

Tourism SMMEs Adoption of ICT in Ngaka Modiri Molema District of the North West Province

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Abstract

The issue of SMMEs utilising 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. This article presents the findings of a study on the factors that affect tourism SMMEs ability to adopt ICT in Ngaka Modiri Molema District of the North West Province in South Africa. Self-administered questionnaires were distributed to one-hundred and fifty tourism enterprises which resulted in a response rate of sixty eight percent. 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 uses ICT for business purposes. 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: small, medium and micro enterprises, tourism, information and communication technology, adoption, Ngaka Modiri Molema District

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 utilising 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 utilising ICT in different functional areas.

The issue of Small, Medium and Micro Enterprises (SMMEs) utilising 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. In their paper, Lopez-Ncolas and Soto-Acosta (2010) 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 of the North West Province.

In South Africa, SMMEs have crucial economic roles to fulfil. 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 businesses, 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.

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 by the South African Government.

Problem Statement

According to Kapurubandara and Lawson (2006), 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, Karanasios and Burgess (2006) showed that differences in country-contexts can lead to different ICT use and impact patterns. 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.

The overall aim of this article was to identify the factors affecting the adoption of ICT by tourism SMMEs. This study focuses on the adoption patterns of Ngaka Modiri Molema District of the North West Province of South Africa.

This research is significant for a number of reasons. Firstly, it helps 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 focuses on a relatively unexplored and important sector in South Africa in general and the North West Province, 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.

Literature Review

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 environment, effective use of ICT is critical for the success of businesses especially SMMEs (Kapurubandara & 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 (2008).

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. They also 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 (Kapurubandara & Lawson 2006). Despite the opportunities offered by ICT, its use within SMMEs in both developing and developed countries is plagued with many problems (Apulu & Latham 2009).

The Role of ICT in SMMEs

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).

Verhoest, James, Marais and van Audenhove (2007), provide 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. 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 (Apulu & Lathan 2009; Golding, Donaldson, Tennant & Black 2008).

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. 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 & Boateng 2007: 3).

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. It has provided new tools and enabled new distribution channels, thus creating a new business environment. The role of ICT tools (see Table 1) in the Tourism industry for marketing, operations, and management of customer services is widely known (Shanker 2008: 51).

Industry Aspects	Application
<i>Site development</i>	Geographic Information System (GIS) used for identification of Tourism site and destination.
<i>Marketing</i>	Advertising and promotion.
<i>Operations</i>	Buying and management of supplies and services.
<i>Customer services</i>	Management of customer relationships through travel booking etc.
<i>Monitoring</i>	Geographic Information System (GIS) and Global Positioning System (GPS) used for managing and monitoring tourist sites.

Table 1: ICT Tools in the Tourism Industry (Shanker 2008)

Impact of ICT on Tourism SMMEs

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

- Development of the Computer Reservation System (CRS).
- Development of the Global Distribution System (GDS).
- The Internet.

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) and Shanker (2008) 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. For example 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).

Barba-Sanchez, Martinez-Ruiz and Jimenez-Zarco (2007) and the Organisation for Economic Co-operation and Development (OECD 2006) suggest that on the whole ICT applications can provide several benefits across a wide range of intra- and inter- business operations and transactions.

Adoption of ICT

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 & Eze 2008). 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?

According Mapi, Dalvit and Terzoli (2008) and Tan and Eze (2008), 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 & Eze 2008). 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).

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 & Eze 2008). According to Mapi, Dalvit and Terzoli (2009), Serrat (2009) 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.

Factors that Determine Adoption of ICT by Tourism SMMEs

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. The factors that determine adoption of ICT by tourism SMMEs are classified into three major categories (Sahadev and Islam 2005):

(1) 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.

(2) 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.

(3) The technological resources of the business: 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.

Barba-Sanchez, Martinez-Ruiz and Jimenez-Zarco (2007) and the OECD (2006) suggest that on the whole ICT applications can provide several benefits across a wide range of intra- and inter-business operations and transactions.

Research Methodology

The baseline objective of this study was to investigate the factors that influence the adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District of South Africa. Given that this study was 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 exploratory, descriptive and explanatory research approaches.

Against the study's intended purpose 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 was a survey. In other words, due to the fact that in a survey respondents may be asked a variety of questions regarding their behaviour, intention, attitudes, awareness, motivation, demographic and lifestyle characteristics (Cooper & Schindler 2003), therefore by using this strategy, it was expected to receive suitable answers from tourism business owners and managers in order to test the factors of perception and adoption.

The implementation of a survey methodology in this study, as well as the information requirements, time constraints and respondent characteristics, dictated a survey questionnaire as the main data collection tool. In this research both fixed-response alternative and Likert scale questions were used in the self-administered questionnaire. Fixed-response questions required the respondent to select from a predetermined set of responses (Cooper & Schindler 2003) from strongly disagree to strongly agree. Using the Likert scale response method respondents showed 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.

The population of interest was the tourism SMMEs in Ngaka Modiri Molema District of South Africa. The unit of analysis was the owner/manager of the tourism SMMEs. The sampling method in this study was probability sampling – a method based on the concept of random selection. Using the information on tourism SMMEs in Ngaka Modiri Molema District available on the database of the Research and Planning Unit of the North West Parks and Tourism, an adjusted sample was determined as acceptable. One hundred and fifty (150) questionnaires were then distributed among the tourism SMMEs in Ngaka Modiri Molema District. One hundred and three (103) responses were collected from the survey, resulting in a response rate of sixty nine (69) percent.

Data capturing was done using Microsoft Excel and the cleaned data was then exported to SAS (version 9.1.3) for statistical analysis. The questionnaires' validity had 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. After nine responses were received the necessary changes were made.

Data Discussion

Self-administered questionnaires were distributed to one-hundred and fifty (150) tourism enterprises of which one hundred and three (103) responses had been received, effectively giving a response rate of sixty eight percent. The following sections present detailed data analysis and interpretation of the results. Frequency tables were used and percentages of different variables were calculated.

Business Profile

The distribution of the type of tourism business is shown in Table 2. It indicates that the majority, 71 (68.9%) of the respondents in the tourism SMMEs are involved in providing accommodation; 4 (3.9%) are tour businesses such as travel agencies, 7 (6.8%) are attraction sites such as

museums and natural sites, 6 (5.8%) are restaurants and 15 (14.6%) are other tourism businesses such as event management and tour guiding.

	<i>N</i>	%
Accommodation	71	68.9
Tours	4	3.9
Attraction	7	6.8
Restaurant	6	5.8
Other	15	14.6
<i>Total</i>	103	100.0

Table 2: Type of Tourism Business

Table 3 shows that the majority, 47 (45.6%) of the respondents in Ngaka Modiri Molema District are located in the town of Mahikeng. Zeerust has the lowest, 8 (7.8%) number of respondents. Zeerust, Madikwe and Groot Marico had low response rates 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 rates with respect to number of business available, but lower compared to the whole sample population.

	<i>N</i>	%
Groot Marico	12	11.7
Zeerust	8	7.8
Mahikeng/Mmabatho	47	45.6
Lichtenburg/Delareyville/ Coligny	20	19.4
Madikwe	16	15.5
<i>Total</i>	103	100.0

Table 3: Town/City where Business is Located

The number of staff employed by the tourism businesses that were reported by the respondents of the survey is shown in Table 4. The majority, 93 (90.2%) 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 majority of the tourism businesses in Ngaka Modiri Molema District can be classified as small and micro enterprises.

	<i>N</i>	%
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
<i>Total</i>	103	100.0

Table 4: Number of Employees

The majority, 57 (55.3%) of the respondents have between 2 and 5 computers in their businesses. Only 8 (7.7%) of the respondents have more than 5 computers. The results in Table 5 match those of Table 4 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 utilise the computer.

	<i>N</i>	%
None	14	13.6

1	24	23.3
2-5	57	55.3
6-9	6	5.8
10+	2	1.9
<i>Total</i>	103	100.0

Table 5: Number of Computers per Business

Perceptions about ICT

In this section the general perception of respondents about ICT from relative advantage of ICT over traditional ways of communicating with customers, suppliers or partners are analysed. This often relates to the economic ways of addressing customer queries and provides information to customers about products and services. As depicted in Table 6, 98 (95.2%) of the respondents perceive ICT to be an effective way of communicating with customers, besides 4 (3.9%) who are not sure and 1 (1.0%) percent who disagrees.

	<i>N</i>	%
Disagree	1	1.0
Not sure	4	3.9
Agree	46	44.7
Strongly agree	52	50.5
<i>Total</i>	103	100.0

Table 6: Communicating with Customers

Table 7 shows that 98 (95.2%) of the respondents perceive that ICT improves organizational relationship with customers and suppliers as opposed to 5 respondents (4.9%) who were not sure.

	<i>N</i>	%
Not sure	5	4.9

Agree	55	53.4
Strongly agree	43	41.7
Total	103	100.0

Table 7: Improve Organizational Relationship

Correlation between the results depicted by Table 6 (effective way of communicating with customers) and those of Table 7 (improves organizational relationship with customers and suppliers) is significant (0.684). 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 8).

		Effective way 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).

Table 8: Correlations

Nine-nine (96.1%) of the respondents perceive ICT to be an economic way of answering customer queries against 4 (3.9%) percent of the respondents who were not sure. Furthermore, the majority of respondents, 91

(88.3%) perceive ICT to enhance the businesses' competitive advantage (Table 9) as compared to 12 (11.7%) respondents who were not sure or disagreed with this statement.

	<i>N</i>	%
Disagree	1	1.0
Not sure	11	10.7
Agree	51	49.5
Strongly agree	40	38.8
<i>Total</i>	103	100.0

Table 9: Competitive Advantage

Use and Adoption of ICT by Tourism Businesses

The impact of different factors on ICT adoption by tourism SMMEs are investigated in this section. 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. Moreover, Chung (2006) suggested the adoption behaviour of SMMEs may be predicted through the type of Internet usage.

The majority, 90 (87.4%) of the respondents in this study, used the Internet for business purposes. Furthermore, 70 (68.0%) of the respondents have an operational website, compared to only 33 (32.0%) of the respondents that reported no website for their businesses.

According to Table 10, the majority, 62 (60.2%) of the respondents indicated that the size of their business has an impact on ICT adoption compared to 27 (26.2%) who disagree.

	<i>N</i>	%
Strongly disagree	8	7.8
Disagree	19	18.4
Not sure	14	13.6
Agree	47	45.6

Strongly agree	15	14.6
<i>Total</i>	103	100.0

Table 10: Size of Organisation

Table 11 shows that the majority, 88 (85.3%) of the respondents in this study felt that improvement of business performance in terms of sales revenue has an impact on ICT adoption compared to only 2 (5.8%) of the respondents who disagreed.

	<i>N</i>	%
Strongly disagree	2	1.9
Disagree	4	3.9
Not sure	9	8.7
Agree	46	44.7
Strongly agree	42	40.8
<i>Total</i>	103	100.0

Table 11: Business Performance

In addition, 71 (68.9%) of the respondents specify that the level of knowledge to use a computer among owners has an important impact on ICT adoption. The majority, 67 (65.1%) of the respondents also signify that location of enterprise has an impact on adoption of ICT. Finally the majority, 68 (66.0%) of the respondents point out that ICT costs have an impact on ICT adoption.

Conclusion and Recommendations

The level of adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District shows that there is a high level usage of ICT by tourism SMMEs for business purposes. The study proposes that ICT usage also determines the adoption behaviour. The results obtained in the study depict a high level of ICT adoption because the majority of the tourism SMMEs in Ngaka Modiri

Molema District uses ICT for business purposes. Results from the data analysis indicate that a large percentage of respondents indicate that several factors 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 a hindrance to adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District.

According to the study, the perception about adoption of ICT by tourism SMMEs in Ngaka Modiri Molema District plays an important role in decision making to adopt ICT. The majority of tourism SMMEs in Ngaka Modiri Molema District perceives ICT adoption to add value to the business, hence a large percentage usage of Internet and websites for business purposes. The majority of these businesses are aware of the benefits of ICT, such as being an effective and an economic way of communicating with customers, competitive advantage to be gained from adoption of ICT and the improvement of business performance in terms of sales revenue.

Some recommendations for decision-makers, entrepreneurs and tourism practitioners in the tourism industry for SMMEs are suggested by this study. Ngaka Modiri Molema District local government should develop a district vision, strategic plan and policy guidelines for SMMEs ICT activities. All the tourism stakeholders should be involved in the development of a tourism strategy. Government can also 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 also increase the affordability of ICT through grants, credits, lease options and tax incentives.

Since the study only 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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