

Effects of ICT in Hotel Industry in South Africa

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Abstract

Purpose: The purpose of this study was to investigate the role of Information and Communication Technology (ICT) in creating competitive advantage in selected hotels in Johannesburg.

Methodology: Descriptive research design was adopted by the study while stratified random sampling was used to stratify the 104 respondents into 4 categories which included: Operations, reservations, Marketing and ICT managers. Questionnaires were used to collect primary data while descriptive statistics were used to analyze the data.

Findings: The results showed that there was significant uptake of ICT in all categories of the hotels.

Conclusion: The study concluded that organizational, environmental and technological innovation factors significantly influenced ICT uptake of Johannesburg Hotels.

Recommendation: The study recommends engagement in online marketing and diversification of the types of online marketing in order to optimize on visibility, enhance marketing funnel and ultimately increase profitability.

Keywords: *Bed Night*, ICT, globalization, intangibility.

1.0 INTRODUCTION

Internationally, tourism is viewed as a fast-growing industry not only in developed countries but also in developing ones (Asmelash, 2015; Leslie, 2015; Xie, 2015). Tourism and hospitality industries have gained importance not only in terms of foreign exchange earnings and employment creation, but also economic growth and increased income for the local people (Kyalo & Katuse, 2013). According to Sahadev and Islam (2005), the quick commercialization and development of ICTs for the tourism and hospitality industry has impelled organizations to adopt new technology. This is centered on the expectation that new ICT-based processes and technologies will result in operational efficiencies and increased levels of customer service (Sahadev & Islam, 2005). Further, the influence of ICT in hospitality and hotel industries has been broadly acknowledged as one of the main transformations in the last 10 years; new methods of communication, use of ICT to deliver better services to guests and enhance their holiday experiences (Castaneda & Rodriguez, 2007; Nwakanma, Ubani, Asiegbu, & Nwokonkwo, 2014).

Over the years, South Africa has become a preferred destination of choice for tourists from North America, Europe and other first world countries (Akama, 2007). This has been mainly due to its unrivalled wealth of wildlife, bird-life, clean white sandy beaches, cultural diversity and scenic beauty. Due to its importance, the government carries out regular marketing campaigns to publicize the country to the outside world as an important tourist destination through the South Africa Tourist Board. However, it is upon the hoteliers themselves to make an effort to market their resort to the visitors. This is more so necessary because after several years of revenue growth, post-election violence and terrorism negatively affected the coastal tourism resulting in cancellations of charter flights and a persistent decline in tourists' arrivals as international markets wavered (World Bank, 2010).

According to Nwakanma et al. (2014) in order for hotels to break-even, there is a necessity of bed occupancy of 65% for seven months in a year. This occupancy level target is further complicated by business seasonality. The packaged tours sold by overseas tour operators is no longer sustainable as it has limited economic benefits for beach hotels due to leakages (Sinclair, 1990; Dieke, 1991; Akama, 1997). This situation therefore calls for alternative ways of directly selling to the customers by cutting out layers of middlemen.

Obonyo, Kambona and Okeyo (2016) reiterated that ICT has assumed a pivotal role in facilitating business operations. Additionally, as argued by Buhalis and Kaldis (2008), the internet has transformed the manner in which customers make their travel decisions. The new model of distribution has made it possible for new entrants in the market, pushed both for re- intermediation and disintermediation and changed the competitive advantage sources. ICT enables consumers to check and buy tourism and hospitality products that are customized and benefit from the distribution of products without any geographical or time limit (Ip, Leung, & Law, 2011). As such, hotels must up their game in online visibility, customer interaction, managing inventory, price updates, confirming bookings and receiving payments via online gateways.

In the advent of the ICT bill in South Africa, there was a drastic growth of electronic commerce (Kemibaro, 2010). However, the level of ICT uptake by beach hotels and its impact on hotels business has not been extensively researched. Understanding the factors for ICT uptake or lack of

it and its present performance for South Africa's Johannesburg hotels could aid researchers and practitioners in understanding the ICT uptake position for Johannesburg hotels.

1.1 Research Gap

The traditional revenue source of packaged tours sold by overseas tour operators is no longer sustainable as it has limited economic benefits for beach hotels due to leakages (Sinclair, 1990). There is an urgent need therefore for alternative ways of directly selling to the customers and improving on the profit margins which is made possible by ICT. Further, ICT possesses the eminent possibility of change in the daily operations of an organization (Sigala, 2003a). Earlier study carried out by Abdulrahim (2005) was concerned with the impact of electronic commerce in electronic business development and only concentrated on 5-star hotels in South coast. No similar study was conducted in Johannesburg. While historically holiday reservations were done through travel agents via telephone and email, e-bookings became the rule rather than the exemption as a main source of income for the travel suppliers over the last few decades. There is need to know the ICT uptake level for Johannesburg Hotels in order to ascertain how they benefit from the internet and social media which is known to give considerable leverage in marketing and sales. With the ever-growing number of tech-savvy customers from European and local source markets, there is a considerable opportunity for the hotels to focus in this direction. Although the use of ICT has been known to have numerous benefits, how organizational, innovation and environmental attributes influence ICT uptake for Johannesburg hotels have been less researched.

1.2 Purpose of the Study

The main objective of the study was to investigate the effects of ICT uptake of hotels in Johannesburg

2.0 LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Technology, Organization and Environment Theory

TOE framework has been extensively used to study ICT uptake. Developed by Rogers in 1962 with further work on it by Tornatzky and Fleischer (1990), TOE identifies three key constructs that influence ICT uptake namely; Technological innovation, Organizational and environmental factors. According to Tornatzky et al. (1990), TEO are predictors of decision making for ICT uptake in organizations. Organization advancement through availability of relevant new technologies (for example internet, technological tools and development processes), organizational structures and resources (organization culture, human resource capacity, financial capacity, top management support, organization size, compatibility and collaboration) and the environment context such as market structures, the external support available for new technologies uptake and government regulations (Tornatzky et al., 1990). TOE framework has been validated by information system researchers in different settings as a technology uptake model at the organizational level.

2.1.2 Diffusion of Innovation Theory

The research based its foundation on the theory of Diffusion of Innovation. It was coined in communication to clarify how, over time, an idea or product attains momentum and diffuses through a specific population (Rogers, 2003). The theory is usually seen as a valuable model of change for managing innovation of technology where the innovation itself is modified and presented in ways that meet the needs across all levels of adopters. It also stresses the importance of communication and peer networking within the adoption process (Katz, 1957).

Rogers (2003) observed that there are four main factors that influence the dissemination of a concept namely the channels of communication, innovation, time, and the society. Similarly, organizational characteristics have been used in a number of studies as a main element of the adoption of technological innovation. This includes business size (Dholakia & Kshetri, 2004) hotel characteristics for example independent, chain, luxury, upscale, budget and others (Van Hoof, Ruys, & Combrink, 1999). Management support, organizational readiness and CEO positive attitude and IT knowledge has also been found related to impact on adoption (Thong & Yap, 1995; Seyal & Rahman, 2003).

2.2 Empirical Review

The effect of ICT on hospitality and tourism industries has been regarded as a main transformation (Nwakanma et al., 2014). ICT has a crucial role in the industry, because it is paramount for the industry to excel (Bethapudi, 2013). Buhalis and Law (2008) reiterated that ICT has become an irreplaceable commercial strategy and tool with a capacity of being used efficiently and effectively within the industry. Therefore, progress and development of ICT have had a colossal effect on hospitality and tourism as well as on other sectors of the economy associated with it (Ilić & Nikolić, 2018). Further, there is a general agreement on the benefits of ICT utilization for organizations and hospitality establishments (Buhalis et al., 2008). To sustain effectiveness, hospitality establishments have quickly adapted to ICT (Velázquez, Blasco, & Saura, 2015). Buhalis et al. (2008) linked changing trend in the hospitality industry to advancement in ICT and increase in the demand by clients for better services. ICT processes and products assist hotels to improve service experience and efficiency (Sahadev & Islam, 2005).

Sobihah et al. (2013) observed that electronic commerce is the finest tactic and means of instruction that has efficiency and flexibility and is an approach that utilizes electronic means to conduct a commercial transaction. Moreover, the importance of ICT and its implication in the lodging industry is growing exponentially (Banoobhai-Anwar & Keating, 2016). Rajasekaran and Sudarsan (2018) reiterated that the importance of electronic commerce is felt and greatly emphasized in the present business field. Today, all the industries have started adopting e-commerce concepts, where tourism is probably the most affected industry by e-commerce (Rajasekaran & Sudarsan, 2018).

According to a number of studies, perceived benefits or advantages affect technology uptake in the hospitality industry (Buhalis & Deimezi, 2004; Garces, Gorgemans, & Sanchez, 2004). Werthner and Klein (1999) demonstrated how internet transformed the process of producing, distributing and consuming products of tourism, and came to a conclusion that ICT maybe the most influential force of change in the industry and a great contributor to competitive advantage (Werthner et al., 1999). Yelkur and Da Costa (2001) argue that the ICT stands for an exceptionally

effectual means of the organization, and communication of information. As such, the ICT incorporates communication technology that ranges from the inscribed and verbal word to pictorial images (Yelkur et al., 2001).

Tan and Teo (2000) and Wongpinunwatana (2003) found out that the competitive environment encourages ICT uptake. Buhalis and Main (1998) described that demand of customers is also an enabler of ICT uptake. The government can further encourage ICT adoption by providing regulatory and legal frameworks, supporting infrastructure, and electronic commerce utilization directions (Kuan & Chau, 2001). Further, the level of technological support which includes the support of infrastructures of technology that are readily and easily accessible for example online payment gateway, online Travel agents (OTA's) and hotel booking engines was also found to significantly influence ICT uptake.

Rogers (2003) identified a number of attributes of an innovation that can influence ICT uptake. They include relative advantage or perceived benefits, complexity, compatibility and image and are likely to influence ICT uptake (Rogers, 2003). Further, barriers including cost of the use of ICT have also been noted in previous studies to affect adoption of new innovations (Buhalis et al., 2004). Additionally, Buhalis and Kaldis (2008) argue that various factors that affect ICT adoption of organizations in different locations and industries differ subsequently because the forces of competition and structures of the industry contrast.

Sahadev and Islam (2005) observed that hospitality establishment of an advanced grade are more prone to implement new innovations of ICT compared to establishment of a subordinate grade. Further, establishment with higher inclination to adopt ICT are likely to be more disposed to implement new innovations (Sahadev et al., 2005). There has been a rapid growth and advancement in technology globally. Buhalis et al. (2004) attributed this tendency to both quick developments in technology and also the growing customers' demands, who expect better services.

3.0 METHODOLOGY

The study used the descriptive survey research design where the primary data collected was structured and subjected to a formal statistical and numerical analysis and used to describe and understand behavior. The research was done in 26 hotels in Johannesburg in a 3-5 star and boutique hotels accommodation category out of 33 targeted, based on the defined cluster and criteria. The study selected all the 33 hotels based on defined clusters and criteria at Diani Beach area and had a target population of 164. Four Managers in each hotel were selected consisted of marketing, Operations, reservations and ICT Managers who engage in online marketing and information and communication technology. The study used structured questionnaire to collected data from the sampled managers. The research instrument of questionnaire was piloted to check for any ambiguities and inconsistencies and tested using the Cronbach Alpha technique for reliability.

4.0 DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Demographic Characteristics

On the respondents' highest education level, certificate had 11.54%, South Africa College diploma or similar had 53.85% and bachelor's degree had 34.62%. This meant that most respondents in the study had South Africa College diploma or similar as their highest education level. Concerning the duration worked in the hotel and designation most respondents (23.1%) reiterated that they had

worked in the hotel and designation for the last 4 years, while a minority of them (3.8%) had worked for the last 10 years.

4.2 Descriptive Analysis

4.2.1 Level of ICT uptake of Johannesburg Hotels

As depicted in table 1, the respondents were asked on the ICT uptake level in hotel marketing. 15.4% of the respondents reiterated that their hotel had email and travel web pages for promotion and adverts. 7.7% of the respondents mentioned that the hotel had an email and website for receiving online requests. 46.2% of the respondents indicated that the hotel had email, a website for receiving online requests and hosted on online booking engines. Finally, 30.8% of them who are the majority indicated that their hotel had email, website for receiving online requests, room availability check, completing, hosted on hotel booking engines and receiving payment via secure payment system directly to the hotel account. This implied that most of the respondents were of the view that the hotels had embraced ICT uptake in their organization.

Table 1: Level of ICT uptake in hotel marketing

Statement	Frequency	Percent	Valid percent	Accumulative percent
Having email and travel web pages for promotion and adverts	16	15.4	15.4	15.4
Having email, hotel own website for receiving online requests	8	7.7	7.7	23.1
Having email, hotel own website for receiving online requests and hosted on online booking engines	48	46.2	46.2	69.2
Having email, hotel own website for receiving online requests, room availability check, completing, hosted on hotel booking engines and receiving payment via secure payment system directly to the hotel account	32	30.8	30.8	100.0
Total	104	100.0	100.0	100.0

Furthermore, the respondents were questioned on whether their hotel engaged in online marketing. The findings revealed that 46.2% of the hotels engaged in online marketing, while 53.8% of them did not. This implied that slight majority of the respondents were of the view that the hotels did not engage in online marketing, hence a lower ICT uptake. The finding was in tandem with a study by Nwakanma et al., (2014) that shown that the speed which hotels adopts and utilizes ICT was dependent on the activities they are involved in.

4.2.2 Effect of Organizational Factors on the uptake of ICT by Johannesburg Hotels

The respondents were asked on how organizational factors affect the uptake of ICT by Johannesburg Hotels and in particular top management support as shown in Table 2. Most of them were of the view that management considers ICT as important with 80.8% strongly agreeing and 19.2% agreeing (Mean= 4.81, Standard Deviation = 0.396). 65.4% of the respondents agreed that management supported and allocated resources for ICT, while 23.1% of them strongly agreed and 11.5% had a neutral opinion (Mean= 4.12, Standard Deviation = 0.580). 53.8% of the respondents agreed that the management of their hotel had communicated effectively its support for the ICT uptake and how it is implemented, while strongly agreed and neutral both had 23.1% (Mean= 4.00, Standard Deviation = 0.683). 50.0% of the respondents were in agreement that there was a policy document for ICT use and commitment by the company, while 19.2% of them strongly agreed and 30.8% had a neutral opinion (Mean= 3.88, Standard Deviation = 0.701)

Table 2: Top management support

Statement	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std. Dev.
Management considers ICT as important	80.8(84)	19.2(20)	0.0 (0)	0.0 (0)	0.0 (0)	4.81	0.396
Management supports and allocates resources for ICT	23.1(24)	65.4(68)	11.5(12)	0.0 (0)	0.0 (0)	4.12	0.580
Management has effectively communicated its support for the ICT uptake and implementation	23.1(24)	53.8(56)	23.1(24)	0.0 (0)	0.0 (0)	4.00	0.683
There is a policy document for ICT use and commitment by the company	19.2(20)	50.0(52)	30.8(32)	0.0 (0)	0.0(0)	3.88	0.701

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly disagree, F – Frequency, M – Mean, Std. Dev – Standard Deviation.

4.3 Inferential Statistical Analysis

4.3.1 Model Summary of Organizational Factors

Table 3: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.393(a)	.154	.146	.463

a Predictors: (constant), organizational factors

Table 3 shows that the organizational factors were independent variables, while ICT uptake was dependent variable, it had an F distribution of 18.584 and a significance of 0.000. The calculated value of F distribution of 18.584 is more than the table or critical value of 2.54. Here, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model significantly predicts the outcome variable of ICT uptake (that is it is a good fit for the data). This means that organizational factors have a significant effect on ICT uptake by Johannesburg Hotels. This result is in tandem with findings by Barzekar and Karami (2014) that showed that there was a substantial link between organizational knowledge and resource, management structure, values, process and implementation of ICT.

4.3.2 Regression Model

Table 4: ANOVA of organizational factors

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.983	1	3.983	18.584	.000(a)
Residual	21.863	102	.214		
Total	25.846	103			

a Predictors: (Constant), organizational factors

b Dependent variable

On the coefficient as shown in Table 4, on the issue of organizational factors and ICT uptake, it was -4.311 and significance was 0.000. T value realized in the study is smaller than the assumed value, hence the t-statistic is negative. This meant that organizational factors have a negative but significant effect on ICT uptake by Johannesburg Hotels. Findings by Barzekar and Karami (2014) revealed that the implementation of ICT is greatly influenced by organizational factors.

Table 5: Coefficients

Standardized coefficients	Unstandardized coefficients				
Model	B	Std. Error	Beta	t	Sig.
1 (constant)	3.671	0.497		7.389	0.000
Organizational Factors	-0.525	0.122	-0.393	-4.311	0.000

a Dependent Variable: ICT uptake

ICT uptake = 3.671 - 0.525

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

In conclusion, the study sought to evaluate the factors that affect uptake of information and communication technology at Johannesburg hotels. The study endeavored to evaluate the level of ICT uptake of the Johannesburg Hotels. From the findings, it was realized that most hotels made the effort of embracing ICT for effectiveness and efficiency. However, it can be concluded that although most hotels had email, a website for receiving online requests and hosted on online booking engines, they did not engage in online marketing intensely. Most did not have online payment gateway except through OTA's. As such, they could not receive payment via customers' credit card directly on their website. Additionally, the study concluded that Facebook was the most popular social media for those who engaged in online marketing. In regards to computer knowledge acquisition, most respondents acquired computer knowledge using other ways rather than university course, working in a hotel and friends.

5.2 Recommendations

The study recommends more engagement in online marketing that would increase the hotels online visibility. This will eventually boost hotel products and service delivery and assist in leveraging in the digital economy. Further engagements in social media will not only promote the hotel but also enhance customer care and guest experiences which will further help re-enforce brand reputation. From the study, it was realized that the main online advertising was done on Facebook and OTA's. It is recommended that the hotels diversify more to other platforms of pay per click on google which will directly link customers to their web page, cutting out layers of middle men. Also advertising on online newspapers and magazines and advertisement on trip advisor as well as additional online travel agencies will boost their visibility. This will increase more sales and widen the hotels visibility and business opportunity by being available on multiple platforms.

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Conflict of Interest

Author declares no conflict of interest.

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