



ROLE OF TECHNOLOGY IN HOSPITALITY OPERATIONS: AN OVERVIEW

Dr. Goldi Puri * Mahesh Kumar**

*Assistant Professor, Institute of Hotel and Tourism Management, Maharshi Dayanand University, Rohtak, Haryana, India.

**PhD Scholar, Institute of Hotel & Tourism Management, Maharshi Dayanand University, Rohtak, Haryana, India.

Abstract

Technology is used in every operation in the hospitality world, such as spy and security cameras, reservation systems, point of sale systems, meeting matrix, property management systems, mobile communication, , energy management systems, electronic and wireless keycards, etc. Technology is making its presence felt nearly every facet of our life and it now is a strong player in nearly every arena of the market competition. Advancement of technology changed the way we conduct business by saving time, manpower and workload. Hospitality industry is changing its mentality for technology adoption. Improving guest satisfaction is the motto of this industry and for guest satisfaction industry is ready to invest in technology. Hotels need creative and innovation to get competitive edge. One guest may like hotel services while others may not. So it is very difficult to standardize hotel services. There is always urgency to sell hotel rooms because these are perishable. Hotels are bringing more and more new technology to attract guests. First we were using metal keys to open a room but now there are no visible locks, we can open them even with smart phones. Disney resorts are using a magnetic band as their ticket or room keys. All luxury hotels are having HD TV, high speed Wi-Fi, mirror TV etc. some of the hotels are using fingerprint scanner to pay for everything and opening rooms. All successful hotels or chains are adopting technology very quickly even before they come to market. Space theme hotel and Yotel, Newyork are using robots for guest service. These hotels are not just selling rooms; they are selling an experience to guests. All hotels whether they are small, medium or large are trying to incorporate technology of one short or the other. Technology is not only helping in guest satisfaction but also give benefits to organization. Lifestyles of the people are greatly affected by the technology. Technology made life very convenient.

Key Words: Technology, GDS, HIS (Hotel Information System), Kiosk, Mobile Apps.

INTRODUCTION

It is a fact that since few years, hotels in India have been facing intensifying competition. It is a result of market globalization, technological evolution, and fluctuating tourism demand which now requires hotel managers to consider new ways to outperform competitors (Tseng et al., 2008). Innovation is apparently the only means by which an organization can convert change into opportunities and therefore success (Huse et al., 2005). Hotel managers around the world are under extreme pressure so as to increase the profitability with limited resources and under intensifying competition. Technology plays a crucial role for guest satisfaction and revenue management. In 2000, online reservations, websites information, virtual concierge, Wi-Fi were uncommon. But now there will be no luxury hotel without these facilities. It is important to understand all these technology so that we can install the proper one in our hotel. Installing technology without thinking is total waste and also not understanding the technological change will be suffered by organization. Technology is used for getting operation excellence. Technology and hospitality services are directly involved in the positive attitude of the guests which reflects in the guest satisfaction and customer loyalty (Muhammad Shaham Bakhat et al, 2012). Hospitality industry is changing speedily around the world due to technological changes in information and communication technology. The sale and income is the lifeline of any organization. There are many technology applications which are beneficial. The customer always search supplier who will give better goods or service. The hospitality industry has widely adopted technology to reduce costs, increase operational efficiency, and to improve service quality and guest experience. The successful outcome of an organization, to certain level, depends on its ability to obtain and utilize updated information to assist its marketing and management processes. Hence, Technology serves organization to manage information dynamically and affect business competitiveness through assisting management to make appropriate investments and decisions. Technology has recently increased at an unprecedented rate in hospitality and tourism business (Singh & Kasavana, 2005; Connolly & Lee, 2006). In the hospitality in industry, technology plays a critical role for raising customer's awareness, developing a realistic promise and delivering a complete service. Management should therefore use technology to manage their offers according to their guest's behavior circle. (Cooper et al ,1998) enunciate that technology were used in the hospitality industry from the late seventies in the form of Computerized Reservation systems and Global distribution systems, it was only in the 90s that the technology began to make a difference in the hospitality and will continue be a dominant factor in hospitality industry. The information and communication technologies are transmuting the hospitality sector over the years. This study looks at the readiness for adoption of technology based facilities in the hotel industry. The advancement of Information and Communication Technologies for the travel and tourism industry has instigated hotels and other enterprises in this sector to increasingly adopt these technologies.



OBJECTIVES

- To explore the various innovations and developments which are driving the hospitality industry through the new ways of handling guests and increasing the revenue using technology.
- To identify recent innovations which are going in trends in the restaurant and other food and beverage outlets?

RESEARCH METHODOLOGY

The research is to be conducted by using the existing research done in the context of hospitality technology. The next step is to be review all the identified study and understand the concept of IT has become a strategic tool for attaining competitive advantages in organizations.

REVIEW OF LITERATURE

Revolution in technology has been recognized for around a 100 years and this recognition is still continuing in businesses around the world even today. (Eraqi, 2006) concluded that technology is becoming the first priority for hotel owners so that that they can increase their service quality. it also works as a tool to get competitive advantage. It enhances our service level and helps in better management. Hence, (Buhalis and O'Connor, 2005) further added that e-hospitality in the future will be concentrated on consumer-centric technologies, and that hospitality organizations need to adopt technologies to be able to offer this level of service and remain competitive and innovative. Connolly and Olson (2000) described that Information and Communications Technology is only greatest force affecting change in the hospitality industry. The reason behind this is the customers who look forward to specialized, flexible, accessible and interactive products and services with principals (Buhalis, 1998). (DiPietro, 2010) described that technology has been quickly changed or enhanced from time to time and many hotels invest a lot of money to make sure that they have the latest technology. (Sigala, 2003) suggested that by fully depending on technology use will not generate the maximum result. Technology has advantages as well as disadvantages. We need human touch and technology simultaneously. Many hotels are gradually increasing their investment in technology for planning in order to enhance the efficiency of their business support management, processes, improve productivity and decision-making. Also installing the technology results in great productivity, decreased costs and increased revenues in the hotel industry (Siguaw et al, 2000; Huo, 1998), by improving customer service and business operations (Van Hoof, Verbeeten and Combrink, 1996). A new technology could help in stress management, quality of work life, job satisfaction and other work related outcomes with favorable consequences for the efficiency of operations and productivity. Technology in the hotel industry has increased productivity, improved service quality, reduced costs, improved guest satisfaction and long-term profitability (Cobanoglu et al, 2001). Lam, Cho and Qu, (2007) also said same about technology that hotel industries have broadly relies on technology to improve their employees' efficiency and productivity as well as customer satisfaction. Not only the internet or reservation system but Wi-Fi technology also becomes necessary for every hotel. Wireless technology experienced an unprecedented growth despite the increasing concerns about security issues (Kasavana, 2005). Not only wireless but also hi speed Wi-Fi. Wyndham hotels include Internet protocol television, which allow guests to watch almost unlimited number of TV channels via the internet from all over the world (Borcover, 2010). Hotels moves from paper based systems to computerized storage. Computerized technology is helping hotels maximize profits and giving a seamless guest experience. The process of check-in, from managing room inventory to reservations, pricing and guest data capture can all be done easily and effectively. New innovations and technology may remove the front desk personnel. Automatic check in and image capture technology can be used for taking image of the guest and giving a room number. Kiosk's are already placed in many hotels which by pass the Front desk personnel. Credit cards can be used to pay and open rooms directly. Mobile phone can be used for opening a door. Inside the room, automatic motion sensor technology can be used for controlling room temperature according to body temperature. This brings convenience and comfort to the guests and reduces the hotels costs (Borcover, 2010). Poon (1993) described in his study that how technology has helped resolving hospitality and tourism industry issues over the last few decades. He defines information and communication technology as collective expression given to the most recent developments in the mechanism (computers and communications technologies) and mode (electric) that used for acquisition, processing, investigation, storage, retrieval, and use of information. Purchasing Systems Solutions (2004) describes how technology can assist in managing purchasing and inventory. A principle inventory item for a hotel is the number of rooms available. Although, rooms are fixed, Information technology can help maximize the use of this inventory item. Customer Relationship Management Solutions (2005) discussed how Information technology can help in the collecting and use of guest data to be used to personalize the guests stay in the hotel. By personalizing the service, the guest feels "special" and is more likely to return to the same hotel, thus aiding in the maximization of revenue on the inventory asset (the room). Information technologies applied to the hospitality system will increase the efficiency and quality of services provided and leads to new combinations of hospitality services. (Siguaw and Enz, 1999) concluded that companies that effectively use technology will have the biggest affect on the customer satisfaction and loyalty. In the past few years there has been a great increase in realizing the importance of technology to become more effective and competitive in managing the business (Ansel & Dyer, 1999). The level technology being developed and implemented by hotels is

ultimately going to increase the level of customer satisfaction and service quality. As was seen by many studies conducted in the hotel industry, a primary focus was always to enhance the level of service to the guests (Siguaw & Enz, 1999). Studies have successfully shown the hotel industry drive to enhance customer service and quality through the use of technology (Siguaw & Enz 1999; Garver 2002). Technology make the internal and external process more dynamic as well as making the business development easier through new innovations Technology overcomes issues such as booking and reservations, marketing, food and beverage management, yield management and accounting systems worldwide.

Technology Which Can Be Made As USP

There are some latest technology within budget which hotels can adopt for making better services and better marketing tool.

Sr. No.	Technology	Company	Description
1.	Invisible door lock	Ving Card Elsafe	Interior electronics include Radio Frequency Identification (RFID) and Near Field Communication (NFC) compatible locking technologies
2.	Multi-functionality	Swisscom Hospitality	It can be used by any mobile application vendor to interface with Swiss.com Hospitality's IPTV, Connected Hotel TV or any third-party IP application on a Swiss.com-managed network.
3.	SpineKare mattress	Kurlon	This mattress is meticulously designed and developed using ZPP i.e. Zero Pressure Point Technology with therapeutic and healing benefits to provide the right support to back
4.	Chromo showers	Queo	Chromo series emulates the dynamics of water from nature and uses Chromo therapy, the science of using colors to improve one's mental and body health. The Chromo shower is fitted with seven LED lights – Violet, Indigo, Blue, Green, Yellow, Orange and Red, each denoting unique properties.
5.	Wi-Fi Portable Scanner	Portronics	pairs with any mobile phone, tablet or laptop having a Wi-Fi connection; using a browser or an Android / IOS App. Scanny 6 Wi-Fi scans and then sends the scans instantly via Wi-Fi to the Wi-Fi scan app on the computer, where one can organize, create searchable PDFs or send images to the cloud.
6.	Refrigerator with plasma cluster technology	Sharp	Sharp patented new plasma cluster Ion technology which sterilizes air inside the refrigerator and fight against mold, thereby preserving food for longer period. Bread stays fresh for seven to ten days without fungus or mold.

Source: Chahal Naveen & Kumar Mahesh (2014), 'The impact of information communication technology and its application's usage in lodging industry: An exploratory study'. *International Journal of Techno- Management Research*, Vol.02, Issue 01, June 2014, pp. 1-17

TECHNOLOGY IN HOSPITALITY INDUSTRY

Kashyap Gaurav (2015) revealed in his study that information technology play a pivotal role in hospitality industry such as H I S (Hotel information system). HIS has four areas mainly front office system, back office system, restaurant and banquet management system, and guest related interface (Ham et al., 2005). Restaurant and Banquet Management Systems enable the hospitality organisation to serve customer in a better way and employee friendly tools. RMS mainly works in POS (point of sale), Inventory and Menu Management Systems, Reservations and Table Management, Back office applications. Point of Sales mainly used in food and beverage outlets such as restaurants and Quick Service Restaurants that is employee friendly and gives better results in overall guest handling and satisfaction (Kashyap Gaurav, 2015).

Most of hotels have booking rooms and reservations over the phone, but technology has expanded well beyond that (Nikolis, N, 2008). Today, e-distribution systems include, yield management, Central Reservation Systems, and web bookings systems, all used to sell the product or services to the guests. In this regard, computers with hi tech systems are not just used for new ideas and innovation, but also to maintain the 'status quo'. Many companies and adopted electronic computers so that they would not have to innovate; so they would not have to find new ways to achieve their objectives. Using computers, big organizations could get more control over their operatives, their employees, and eventually their clients. After 2013-14 we see many changes and daily updates. It is not easy to count them. Now in Hotels we use High definition televisions (HDTVs), High speed internet access (wired and Wi-Fi), Portable Wi-Fi scanner and printer, MP3 docking station, Apple i-pod, Lighting and climate control, Energy management systems, Guest sensors, Guest sensors, Smartphone app. etc. are

commonly used in luxury hotels. Mirror televisions are more commonly found in bathrooms, saunas and swimming pools at luxurious hotels.

CONCLUSION

Thus, IT has become a strategic tool for attaining competitive advantages in organizations. Accordingly, the hotel industry also extensively relies on IT to improve employees' productivity and efficiency, as well as to improve customer satisfaction, since IT has been perceived to have notable advantages in competition (Ham, Kim, & Jeong, 2005; Lam, Cho, & Qu, 2007). In the race of a high-tech hotel, selecting the right technology for a hotel is very difficult. Hotels need to make sure their guests are satisfied using the technology and are not forced to fight with systems or products that are too complex. Guests staying for just short time period specially business travelers do not have the time, or the patience, to understand and master a complicated process to accomplish a task. Keeping the technology simple and user-friendly is the key to in-room technology. Also guests who are having latest updates in changing technology are more likely to share their hotel experience on social media like twitter, facebook etc and in indirectly helps in promoting the hotel. It is good to have technology but it must be guest oriented. In this digital era it is next to impossible for us to remain untouched by the technology. Nevertheless, IT has been an integral part of Hotel Industry and its food and beverage and other sectors, yet, there is a great scope of adoption of new innovations and technologies such as social media websites ordering, digital menu boards, quick response codes, I Pad and other table side devices ordering, and mobile apps at a large scale by the restaurateurs in their various food and beverage outlets. However, some of the restaurant chains have already adopted it which has fetched satisfactory results in better customer service and customer handling and also substantial increase in their revenue generation.

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