The Impact of Information Communication Technologies (ICTs) on Tourism Businesses in East London, South Africa

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Abstract: In assessing the impacts of information communication technologies (ICTs) on tourism businesses, this study adopted a case study blueprint, with a questionnaire survey being used to collect data from selected tourism businesses. The respondents rated ICT impacts on tourism on a 5-point Likert scale, with ratings ranging from 'strongly disagree' (1) to "strongly agree" (5). The results show that the impacts on hotels were perceived as ranging from 4.07 (improved company image) to 4.92 (increased market share), whereas the impacts on bed and breakfast establishments were perceived as ranging from 3.88 (improved company image) to 4.86 (speeded up service). The impacts on travel agents were perceived as ranging from 4.48 (improved service quality) to 4.94 (improved service quality), whereas the impacts on tour guides were perceived as ranging from 4.58 (improved company image) to 4.81 (heightened customer satisfaction levels). The impacts on backpackers were perceived as ranging from 3.78 (improved company image) to 4.75 (increased market share). Since ICT was perceived to impact relatively little on company image improvement, tourism businesses should use such technology to improve company image. The uniqueness of this article lies in it revealing the impacts of ICT on tourism business from an African country perspective.

Keywords: Tourism businesses; ICTs; impact; South Africa

JEL Classification: Z32

1. Introduction and Background

The fast-tracking and synergistic interface between information and communications technologies (ICTs) and tourism in recent times has brought about necessary changes in the industry and in its receptiveness to the former (Law et al., 2009), in both developed and, increasingly, developing contexts. The espousal of new technologies has reformed the whole process of tourism service development, management and marketing, as well as the entire tourism industry (Opara &

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Onyije, 2013). Due to their increasing impact on the efficiency and effectiveness of tourism establishments, ICTs may be seen as being a fundamental part of modern tourism business (Stiakakis & Georgiadis, 2011). Hence, Buhalis and Mihalič (2013) posit that the tourism industry has undergone some important changes, due to the innovative developments brought about by ICT. In the available literature, ICT has been broadly used as referring to multiple communication technologies, including the wireless Internet and smartphone applications. Digital radio, television, and cameras (Shanker, 2008) are creating a new global marketplace that is more competitive by the day (Sedmak et al., 2016).

According to Stiakakis and Georgiadis (2011), ICT has gradually generated a new paradigm shift, altering the tourism industry's structure, and developing a whole range of opportunities and threats. Consequently, Aghaei et al. (2012) provide a convincing argument when they postulate that ICTs provide a powerful tool that can bring advantages to the promoting and strengthening of the tourism industry's strategy and operations, in general. Omar (n.d.) asserts that, in the near future, countries without ICT infrastructures are unlikely to be able to keep up with the pace of tourism growth in other countries that have a significant ICT infrastructure. Consequently, the impact of ICTs in the tourism industry cannot be underestimated, since they are a crucial driving force in the current information-driven society (Paraskevas, 2005).

Existing scholarship that has focused on examining how ICT has in recent time played an important role in reshaping the tourism industry, mostly agree that ICT has provided and continue to provide a range of opportunities, for sub-sectors such as tour operators, accommodation, restaurants, travel agencies in a globalise context (Bojnec & Kribel, 2004; Buhalis & Kaldis, 2008; Irvine & Anderson, 2008; Spralls et al., 2011; Stiakakis & Georgiadis, 2011; Weigel, 2004; Werthner & Ricci, 2004). Furthermore, a major contribution that has been touted for the tourism industry also includes improving productivity market and market share (Aramendia-Muneta & Ollo-Lopez, 2013; Buhalis, 2003; Buhalis & Molinaroli, 2003; Chandler & Munday, 2011), improve competitive advantage (Buhalis, 1998, 2003; Namasivayam et al., 2000) and business performance(Shanker, 2008), as well as reducing operational costs (Bojnec & Kribel, 2004; Buhalis & Kaldis, 2008; Buhalis & O'Connor, 2005).

Despite the advances and growth in technology that have occurred on a global scale, and the arguments made in relation to its significance, Ashari et al. (2014) contend that few studies, as yet, have researched the impacts of ICT on tourism businesses. Consequently, the current study recognises the pressing need to close the present research gap. Regrettably, a glance at the abovementioned scholarship have shown a limited focus on countries in the global south. Consequently, the current study uniqueness is grounded in the fact that it investigates the impact of ICT on tourism businesses from a developing country perspective. As emphasised

by Berné et al. (2015), such analysis is important in the formerly colonised countries in Africa that have only recently attained independence. The countries in question are at the beginning of a transition, in terms of which tourism businesses have tended to employ ICT far less frequently than have the more developed, traditional market and customer-oriented tourism sectors. In this context, studying the impact of ICT on tourism businesses in South Africa is relevant, as it might provide useful insights into its implications for the future.

2. The Interrelationship between Tourism and ICT

According to the World Travel and Tourism Council (WTTC) (2016), tourism remains a major foreign exchange earner and a pillar industry for many countries across the globe. In terms of a holistic approach, it is a strongly interlinked discipline, with ties to other sectors of the given economy. Chen et al. (2013) perceive tourism to be a powerful wagon for socio-economic advancement and development, and, as such, small businesses are seen to be creating capacity for people to engage with the industry. However, the past decade's development of ICT and social media has dramatically influenced and changed how tourism and hospitality sectors produce, market and deliver their products, with their use having, unquestionably, become an essential tool and strategy. Karimidizboni (2013) states that the accelerated collision between technology and tourism in recent years has brought about indispensable changes in the understanding of the nature of tourism, with all its economic ramifications, within the tourism industry as a whole.

Werthner and Klein (1999) show the relationship between the overall ICT, using the Internet as an example, and the variables that are linked to it from a tourism perspective. Subsequently, a chain of communication is created. The overall structure of the industry has been transformed since ICT and the Internet have become the essential communication tool for the industry. Bughin et al. (2011) present the argument that the importance of the Internet, and of online presence, is demonstrated by means of the high levels of Internet penetration.

The availability of Internet resources, and the Internet itself, offers the tourism industry opportunities to provide wider, deeper and more customised offerings than before to a pool of clients, by achieving active relationships at affordable cost, and without substantially altering the quality of information delivered (Buhalis, 2002). According to Shanker (2008), the contemporary information society has made tourism a highly information-rich and intensively structured sector, as the dispersion of ICT has huge potential impacts for tourism business. Alam (2009) states that the business world has become deeply influenced by ICT, with the application of ICT among businesses being widespread. The impact of ICT on businesses relates to the facilitation of communication among organisational

stakeholders, with it serving as an effective sales channel, and providing an effective platform for engaging in marketing and other like-minded pursuits (Wang & Xiang, 2012).

In the light of the above, ICTs have become important tools in terms of an organisation's capabilities to endure and to extend to a position of advanced competition in the global economy, and, moreover, in the digitalised economy (Munar, 2012; Parsons & Oja, 2013). A nexus between tourism and ICT can, unquestionably, not be established without ICT having given organisations new managerial ways in which to retrieve information (Alam, 2009). The last decade's development of ICT, and especially of the social media has, undeniably, reinvented how the tourism and hospitality industries produce, market and deliver their offerings, as well as communicate both internally and externally (Leung et al., 2013). Lee and Wicks (2010), Buhalis and Law (2008) and Munar (2012) argue that ICT has become an invaluable business tool and strategy that is capable of being used efficiently within the travel sector. However, its use does require up-to-date knowledge of the latest technological trends.

A glance at the above narrative has shown that, while tourism and ICT has become an important research theme in the last decade, analysis that focuses on such a phenomenon from an African perspective, and particularly on those who seek to unpack the impact of ICT on the tourism sector, is still regrettably scant. The current research, in part, provides a useful case study that seeks to determine Africa's pathways in terms of tourism and ICT within an increasingly globalised context.

3. Methodology

The research approach that was adopted for the present study was a case study blueprint. The adoption of such an approach is common, with it having previously been applied in scholarship focusing on information systems and ICT[1]. Veal (2011) suggests that case studies can be empirical in nature, and that they study a contemporary phenomenon within a real-life context. According to Babbie and Mouton (2002, p. 281), case studies take multiple perspectives into account in attempting to understand the influences of multi-level social systems on subjects' perspectives and behaviours. Myers (1997) argues for the use of a case study approach as being well-suited to ICT-related research, because such case studies provide the prospect of studying advancement in technological use and its related impact on organisations. Since the aim of the current research was to study the impact of ICT on tourism businesses in South Africa, a case study approach was deemed appropriate by the researchers, as it presents an opportunity to select cases

[1] See, for example, (Mihajlovic, 2012; Apulu & Latham, 2011).

for observation. Consequently, a cross-section of tourism-related businesses, and specifically of those in the accommodation and travel subsector in East London, South Africa, was selected to take part in the study. East London was chosen as the preferred case study area in the present instance because, just like with many destinations in South Africa, the emergence and development of tourism and entrepreneurship has been on the upward trend since the advent of democracy in South Africa.

The sample size of said businesses was determined by means of adopting the sample frame that was developed by Tichaawa and Samhere (2015, p. 409) in relation to tourism businesses in the same study area (East London – South Africa). The above-mentioned researchers used relevant Internet sources, including data from the Border-Kei Chamber of Business, and from the Eastern Cape Parks and Tourism Agency (ECPTA). The stratified random sampling technique was used to collect the primary data, with the assistance of a semi-structured questionnaire. The tourism businesses identified in East London were stratified into five groups: hotels; bed and breakfasts (B & Bs); backpackers; travel agencies; and tour guiding companies. Within the named strata, the participants were randomly selected, so as to give each of the subgroups a fair chance of participating in the study. During the fieldwork, attempts were made to target two employees of each business concerned. Purposive sampling was used to identify the employees with knowledge about the current business in terms of its performance relative to ICT. So as to qualify for being interviewed, the respondents also had to satisfy the criterion of having served, or of currently serving, at some managerial level.

The questionnaire used was based on the competitiveness resource model (i.e. the CAF model, as developed by Mihalič and Dmitrović (2000), which has previously been applied in previous research on the impacts of ICT on various industries (Prašnikar, 2000). The CAF model was deemed suitable as the basis of the currently employed questionnaire, since the model in question measures the impacts of ICT on tourism. Respondents were requested to rate the impact of ICT on tourism using the following descriptors that are all employed in the current study: increased competitiveness; speeded up service; increased market share; heightened customer satisfaction levels; improved company image; reduced business operating costs; improved profitability; and opening up of new markets (Mihalič & Buhalis, 2013). The descriptors were selected in line with Chandler and Munday's (2011) and Buhalis and Zoge's (2007) identification of the factors as being the most essential components on which ICT has an impact in terms of tourism businesses. A 5-point Likert-type scale was employed in the questionnaire to illustrate the impacts of ICT on tourism. The scale ranged from "strongly disagree" (1), through "disagree" (2), "neither agree nor disagree" (3), and "agree' (4) to "strongly agree" (5).

The number of valid responses received during the data collection exercise that lasted from January to April 2015 was 372. The data obtained were coded, captured and analysed using the Statistical Package for Social Sciences (SPSS) software, version 23.

4. Results and Discussion

Summary of Respondents' Characteristics

The characteristics of the respondents were found to be as follows: more women (60%) than men (40%) were found to be involved in tourism-related businesses at owner/managerial level. Such a finding of representation from a gendered entrepreneurial perspective is vital in South Africa, especially in the light of the post-apartheid government's renewed aim to promote female emancipation and gender equality in the economy. The age distribution showed that the majority of those surveyed (86.0%) fell in the age group 21 to 50 years, with the average age of the participants being calculated at 34 years. The majority of the respondents were, accordingly, relatively young. The findings also reveal the respondents of the study to have been relatively well-educated, considering the percentage (76.9%) of those with a postgraduate degree or a certificate/diploma. However, of said percentage, very few (1.7%) indicated having either a tourism- or hospitality- related qualification. Interestingly, most of the businesses indicated that they had been in operation for a period of between 2 and 10 years (72.9%). Furthermore, the percentage of businesses that had been in operation for a period of between 11 and 20 years was 13.5%. New businesses, in contrast, comprised 8.1% of the survey, whereas those businesses that were 21 years old and over comprised 5.5%.

Impact of ICT on Tourism Businesses

Through descriptive and bivariate analysis, the means and standard deviations of the impact of ICT on tourism organisations are presented (Table 1). The impact of ICT on tourism establishments was measured on a five-point Likert-type scale. Analysis of the data reveals that the overall perceived impact of ICT varied from a mean value of 4.23 to 4.79 respectively, indicating rather high impacts of ICT on tourism establishments. The highest overall impact was found to be on travel agents, whereas the lowest impact was on backpackers.

Table 1. ANOVA between tourism organisations and the impact of ICT (N=372)

	Impact item	**Tourism organisations**									
		Hotels		**B&Bs**		**Travel agents**		**Tour guides**		**Backpackers**	
		M	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**	**M**	**SD**
V1	Increased competitiveness	4.91	0.81	4.72	1.03	4.94	0.77	4.79	0.80	4.29	0.96

V 2	Speeded up service	4.73	0.64	4.86	0.82	4.91	1.14	4.67	0.74	4.20	0.83
V 3	Increased market share	4.92	0.93	4.68	0.72	4.84	0.62	4.70	0.68	4.75	0.66
V 4	Heightened customer satisfaction levels	4.88	1.06	4.79	1.06	4.90	0.71	4.81	0.56	4.41	1.08
V 5	Improved company image	4.07	0.68	3.88	0.91	4.75	0.96	4.58	1.07	3.78	0.63
V 6	Reduced operating costs	4.76	0.89	4.85	0.65	4.69	0.63	4.71	0.82	4.01	0.70
V 7	Improved profitability	4.77	1.12	4.82	1.10	4.48	1.17	4.77	1.16	4.27	0.59
V 8	Opening up of new markets	4.87	0.76	4.83	0.70	4.78	0.68	4.68	0.64	4.11	0.77
	Overall impact of ICT	4.74	0.86	4.68	0.87	4.79	0.84	4.71	0.81	4.23	0.78

M= Mean; SD = Standard deviation

According to Table 1, the impact of ICT on hotels was found to range from 4.07 to 4.92. In terms of the hotels surveyed, ICT had the highest impact on the item "increased market share" (V3), whereas the lowest impact was on the item "improved company image" (V5). The results reveal similarities between the current study and studies conducted by other authors (Bojnec & Kribel, 2004; Buhalis, 2003). Furthermore, the above-mentioned table illustrates that the impact of ICT on bed and breakfast establishments (B&Bs) ranged from 3.88 to 4.86. In terms of the B&Bs surveyed, ICT had the highest impact on the item "speeded up service" (V2), while the lowest impact was on the item 'improved company image' (V5).

The impact of ICT on travel agents was found to range from 4.48 to 4.94, with ICT having the highest impact on the item "increased competitiveness" (V1), whereas the lowest impact was on the item "improved profitability" (V7). The results reveal similarities to those that were obtained in studies conducted by Buhalis and Kaldis (2008) and Buhalis and O'Connor (2005), who observed that ICT use tends to improve the competitiveness of tourism businesses, due to its ability to reduce transaction and operational costs.

Table 1 also shows that the impact of ICT on tour guides ranged from 4.58 to 4.81, with ICT having the highest impact on the item "heightened customer satisfaction

levels" (V4), whereas the lowest impact was on the item "improved company image' (V5). The attributes identified were the most important considerations in meeting both their company's short and long-term goals. Such a finding was crucial, especially in relation to those goals that had been developed to keep their business viable and sustainable. Moreover**,** the impact of ICT on backpackers ranged from 3.78 to 4.75, with ICT having the highest impact on the item "increased market share" (V3), whereas the lowest impact was on the item "improved company image" (V5). The results mirror those of existing studies conducted by Irvine and Anderson (2008), with the attributes being of utmost importance for consideration by backpacker managers attempting to meet their business expectations.

In sum, the major observation that was made in terms of the research finding was that the attribute 'improved company image' (V5) reflected the lowest mean score across most tourism businesses. The fact that ICT was found to have impacted relatively little on company image improvement represents a serious drawback to tourism organisations in East London, South Africa. They are clearly not taking advantage of ICT in terms of improving their company's image. The current study has confirmed that similarities and differences do exist in terms of ICT and related impacts in both developed and developing contexts.

Evidence from the present study suggests that, in the context of South Africa, it can be argued that ICT has had an inexorable impact on many of the country's economic sectors and their related performance. Therefore, the country's tourism and hospitality subsectors cannot be excluded from such impacts. Besides, for a country that seeks to be Africa's premier tourism destination, ICTs make it possible for tourism businesses to disseminate information about available tourist products and services prior to travel, apart from increasing the possibility of such ICTs enhancing tourists' satisfaction levels.

5. Conclusion and Recommendations

The tourism industry is widely acknowledged and accepted to be one of the largest and fastest growing economic sectors in the world. Thus, the sector cannot be excluded from the current upsurge in technology and its huge impacts. Existing scholarship has underpinned the importance of incorporating ICT into business activities for ventures to succeed in terms of competitiveness and profitability, insofar as the contemporary global economy is concerned. Empirical research has shown that ICT has both indirect and strong positive potential for the performance of firms. The aforementioned has been confirmed to be especially true in the case of transitional countries, where ICT is used much less than it is in more industrialised countries. Therefore, for tourism businesses to increase their competitive position, the conclusion is drawn that they should incorporate ICT in

their business practice so as to increase their performance. As a result, tourism enterprises need to understand, incorporate and utilise ICT systems strategically in order to: serve their target markets; improve their efficiency; maximise their profitability; enhance their services; and maintain their long-term profitability.

While the above needs to be done by tourism enterprises, it would be myopic to neglect the role that government authorities should be required to play. Certainly, tourism authorities should continuously develop and improve upon the current e-tourism infrastructures in order to keep up with the increasing competitiveness in the sector, so as to enable South Africa, as a whole, to benefit from the global benefits to be provided by the tourism industry.

The current study also provides a basis for future researchers to investigate a broadening of the scope for ICT in the tourism and hospitality industries. The development of a sound understanding and a profound knowledge of ICT should enable local business communities to draw up plans and policies in unison on how best to integrate ICT as a business strategy, as well as, most importantly, how to execute such a strategy by means of applying ICT tools that best fit organisational needs. Longitudinal studies that focus on the perspectives of other African country are required to see how ICT can best be used to assist organisations to achieve competitiveness and reach their future potential markets. This is especially in the light of ICT fostering change and continuous improvement on a global scale. Furthermore, the undertaking of such studies would also be likely to provide helpful insights into the implementation of ICT, thereby enabling its effectiveness to be tested. Hence, additional research to the current study should be undertaken in order to access the views and opinions of other tourism business stakeholders and so as to allow for the holistic unpacking of the associated impacts. Such information could assist in making tourism businesses more innovative than they are at present, and in making South Africa a smart destination in terms of the adoption and implementation of ICT.

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