A REVIEW STUDY ON THE INFORMATION TECHNOLOGY APPLICATIONS IN HOTEL INDUSTRY

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ABSTRACT

IT has dominated every sector of industry. Applications of IT in the hotel industry varies from the booking to post service feedback. This study focuses and reviews the IT strategies and applications being used in the hotel industry. The study also puts light on the key areas which need to be kept on abreast while undertaking IT implementation in any hotel establishment.

Keywords: Hotels, Information Technology, IT Applications.

Introduction

The hospitality industry has been emphasizing on provision of quality services to the guests whether staying with them or not staying with them since ages. With the increasing demand of information by the customers and the hotels like guest history need by them has increased the scope of use of information technology by them. The hotels have started investing in Information technology now as it helps guests to have a better experience and their own manpower to work more efficiently. The hotel industry has been regarded as information intensive as the guests information like their Preferences, likes regarding rooms, facilities. The hotels have been using information technology now in reshaping the structure of the industry. The hospitality and tourism industry in India especially in National Capital Region in North India has seen a rapid growth in recent times with large number of foreign travelers also coming to India for different reasons and staying in hotels. There are large number of budget hotels operating and coming up in the region with big players like Park Plaza , Ginger Hotels, Lemon Tree Hotels have been emphasizing on the use of Information Technology to improve their services and make best use of their manpower. Since there has been a rapid change in the information technology practices with the use of e-business practices with the use of e-mails, internet, social networking, sms, and mobile internet. With the use of IT the hoteliers can plan their strategies and make their manpower more competent to the make

The full benefit of technology. The use of information technology by the hotels requires a huge investment. Mobile Commerce (m-commerce) has been the latest innovation as the use of information technology by the hotels in which the guests can make bookings through their mobiles and check-in from their mobiles through IT.

Theoretical underpinnings and hypothesis development

If the hotels start using better and more advanced information technology systems in front office it will enable them to get bookings through GDS and on the better rate that will help them to improve the ARR and total revenue. As more and more customers are getting educated and they prefer using internet for their room reservations and other type of bookings related to their travel and ICT also helps hotels in improving their customer database. The use of Information technology plays an important role in the functioning of hotel as it functions 24*7 and as the customer is more information centric through use of internet. The hotels focus on use of technology even before the arrival of the guest till his departure and even post departure. Camison (2000) evaluated management of information

technology and its contribution to competitiveness in the hotel business in the Valencia region of Spain. He stated that the PMS is a central part to report happening in the hotels operation and it used as process of check in, check out to software that helps in revenue management, database management, and human resource management. Wei et al (2001) revealed that there is a great impact of location of hotel or resort in adoption of information technology. The number of rooms and competition among hotels in a region can also affect the use of information technology in hotels.

(Bitran and Gilbert, 1996; Lang, 2000; Inkpen, 1998; O'Connor, 2000; O'Connor, 1999; Buhalis, 1998) suggested that hotels aggressively use ICT based technologies both for attracting customers as well as to increase the efficiency of its operations.

Cheyne, et al. (2006) stated that many people prefer to book online when they have previously traveled to a destination and they feel familiar with the place, although many still treasure their established relationships with travel agents.

Connolly & Lee, (2006); Singh & Kasavana, (2005) in their study found thatIT provides the customers with accurate information and helps them to get better deals.
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Buhalis, & O'Connor, (2005) revealed that IT is extensively used in order to find alternative travel opportunities these days so as to compare offerings, as per their preferences and filters.

Several studies have stressed on Internet usage in terms of attitudes and perceptions toward Internet implementation in the lodging industry (Garau Vadell, 2005; Ayeh, 2006), sales professionals in hotels are extensively using web based tools.
(Gregory, Kline, & Breiter, 2005), and the planning and implementing of websites among small and medium-sized tourism enterprises (SMTEs) (Sellittto & Burgess, 2007).As more and more customers are going through hotel website and even can check their bills through their television in rooms.
Davis and Davidson (1991) stated that with the new technologies coming up there is need for more accurate and timely information
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Summarizing, we may say that there are two major research questions in the property management practices:

1. What are the major information technology practices in front office used by selected hotels in NCR?

2. To Study relationship of control (demographic) variables of hotels and adoption of information technology practices.

The study provides two hypotheses in order to analyse the application of information technology techniques in front office by selected hotels of NCR:
H1: There is a positive relationship between the importance of information technology practices and the adoption of information technology practices.
H2: There is a positive association between the control variables (demographic) of hotels and the adoption of information technology practices practices.

Research objectives
The aim of this paper is to investigate and report the importance and usage of information technology in front office by selected hotels of NCR, and to identify the major barriers that are experienced by Indian hotels in their efforts to implement information technology practices in their businesses. The research objectives are addressed by conducting an exploratory analysis of implementation studies for hotels and the extent to which information technology practices are being applied in India and in the hotel industry.

Sample
Data were collected using mail questionnaires. The questionnaires were addressed to owners/mangers of 150 Indian hotel enterprises operating in NCR region (approved by the Ministry of Tourism, Government of India, 2010) of which 80 (53.34 %) returned the questionnaires. The data were analysed using SPSS.

Table 1 presents the distribution of the sample organisations according to the controls used in the study. The vast majority of the sample hotels were almost 3 to 4 star hotels and 40% of the sample hotels were established in the last 10 years. With respect to the size of the organisations, 66% of the sample hotels were rather medium organisations with less than 500 million Rs in operating capital, and 12.50% of the sample hotels were also medium organisations with less than 100 employees.

Finally, nearly 62.50% of the sample hotels were individual enterprises.

To find out the extent of usage of information technology in front office to provide more accurate data for decision making, respondents were asked to indicate Importance and Usage of information technology practices. Further to structure the discussion of the findings we ranked the 27 information technology practices according to their usage and importance in table 2. The data was collected in accordance with practices in front office related to during reservation, stay and departure, accounting & finance related reports. Ranking these practices high in terms of their importance and adoption, Tracking of guest through software and sending him welcome message about facilities ranked first in terms of importance out of 27 information technology practices. Similarly, this variable ranked 26th in case of adoption, indicating that 3 and 4 star hotels are not using GDS more consistently for reservations. It saves their time by taking online feedback is ranked first in terms of usage of information technology practices where as importance accorded to this variable falls at 19th place.

Looking first for the extreme position apparent from the table 2, it is found that majority of hotels have focused on the importance of adoption of information technology in front office for providing better services and enhancing revenue. By using information technology in Room Forecasting can be done efficiently is ranked 3rd in terms of importance by the hotels while ranked 13th in terms of usage.

The results revealed that only one information technology practices i.e. Guest can view Special Tariff on Hotel Website, is at same rank in both cases. However, in other variables of adoption of information technology practices in front office there is no uniformity between usage and importance in sample hotels.

In order to assess the relationship between some of the controls (or demographic variables) and application of information technology practices in front office, or in other words to be able to test Hypothesis 2, one-way ANOVAS were performed. The results of this analysis are summarised in Table 3, which presents the corresponding F-values. The findings in this table are informative. In column 'mean scores' the average scores of the corresponding control variables are reported. It is seen that all means are much above level 4 in the 5-level Likert scale.

The dimensions of 'category' and 'type of enterprise' found to be statistically significant on all property management practices variables. Moreover, it is found that hotels were using efficient use of information technology practices when they were belonging in a 5 star and chain category. On the contrary, the dimensions of ' age', 'size in capital' and 'size in employees' did not produce statistically significant results with respect to the information technology variables.

In the light of these results, regarding Hypothesis 2, we found that there is a positive relationship between information technology practices variables and sample hotel category and type, and there is no relationship between information technology practices variables and hotel age and size (capital or employees) as new hotels are significantly adopting usage of information technology practices in front office. In other words, if hotels are to achieve higher performance levels and compete in hospitality marketplace, they should preferably increase the application of information technology practices in front office.

Conclusion

As per the literature available on information technology practices used by hotels in front office in Delhi(National Capital Region), the staff in 3 star hotels is still reluctant in using technology efficiently due to lack of training on the same but feels that it is important part in the functioning. The decision making process is centralized to top management, so as the initiation and the implementation of property management practices. The statistical analysis revealed that the majority of the hotels in the sample appreciate the adoption and importance of information technology in front office which yields better guest service and resulting in higher yield. The results confirm that information technology plays an important role in front office in increasing better guest experience. During the initial use of information technology in hotels they were dependent on technology in sharing and storing of guest data while now they feel that information technology can be more efficiently used evem getting business at better rates and providing better services to the guests during stay. The study contributed to the current knowledge in information technology practices in front office in hotel industry.It has focused on importance of information technology in front office as it is termed as most revenue generating area in a hotel. Most of the 3 star hotels doesn't have separate reservation department but they seemed to be focus on the use of information

technology in front office during reservations, registration as it helps them also in providing guests efficient services. The Budget hotels like Park Plaza , Park Inn, Lemon Tree that are part of chain hotels are significantly using the information technology practices and emphasized on the importance of the same.

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Table 1 Distribution of sample according to respondent characteristics (N=80)		
	Number	Percentage
Category of hotels		
5 star Deluxe	05	6.25
5 star	10	12.50
4 star	35	43.75
3 star	30	37.5
Age (in years)		
≤ 5	25	31.25
6 – 10	15	18.75
11 – 15	20	25.00
16 – 20	15	18.75
≥ 21	05	06.25

Capital (in million Rs)		
≤ 100	35	43.75
101 – 300	20	25.00
301 – 500	18	22.50
501 – 700	05	06.25
≥ 701	02	02.50
Employees (numbers)		
≤ 100	10	12.50
101 – 300	25	31.25
301 – 500	25	31.25
501 – 700	15	18.75
≥ 701	05	06.25
Type of enterprise		
Individual	50	62.50
Others (joint, partnership)	30	37.50

Table 2 Ranking and descriptive statistics of ICT practices items

ICT practices (Variables)	Importance*			Usage**		
	Mean	SD	Rank	Mean	SD	Rank
Guest can view Special Tariff on Hotel Website	4.01	0.74	14	3.80	0.79	14
Sending confirmation SMS to the Guest Via email	4.06	0.67	12	3.18	0.79	21
Tracking of guest through software and sending him welcome message about facilities	4.60	0.70	1	3.11	0.78	26
Guest can make reservation through CRS	4.05	0.75	13	3.95	0.76	8
Guests can also reserver through GDS	3.14	0.79	26	4.00	0.75	7
Sending E-mails for Updates greetings to Guests makes them more satisfied	4.20	0.73	10	3.14	0.77	23
Guest can make reservation from their Phones.	4.00	0.75	15	4.20	0.75	5
ICT helps in identifying various segments of guests	4.29	0.74	9	3.84	0.79	12
Room Forecasting can be done efficiently	4.42	0.71	3	3.82	0.77	13
ICT helps in better tracking of a guest.	4.38	0.70	6	3.61	0.79	17
ICT helps in facilitating smooth check in and check out	4.41	0.71	4	3.68	0.77	15
Guest can pay bills online from room	4.36	0.70	7	3.64	0.75	16
Guest can request for any services from Internet	4.59	0.77	2	4.70	0.71	2
Guest can order via IVR	3.90	0.75	16	3.13	0.79	24
Guest can get latest offers and updates on phone	4.40	0.71	5	3.15	0.81	22
Special request of guest can be shares with other	3.45	0.66	25	3.93	0.76	9

departments easily						
Online Feedback can be taken from Guest	3.89	0.74	17	3.85	0.79	11
It saves their time by taking online feedback	3.80	0.72	19	4.75	0.70	1
Helps in calculating No Show and Occupancy Percentage	3.10	0.80	27	4.62	0.69	4
Daily Revenue can be calculated easily	3.85	0.73	18	4.63	0.70	3
Helps in calculating salary of employees easily.	4.18	0.66	11	3.51	0.76	20
Night Auditing can be done in a better way.	3.73	0.77	22	4.10	0.70	6
Discrepancies can be found easily.	3.71	0.80	23	3.59	0.80	19
Daily Discounts & Allowance given to guest can be calculated easily.	4.30	0.74	8	3.90	0.79	10
Helps in tracking credit limit of corporate	3.75	0.79	21	3.60	0.71	18
Helps the auditor in an efficient way	3.70	0.72	24	3.12	0.70	25
Revenue can be increased	3.79	0.67	20	3.10	0.77	27
* Based on 3-point scale (1= not important, 2=moderately important, 3= important) ** Based on 5-point scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=very often)						

Table 3 F-values from the one-way ANOVA on information technology practices in front office						
Information Technology Practices		Control variables				
Measures	Mean scores	category	Age	Size in capital	Size in employees	Type of enterprise
• Reservation	5.22	4.445**	1.130	1.790	1.582	5.432**
• Stay & Departure	5.73	4.560**	1.686	1.336	0.767	5.752***
• Accounting & Finance	5.70	4.493**	1.440	0.328	1.083	4.921**