related to business profile, type of business, years of existence, number of employees and number of computers.

3.5 Data Analysis and Software Application

Data collected from the field will be managed through the use of two software applications – Microsoft Excel and Statistical Analysis (SAS) version 9.1.3. Data capturing will be done using Microsoft Excel. Cleaned data will then be exported to SAS for analysis and production of results.

3.6 Validity and reliability of the research

Validity in research is concerned with soundness and effectiveness of the measuring instrument. It is the extent to which the questionnaire assesses what

it set out to assess. It is specific to the particular aspect that one wishes to assess. Validity is defined as the instrument's ability to measure exactly what the concepts it is supposed to measure (Ghorishi,2009:53). It should be judged for adequacy, and is more likely to be achieved if the answers obtained from respondents are honest and reliable.

In this study the literature is based on accredited sources, it ensures that the concepts upon which conceptual framework is based on, is reliable and valid.

The questionnaires' validity has been ensured through a pilot test conducted to determine that the data collected provide required responses to the research questions to be addressed. Fifteen questionnaires were distributed among owners and managers of tourism businesses including the research manager in the Research and Planning Unit of the North West Parks and Tourism Board. Nine responses were received. The questionnaire did not adequately answer the research question. All the respondents did not bother making own comments on the space provided. Changes were made on the format of the questionnaire and the space for comments was left out.

The data collected from the questionnaires' validity is based on the type of organization being used in responding to the questionnaires and the key personnel or decision-makers being the respondents. The procedure to analyse data as discussed above will ensure that all the main focus areas of data gathered are depicted accurately.

Leedy and Ormrod (2005:93), define reliability of a measurement instrument as the extent to which it yield consistent results when the characteristic being measured hasn't changed. In this research the measurement instrument has been admistered in a consistent way by using the same people to distributed and collect the questionnaires. Respondents were given enough time to complete the measurement instrument.

3.7 Conclusion

In conclusion, the chapter described the research methodology to be followed in this study. The quantitative method was used and a questionnaire was used for data collection. To analyze data, Statistical Analysis (SAS) version 9.1.3 software was used.

In the next chapter present: data analysis, results and discussions.

CHAPTER 4

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents data analysis and interpretation of the results. Frequency tables were used and percentages of different variables were calculated. One hundred and fifty (150) questionnaires were distributed among the tourism SMMEs in Ngaka Modiri Molema District of North West Province that appear on the database of Research and Planning Unit of the North West Parks and Tourism Board. One Hundred and three (103) responses were collected from the survey, making a response rate of 69 percent.

4.2 Analysis and interpretation of respondents' characteristics

4.2.1 Business Profile

In this section the business profile data of the respondents is analysed. The results include type of business, town or city where business is located, number of employees and number of computers in an enterprise.

4.2.1.1 Main type of tourism business

Table 4.1 depict the distribution type of tourism business data of the respondents. It indicates that most the respondents (68.9%) in the tourism SMMEs are involved in providing accommodation; 3.9% are tour businesses such as travel agencies, 6.8% are attraction sites such as museums and natural sites, 5.8% are restaurants and 14.6% are other tourism businesses such as event management and tour guiding.

	Number	Percent
Accommodation	71	68.9
Tours	4	3.9
Attraction	7	6.8
Restaurant	6	5.8
Other	15	14.6
Total	103	100.0

4.2.1.2 Town/City where business is located

Table 4.2 indicates that most of the respondents (46%) in Ngaka Modiri Molema District are located in the town of Mahikeng. Zeerust has the lowest number of respondents (08%). Zeerust, Madikwe and Groot Marico had low response rate due to their location, either on farms or nature reserves, which made it difficult to receive responses from owners and managers because of availability issues. The other areas such as Lichtenburg, Delareyville and Coligny had good

response rate with respect to number of business available, but lower compared to the whole sample population.

	Number	Percent
Groot Marico	12	11.7
Zeerust	8	7.8
Mahikeng/Mmabatho	47	45.6
Lichtenburg/Delareyville/Sannieshof /Coligny	20	19.4
Madikwe	16	15.5
Total	103	100.0

4.2.1.3 Number of employees

According to Table 4.3 the majority of respondents have less than 30 employees. According to the definition of SMMEs in South Africa as reflected in the National Business Amendment Act no. 23 of 2003, the tourism business in Ngaka Modiri Molema District consist small and micro enterprises.

	Number	Percent
Less than 5	24	23.3
5-9 employees	37	35.9
10-19 employees	25	24.3
20-29 employees	7	6.8
30+ employees	10	9.7
Total	103	100.0

4.2.1.4 Number of computers in an enterprise

As shown on Table 4.4 more than 50% of respondents have 5 or no computers. Majority have less than five computers or none due to the size of employees. The results on Table 4.4 match those of Table 4.3 which reflects that the majority of businesses have less than five employees which influences the number of computers in the business. The number of computers is also influenced by annual turnover of the type of business. In this category of enterprises, lower turnover has an influence on financial resources to finance the cost to develop ICT. Fewer employees imply fewer employees who use the computers. In most cases it is the manager or owner, who can use the computer,

	Number	Percent
None	14	13.6
1	24	23.3
2-5	57	55.3
6-9	6	5.8
10+	2	1.9
Total	103	100.0

4.2.2 General perceptions about ICT

In this section general perception of respondents about ICT from relative advantage of ICT over traditional ways of communicating with customers, suppliers or partners are analysed. Often economic ways of addressing

customer queries and provide information to customers about products and services.

4.2.2.1 Effective way of communicating with customers

As depicted in Table 4.5, 95 percent respondents perceive ICT to be an effective way of communicating with customers, besides 4 percent who are not sure and 1 percent who disagrees.

Table 4.5: Effective way of communicating with customers		
	Number	Percent
Disagree	1	1.0
Not sure	4	3.9
Agree	46	44.7
Strongly agree	52	50.5
Total	103	100.0

4.2.2.2 Organisational relationship with customers and suppliers

Table 4.6 shows that 95 percent of the respondents perceive that ICT improves organizational relationship with customers and suppliers as opposed to 5 percent who are not sure.

	Number	Percent
Not sure	5	4.9
Agree	55	53.4
Strongly agree	43	41.7
Total	103	100.0

Correlation between the results depicted by Table 4.5 (Effective way of communicating with customers) and those of Table 4.6 (Improves organizational relationship with customers and suppliers) is significant. Businesses that perceive ICT to be an effective way of communicating with customers also perceive ICT adoption to be improving relationship with customers and suppliers (Table 4.7).

		Effective way of communicating with customers	Relationship with customers and suppliers
ICT is an effective way of communicating with customers	Pearson Correlation	1	.684**
	Sig. (2-tailed)		.000
	N	103	103
Improvement of the organisational relationship with customers and suppliers	Pearson Correlation	.684**	1
	Sig. (2-tailed)	.000	
	N	103	103

** . Correlation is significant at the 0.01 level (2 tailed).

4.2.2.3 Competitive advantage

Table 4.8 indicates that the majority of respondents (88%) perceive ICT to enhance competitive advantage as compared to 1 percent respondents who disagrees

	Number	Percent
Disagree	1	1.0
Not sure	11	10.7
Agree	51	49.5
Strongly agree	40	38.8
Total	103	100.0

4.2.2.4 Answering customer queries

According to Table 4.9 the respondents perceive ICT to be an economic way of answering customer queries (96.1%) as compare to 3.9% percent of the respondents who are not sure.

	Number	Percent
Not sure	4	3.9
Agree	50	48.5
Strongly agree	49	47.6
Total	103	100.0

4.2.3 Use of ICT by tourism businesses

According to Chung (2006:46) several studies suggested the adoption behaviour of SMMEs may be predicted through the type of Internet uses. In this section the types of use of ICT by tourism SMMEs are investigated.

4.2.3.1 Use of Internet for business purpose

As depicted by Table 4.10 of all the respondents, 87 percent uses Internet compared to 13 percent which does not use the Internet for business purpose.

	Number	Percent
Yes	90	87.4
No	13	12.6
Total	103	100.0

4.2.3.2 Number of enterprises with website

Table 4.11 shows that 68 percent of respondents has a website as opposed to 32 percent without website.

	Number	Percent
Yes	70	68
No	33	32
Total	103	100

4.2.4 Factors that impact on ICT Adoption

This section investigates the impact of different factors on ICT adoption by tourism factors. The results include the impact of size of the organisation, level of knowledge among owners, improvement of business performance, location of business and ICT costs.

4.2.4.1 Size of organisation

According to Table 12 a large number of respondents (60%) show that size of the organisation has an impact on ICT adoption compared to 26 percent who disagree.

	Number	Percent
Strongly disagree	8	7.8
Disagree	19	18.4
Not sure	14	13.6
Agree	47	45.6
Strongly agree	15	14.6
Total	103	100

4.2.4.2 Level of knowledge of ICT among owners

Table 13 shows that the majority of the respondents (68.9%) indicate that level of knowledge to use a computer among owners has an impact on ICT adoption compared to 17.5 percent of respondents.

Table 4.13: Impact of the level of knowledge among owners		
	Number	Percent
Strongly disagree	5	4.9
Disagree	13	12.6
Not sure	14	13.6
Agree	47	45.6
Strongly agree	24	23.3
Total	103	100

4.2.4.3 Business performance

As shown by Table 14 a large number of respondents (85.3%) indicated that improvement of business performance in terms of sales revenue has an impact on ICT adoption compared to 5.8 percent respondents who disagree.

Table 4.14: Improvement of business performance in terms sales revenue		
	Number	Percent
Strongly disagree	2	1.9
Disagree	4	3.9
Not sure	9	8.7
Agree	46	44.7
Strongly agree	42	40.8
Total	103	100

4.2.4.4 Location of enterprise

In Table 15 more respondents (65%) indicate that location of enterprise has an impact on adoption of ICT compared to 27.2 percent respondents who do not agree.

	Number	Percent
Strongly disagree	5	4.9
Disagree	23	22.3
Not sure	8	7.8
Agree	37	35.9
Strongly agree	30	29.1
Total	103	100

4.2.4.5 ICT costs

According to Table 16 the respondents (66%) indicate that ICT costs have an impact on ICT adoption compared to 26.2 percent.

	Number	Percent
Strongly disagree	6	5.8
Disagree	21	20.4
Not sure	8	7.8
Agree	38	36.9
Strongly agree	30	29.1
Total	103	100

4.3 Conclusion

This chapter reported on the analysis of data from a total of 103 collected questionnaires from tourism SMMEs in Ngaka Modiri Molema District of North West Province. Tables and figures were made to interpret results by calculating percentages of different variables. Descriptive analysis indicates that, on average, the perception on ICT plays an important role on adoption of ICT, majority of respondents use Internet and websites for business purpose and that factors such as size and location of enterprise, business performance, ICT knowledge among owners and ICT costs have an impact on adoption of ICT. The next chapter presents summary of findings, recommendations and conclusion.

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND FUTURE RESEARCH

5.1 Introduction

This chapter presents a discussion of the findings presented in chapter four. Limitations identified in the process used to establish these findings are discussed. Finally implications and future research directions that may be of relevance to both academics and practitioners are discussed.

5.2 Summary of findings

The research sought to investigate the following research questions:

5.2.1 Level of ICT adoption by tourism SMMEs in Ngaka Modiri Molema District

The result in terms of the level of adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District shows that there is high level use of ICT by tourism SMMEs for business purpose (see Table 9 and 10). ICT use determines the adoption behaviour. The results on the above tables, depict a high level of ICT adoption because the majority of the tourism SMMEs in Ngaka Modiri Molema District use ICT for business purpose.

5.2.2 Factors affecting adoption of ICT in Ngaka Modiri

Molema District

Results from data analysis indicate that a large percentage of respondents (see Tables 4.11; 4.12; 4.13; 4.14 and 15) depicts that several factors that have an impact on adoption of ICT such as size and location of enterprise, business performance in terms of sales revenue, ICT knowledge among owners and ICT costs have an influence on the benefits realised by tourism businesses. The factors that impact on adoption also acts as hindrance to adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District (see Tables 4.11; 4.14 and 4.15).

This study has identified that the factors that affect adoption of ICT shown in the literature in chapter 2 of this study, i.e. factors that affect tourism SMMEs such as size and location, lack of resources and manager-owner characteristics, are applicable in Ngaka Modiri Molema District.

5.2.3 Level of perception about and awareness of ICT in

Ngaka Modiri Molema District

According to the analysis of data, perception about adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District plays an important role in decision making to adopt ICT (See Table 4.5; 4.6; 4.7 and 4.8). A larger number of tourism SMMEs in Ngaka Modiri Molema District perceive ICT adoption to add

value to the business, hence a large percentage use Internet and website for business purpose.

5.2.4 Benefits realized by tourism SMMEs

In terms of results from analysis of data tourism SMMEs in Ngaka Modiri Molema District are aware of the benefits of ICT, such as being an effective and being an economic way of communicating with customers, competitive advantage to be gained from adoption of ICT (Tables 4.5; 4.7 and 4.8) and the improvement of business performance in terms of sales revenue (Table 4.13).

5.2.5 Business profile of tourism SMMEs in Ngaka Modiri

Molema District

Results depict that a large number of tourism SMMEs in Ngaka Modiri Molema District are engaged in accommodation as the type of business and located largely in Mahikeng and few in Zeerust (see Table 4.1).

5.3 Limitations

A number of limitations of the research process that may have affected the results of this study need to be taken into consideration. Firstly, the collection of data has been a challenge, especially in vastly rural areas of Ngaka Modiri Molema District such as Zeerust, Coligny, Delareyville, Sannieshof, Barberspan, Groot Marico and Madikwe. Most of the owners who are also managers are not in the business full time, which posed a challenge to collect questionnaires on

time. Secondly, most of the managers indicated not having time to complete the questionnaire, as a result this affected collection of questionnaires. Lastly, the database used to identify the sample population was not up to date. Some of the enterprises do not exist anymore and there are new other ones established which do not appear on the database used to identify the sample population. The implication that the above stated limitations had on this research is that, the results should be considered with caution; most of the respondents are concentrated around Mahikeng. The results would have been accurate if the response rate in other areas of Ngaka Modiri Molema District were as good as in Mahikeng. The research did not investigate deeper into factors that affect adoption of ICT in Ngaka Modiri Molema District.

5.4 Recommendations for future research

Due to the existence of the above limitations, future research needs to address the above limitations in order to achieve more meaningful results. An in-depth investigation of factors that influence level of ICT adoption by tourism SMMEs in Ngaka Modiri Molema should be conducted. Future research should consider using other qualitative research such as case study or other methods to gain a better picture of ICT adoption by tourism SMMEs in Ngaka Modiri Molema District.

Some recommendations for decision-makers, entrepreneurs and tourism practitioners in the tourism industry for SMMEs are suggested in this study. This

study had focus on few variables, future research could investigate the role of government in adoption of ICT on SMMEs.

Ngaka Modiri Molema District local government should develop a district vision, strategic plan and policy guidelines for SMMEs ICT activities. All the tourism stakeholders involved in the development of tourism strategy.

Government can help address barriers to adoption by helping SMMEs reduce ICT connection costs and increase coverage by expanding infrastructure. ICT adoption can be increased through training workshops that are flexible and suitable for manager-owners or employee's role or position, or hardware/software applications. Government can increase affordability of ICT through grants, credits, lease options and tax incentives.

Since the study focused on ICT adoption of tourism SMMEs, it would have to be expanded to include the role of government and other organizations, such as international organizations, SMME support agencies and industry organizations, in adoption of ICT by tourism SMMEs.

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ANNEXURES

‘Annexure A’

NORTH WEST UNIVERSITY MAFIKENG CAMPUS

North West University
Graduate School of Business Leadership
Mafikeng

12 August 2011

Dear Participant

I would appreciate it very much if you could kindly complete the attached questionnaire. This questionnaire forms part of a study that I am conducting towards the fulfilment of a Master of Business Administration (MBA) degree.

Please feel free to respond to the questions honestly since any information that you provided will remain strictly confidential and your name will not be single out for analysis.

If you have any questions regarding this questionnaire kindly contact me on my cellphone no. **0798193004**.

Thanking in advance for the cooperation.

Yours faithfully

HERMAN PHETLHE

ANNEXURE 'B'

The Adoption of ICT by Tourism SMMEs in Ngaka Modiri Molema District of North West Province in South Africa

SURVEY QUESTIONNAIRE

The purpose of this questionnaire is to solicit information on Tourism SMME in Ngaka Modiri Molema District of North West Province in South Africa regarding the adoption of ICT. You are requested to give your personal opinion by filling spaces provided. This information will be treated in the strictest confidentiality.

SECTION A: GENERAL PERCEPTION ABOUT ICT

For each of the following statements, please TICK the number which best describe your opinion by rating your agreement or disagreement according to the following statements.

		Strongly disagree 1	Disagree 2	Not sure 3	Agree 4	Strongly agree 5
A1	ICT is an efficient way of communicating with customers					
A2	ICT improves the organisational relationship with customers and suppliers					
A3	ICT enhances communication with suppliers					
A4	An organisation can actually experience competitive advantage through ICT					
A5	ICT is an economic way of answering customer queries					
A6	ICT is valuable in enhancing access to information by customers					
A7	ICT is an effective way to gather market-related and competitor-related information					

SECTION B: THE INTERNET

B1. Does your company use the Internet for business purposes?

Yes	
No	

B2. If 'Yes', please answer the following questions:

B2a. How long has your company been using the Internet?

Less than 1 year	
1-2 years	
3-4 years	
5+ years	

B2b. How big (in percent) is the size of employees in your company using the Internet for business purposes?

30 percent or less	
31-50 percent	
51-80 percent	
81-100 percent	

B2c. Does your company use the Internet for the following purposes?

	Yes	No
Promoting and marketing purposes		
Information search		
Direct or indirect contact between customers/suppliers/clients/partners, etc		
Fun/Entertainment		
Other, please specify:		

B3. If 'No', please answer the following questions:

B3a. Has your company considered using the Internet for business purposes?

Yes	
No	

B3b. Has any of the following been the reason for your company not using the Internet for business purposes?

	Yes	No
The Internet has no relevance for my company.		
Access to Internet is too expensive.		
The Internet would be a waste of time for our employees		
Lack of IT skills for developing and maintaining it		
Lack of necessary infrastructure to develop it		

SECTION C: ELECTRONIC MAIL (E-MAIL)

C1. Does your company use e-mail for business purposes?

Yes	
No	

C2. If 'Yes', please answer the following questions:

C2a. How long has your company been using e-mail?

Less than 1 year	
1-2 years	
3-4 years	
5+ years	

C2b. How big (in percent) is the size of employees in your company using e-mail for business purposes?

30 percent or less	
31-50 percent	
51-80 percent	
81-100 percent	

C2c. Does your company use e-mail for the following purposes?

	Yes	No
Contacts with customers/suppliers/clients/partners		
e-Mailing friends (socializing)		
Making queries		
Making bookings		
Other, please specify:		

C3. How often is the e-mail checked?

My company does not use e-mail services	
More seldom	
A few times a month	
A few times a week	
Almost every day	

SECTION D: COMPANY WEB SITE

D1. Does your company have a website for business purposes?

Yes	
No	

D2. If 'Yes', please answer the following questions:

D2a. How long has your company's website been in existence?

Less than 1 year	
1-2 years	
3-4 years	
5+ years	

D2b. Who is responsible for maintaining your company's website?

An employee	
Another agency	
A web-hosting company	
Other, please specify:	

C2c. How often does your company update its website?

Never	
More seldom	
At least once a year	
More than once a year	
Almost every month or more often	

C2d. Does your company's website do any of the following?

	Yes	No
Contains information about the company		
Contains information about the company's products and services		
Use it for client/partner/supplier feedback on product and services		
Others, please specify:		

D3. If 'No', is your company planning to develop a website?

Yes	
No	

SECTION E: SOFTWARE APPLICATIONS

E1. Does your company have any kind of software for business purposes? (e.g. booking or billing system, etc.)

Yes	
No	

E2. If 'Yes', please answer the following questions:

E2a. How long has your company been using this/these software application(s)?

Less than 1 year	
1-2 years	
3-4 years	
5+ years	

E2b. How big (in percent) is the size of employees in your company uses this/these software applications?

30 percent or less	
31-50 percent	
51-80 percent	
81-100 percent	

E3. If 'No', is your company considering purchasing some kind of software application(s) for business purposes?

Yes	
No	

SECTION F: FACTORS IMPACT ON ICT ADOPTION

This set of questions seeks to know/investigate on issues and barriers affecting your business' adoption of ICT.

		Strongly disagree 1	Disagree 2	Not sure 3	Agree 4	Strongly agree 5
B1	The size of my business has a major impact on the decision to adopt Information and Communication Technologies (ICT)					
B2	The level of ICT knowledge among owners has a major impact on the decision to adopt ICT					
B3	Competitive intensity within the industry has a major impact on my business' decision to adopt ICT					
B4	Pressure from suppliers has a major impact on my business' decision to adopt ICT					
B5	Pressure from potential employees has a major impact on my business' decision to adopt ICT					
B6	The ICT improves my business' performance in terms of sales revenue and/or profile					
B7	Pressure from customers has a major impact on my business' decision to adopt the ICT					
B8	Availability of computer systems and use the Internet without problems has a major impact on my business' decision to adopt the ICT					
B9	The location of my business has a major impact on my business' decision to adopt ICT					
B10	Lack of time has a major impact on my business' decision to adopt ICT					
B11	Financial resources and initial costs has a major impact on my business' decision to adopt ICT					

SECTION G: BUSINESS PROFILE

G1. Name of business:

G2. Main type of tourism business (please tick the core business):

Accommodation	
Tours	
Attraction	
Eatery/Café/Restaurant	
Other, please specify:	

G3. Town/City where business is located:

G4. How many years has your business been in existence?

..... Years

G5. Is your business part of a bigger company?

Yes	
No	

G6. How many employees does your company have?

Less than 5 employees	
5-9 employees	
10-19 employees	
20-29 employees	
30+ employees	

G7. How many computers (including PCs, laptops, and others) are there in total in your company?

None	
1	
2-5	
6-9	
10+	

*Your contribution to this study is greatly appreciated.
Thank You*