



ICT adaption and customer satisfaction in star category hotels in Sri Lanka

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Abstract

ICT has become a major productivity enhancing tool in business firms, success stories of ICT applications are widely spreading in various fields including hotel industry. Although research has given significant attention on the use of ICT and its role in hotel industry in last few decades, findings are inconclusive and loaded with vague ascertain. This study examines the impact of ICT on customer satisfaction in star category hotels in Sri Lanka. A sample of 33 star category hotels was selected for the study. Data were gathered from executive officers and guests from the selected hotels using structured questionnaires. Structural equation modeling was used in data analysis. The results show that ICT adoption in hotels ensures superior service to the customers and in turn enhances their satisfaction. Thus, management should take corrective measures to adapt modern ICT in the hotels to provide effective and efficient service to their customers.

Keywords: *Customer satisfaction, ICT adoption, star category hotels.*

1. Introduction

Advancement of technology creates new capabilities and opportunities. This decade provides enormous evidences for technological changes and advancements took place in different sectors such as computer technology, electrical, mechanical, telecommunication and many more. ICT expands its' technological capabilities and applications by creating new services and values in various fields. Usage of ICT in hotel and tourism industry, where customer satisfaction becomes a vital factor, creates new research area to uncover the impact of technology on hotel and tourism industry (Sirirak et al., 2011). Increasing competition and customer expectation lead hotels to look for novel ways and means to achieve competitive advantage in highly volatile, dynamic, and complex environment.

Many hotels have adopted ICT as a way to cope with rapidly changing environment, specifically to handle hotel operations and guest satisfaction. Room reservation systems, procurement and inventory systems, wireless internet, e-mail, electronic transactions, and hotel web sites are some of the ICT applications that have been broadly implemented throughout the industry (Ham et al., 2005). Hotel managers consider ICT adoption is a key success factor in improving hotel performance (Siguaw et al., 2000; Sigala et al., 2001). Improving both operational productivity and customer satisfaction is perceived as key determinants for survival and success in the long term (Jones, 1999). The renewal and advancement of the technology creates new landscape for human being to discover new capabilities, values, beliefs and quality of life (Zyngier, 2001). However, literature dealing with the impact of ICT on hotel and tourism industry has not yet been well developed and existing studies are ended up with inconclusive and contradictory results (Sirirak et al., 2011). Therefore, this study seeks to investigate the impact of ICT on customer satisfaction in hotels in Sri Lanka.

2. Literature review

The term ICT comprises with two important knowledge areas; information technology and communication technology. Information technology refers knowledge and techniques which are needed for working with information; this technology includes different hardware and software technologies that are necessary to input data, process data and to produce information for various purposes (John, 2003). Communication technology includes different technical aspects for communicate data or information with different parties. The communication can happen between machines, in between machine and human.

In the effort to understand technology adoption and implementation, the technology acceptance model (TAM) introduced by Davis (1989) would probably be the most extensively used model to explain and predict consumers' and/or organizations' willingness to adopt new technologies (Wang & Qualls, 2007). Several other models built on Davis' work have been proposed to guide inquiry into this phenomenon (Cheong & Park 2005; Davis, 1989; Venkatesh et al., 2003). These studies on technology adoption have provided the theoretical basis for a viable behavioral framework of technology adoption by integrating concepts and findings from the studies of innovation adoption. The central theoretical premise underlying TAM is that an individual's intention to purchase a product or service is determined by two factors: perceived usefulness and ease of use of the product or service.

Technology adaptation research investigates level of technology availability, integration and usage. Sahadev and Islam (2005) have conducted a research to explore the propensity of adoption of ICT-based facilities in the hospitality sector. They divided factors that influence a hotel's propensity to adopt ICTs into two broad categories as location-related and firm-related. Relative impact of the factors on the ICT adoption propensity has been analyzed through a survey amongst 95 hotels from seven locations in Thailand. The study concluded that hotels in highly developed markets with a large number of visitors hailing from the USA and Europe are more prone to adopt ICTs. Hence, when new technologies are launched for the hotel industry, it is advisable to target hotels catering to such a clientele, since their propensity to adopt technologies is higher compared to hotels that do not really cater to customers from high internet penetration countries. The study also shows that when general occupancy rates are low (i.e. the level of competition is high in

a location), hotels tend to be more inclined to adopt ICTs. This tends to endorse the belief that competition propels innovation.

Badnjevic and Padukovas (2006) found negative factors in ICT adoption such as lack of education, bureaucracy and physical infrastructure. They noticed that slow internet connection and band breadth were also obstacles. Similar types of findings are also seen in Malaysia (Kasim & Ern, 2010). Elements for measuring the level of ICT adoption in hotels include availability of ICT components, integration of ICT components and intensity of ICT usage (Sigala, 2003). The availability of ICT components in a hotel can be measured in terms of the number of items it has (Siguaw et al., 2000; Ham et al., 2005; Prakash & De, 2007). The integration of ICT components can be measured by the number of ICT linkages between a specific operational domain and other operational domains or to the main server systems (Sigala, 2003). The intensity of ICT usage can be measured by the percentage of the total operations carried out using ICTs. For example, the intensity of ICT usage in a reservation process can be measured by the percentage of transactions carried out through the hotel web site reservation system (Sahadev & Islam, 2005).

ICT impact in hotels has been identified in a research conducted by Sigala (2003). Her research indicates that despite the increasing ICT investments, the productivity impact of ICT has been elusive. Findings provide robust conclusions regarding the ICT productivity paradox highlighting that this debate has been a methodological artifact. Her research revealed that hotels using PMS (property management systems) and customer databases for informational and transformational activities achieved significantly greater productivity scores than those using ICT for automation only.

Irvine and Anderson (2008) examined the role of ICT in small rural hospitality businesses. They found that though ICT is often presented as a means of reducing the impact of being rural, little is known about the extent or level of use of ICT. The study found that 84 percent of the businesses use ICT effectively, ICT mainly use to provide information and improve service quality. In addition, some firms had adopted very successful methods of using the internet for sales and marketing but ignored supply functions. Bulchand-Gidumal (2011) surveyed all types of hotels to examine whether offering free Wi-Fi improves hotels' online ratings, factors that are effect on customer satisfaction. He found that offering free Wi-Fi helps hotels to improve their ratings by up to 8 percent.

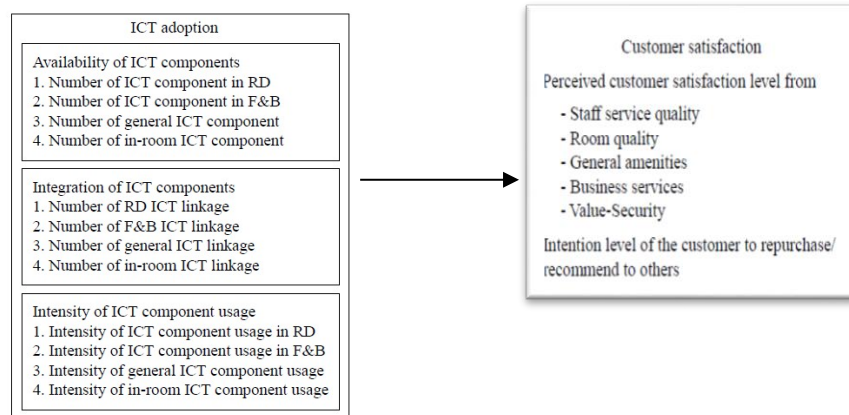


Figure1: Conceptual framework

The conceptual framework (See Figure 1) used in this study is adopted from model proposed by Sirawit and Islam (2010). According to the model, ICT adoption consists of three elements; availability of ICT components, integration of ICT components intensity of ICT usage.

3. Methodology

This study focused 3 to 5 star category hotels in Sri Lanka and used quantitative approach to examine the underline phenomenon. Data were collected from hotel managers as well as guests who stayed at the selected hotels. Structured questionnaire was designed and sent to hotel managers through email and managers in 33 hotels returned filled questionnaires. In order to measure the level of customer satisfaction, 5 customers were selected from each hotel using the checked out list on selected dates and researcher personally met them and get their feedback to the survey developed. Key variables of the study were measured with items on Likert type five scale. Survey questions were developed based on relevant literature to ensure the validity of data. Questionnaires were pre-tested focusing 20 respondents before original survey. Each construct of the questionnaires was tested for internal consistency and reliability analysis produced Cronbach Alpha values over 0.7 for each construct. Data collected from two samples were integrated to facilitate cross- sectional analysis. in particular, data on customer satisfaction which were collected from customers of a particular hotel were analyzed separately and the mean values of the indicators of the construct of customer satisfaction were linked with the data collected from the management of the relevant hotel. Statistical analysis of the study consists of descriptive statistics and inferential statistics. Descriptive statistics such as mean, standard deviation are used to describe the key variables of the study. Inferential statistics such as correlation analysis and structural equation modeling are used to test the research model. AMOS statistical software was used for this purpose.

4. Results and discussion

The sample of the study consists of both hotel executives and guests to the selected hotels. In the first sample, there were 33 hotels including 10 three star category hotels, 14 four star category hotels and 9 five star category hotels. One executive from each hotel responded to the survey making 23 male and 10 female executives. With respect to the highest education qualification, 17 had bachelor degrees, 5 had master or postgraduate qualification. The second sample comprises 224 guests including 100 male and 124 female tourists who have arrived various part from the World such as Asian region (56.3%), North America (16.1%), Europe (22.3% and Oceania (5.4%).

Table 1 represents descriptive statistics calculated for key variables of the study. Mean values reveal that use of ICT in selected hotels is in better position in terms of availability of ICT, ICT links and operations carryout suing ICT. In addition, standard deviations show that there is no high variation among the selected hotels on use of ICT in their hotels. Mean value for customer satisfaction (M=4.0289) indicates that guest to the selected hotels have experienced greater satisfaction about the services rendered by the hotels.

Table 1
Descriptive Statistics of the Research Variables

Variable	Mean	Std. Deviation	Skewness	
			Statistic	Std. Error
Availability of ICT	3.7027	.37781	-.301	.409
ICT Links	3.4242	.49008	.319	.409
Operations done using ICT	3.4015	.39990	-.723	.409
Customer satisfaction	4.0289	.17621	-1.459	.409

Table 2 presents the result of Correlation Analysis. The results indicate that there is a positive and significant relationship between ICT availability and customer satisfaction in the hotels. Moreover, ICT Links and operations done using ICT are also correlated positively and significantly with customer satisfaction.

Table 2
Results of Correlation Analysis

Variable	Customer satisfaction
ICT availability	.399*
ICT Links	.387*
Operation Done using ICT	.381*

* - Correlation is significant at 0.05

Results of structural model used to examine the impact of use of ICT on customer satisfaction are reproduced in Table 3 and Table 4. Overall fit indices, Chi-square, $\chi^2 = 123.626$, RMSEA (root mean square error of approximation) = 0.017, GFI (goodness of-fit) = .908, AGFI (adjusted goodness-of-fit) = .903, CFI (comparative fit index) = 0.830, and NFI (Nonnormed fit index) = 0.921 or TLI = .928 show the better fit of the model.

Table 3
Fit indices

χ^2	P value	RMSEA	GFI	AGFI	NNFI	CFI	TLI
123.626	0.004	0.017	0.908	0.903	0.921	0.830	0.928

The regression estimates show the impact of each construct and independent variables on other construct, dependent variables. Table 8 presents standardized regressions of each variable of the structured model, according to the data all regression (impacts values) are significant at 0.05, and specifically regressions values of ICT adoption on customer satisfaction is 0.286 which shows considerable impact value.

Table 4
Standardized regression estimates

Variable	Path	Variable	Estimate	S.E.	C.R.	P
Customer Satisfaction	<---	Operations done using ICT	.778	.194	4.0103	***
Customer Satisfaction	<---	ICT Links	.901	.305	4.935	***
Customer Satisfaction	<---	Availability of ICT	.667	.285	3.778	***

*** Estimate is significant 0.001

Standard regression estimate 0.778 which is significant at 0.001 indicates that operation done using ICT has a positive and significant effect on customer satisfaction. Similarly, ICT links also have a positive and significant effect over customer satisfaction ($\beta=0.901$, $p<0.001$). Moreover, it is revealed by the results that availability of ICT in the hotel enhances the customer satisfaction ($\beta=0.667$, $p<0.001$). These results disclose that use of ICT in the hotels would help to fulfill guests' needs in effective and efficient manner.

5. Conclusion

This study examined the impact of use of ICT on customer satisfaction in star category hotels in Sri Lanka. The study found that availability of ICT, ICT links and operations done using ICT have positive effect on customer satisfaction in the hotels. These findings are consistent with the results of studies in similar context (Ham et al., 2005 ;). Sirirak et al., 2011 Therefore hoteliers can ensure the superior service to their guests by adopting modern ICT to hotel operations and thereby gain competitive advantages in the industry. Hotel managers and executives should give more attention to configuration of existing and new products and services with modern ICT to meet the current and future needs of the customers.

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