# Role of Technology in Hospitality Operations: An Overview

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| Article Info | Abstract |
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| <br><br> | *In the hotel industry, technology is employed in every aspect of the business, from surveillance and security cameras to reservation and POS systems, meeting matrices, property management software, mobile communication and energy management software to electronic and wireless keycards. Almost every part of modern life is touched by technology, and it has become a formidable competitor in almost every industry. Thanks to technological progress, we are now able to do tasks more quickly, with fewer employees, and with less overall effort. The hospitality sector is shifting its perspective on the use of technology. The hospitality sector is committed to investing in technology in order to boost customer satisfaction. To stay ahead of the competition, hotels must be inventive and innovative. The hotel services may be appreciated by some guests and not by others. This makes it very challenging to provide uniform hotel services. Hotel rooms are a perishable good, therefore there is always pressure to fill them quickly. In an effort to woo customers, hotels are including more and more cutting-edge gadgets. Once upon a time, doors need metal keys, but nowadays, even smartphones can unlock them. At Disney hotels, you'll need to bring a magnetic bracelet instead of a key. High-definition televisions, wireless Internet access, mirror televisions, and fingerprint scanners are all standard amenities in today's five-star hotels. Every successful hotel or hotel chain is rushing to incorporate new technologies before it even hits the market. There is a Yotel in New York with a space motif with robots serving guests. These hotels are offering their visitors more than simply a place to sleep. Every hotel, no matter how big or little, is making efforts to upgrade its facilities with modern technologies. Technology's advantages to an organisation extend well beyond the happiness of its customers (the guests). Technology has had a profound impact on people's way of life. Technology has made a lot of things easier.* |

## I. INTRODUCTION

It's no secret that in the last several years, competition among India's hotels has heated up. Hotel management are being forced to think creatively about how to beat the competition as a consequence of market globalisation, technology advancement, and erratic tourist demand (Tseng et al., 2008). According to the research of Huse et al. (2005), innovation is the only way for a company to turn challenges into opportunities, and from opportunities to success. There is a lot of pressure on hotel managers

all across the globe to boost profits while having fewer options and more rivals. Guest satisfaction and revenue management are two areas where technology plays a crucial role. Wi-Fi, virtual concierge services, and online booking were all novelties in the year 2000. However, these days, no high-end hotel can be considered complete without them. To ensure that the right technology is installed in our hotel, it is crucial that we have a firm grasp of all of the options available. It is a waste of money to install technology without giving it any thought, and the same goes for businesses that don't keep up with the pace of technological progress. Operations that use technology tend to perform very well. According to research by Muhammad Shaham Bakhat et al. (2012), good feedback from visitors is closely related to high levels of satisfaction and repeat business from existing customers. Due to rapid advancements in information and communication technology, the hospitality business is rapidly evolving all around the globe. Sales and revenue are essential to the survival of any business. Many useful technological uses exist. Customers are constantly on the lookout for a better deal from a different vendor. Technology has been increasingly utilised in the hotel sector to save costs, boost operational efficiency, and enhance service quality and the overall visitor experience. To a certain extent, a company's performance relies on its capacity to acquire and use timely data in support of its advertising and managerial activities. Consequently, technology helps organisations dynamically manage information and impact company competitiveness by facilitating investment and decision-making amongst management. Recent years have seen an unparalleled use of technology in the hotel and tourist industry (Singh & Kasavana, 2005; Connolly & Lee, 2006). Technology has played an increasingly important part in the hospitality sector, helping to educate customers, create believable promises, and provide end-to-end service. That's why it's important for management to use technological means to control their promotions in accordance with the guest's behaviour circle. Computerised Reservation systems and Global distribution systems were used in the hospitality industry as early as the late 1970s, but it wasn't until the 1990s that technology truly made an impact there; it now dominates the industry and will continue to do so. (Cooper et al, 1998). The hotel industry is undergoing profound change as a result of the proliferation of information and communication technology. The potential for widespread implementation of technologically advanced hotel infrastructure is investigated. Hotels and other businesses in the hospitality and tourist industry are progressively adopting cutting-edge ICTs due to their widespread benefits.

## II. OBJECTIVES

Examine the cutting-edge breakthroughs in guest-service and revenue-generation that are propelling the hotel sector into the future.

Determine the most cutting-edge developments now popular in cafes, bars, and restaurants?

## III. RESEARCH METHODOLOGY

The study will draw on prior studies undertaken on similar topics in the field of hospitality IT. The next step is to read up on all of the found research and get a handle on the idea that IT is now being used as a competitive advantage tool.

## IV. REVIEW OF LITERATURE

Businesses all across the globe have acknowledged the revolutionary effects of technology for close to a century. According to research cited by Eraqi (2006), innkeepers are increasingly placing a premium on technological advancements that improve guests' experiences. It's also useful for gaining an edge over the competition. It improves the quality of our service and facilitates more efficient administration. Therefore, (Buhalis and O'Connor,2005) elaborated that going forwards, e-hospitality will centre on consumer-centric technology, and that hotels would need to embrace technological advancements to provide this standard of care and keep up with the competition. According to Connolly and Olson (2000), ICT is the sole major factor driving transformation in the hotel sector. Customers want individualised, adaptable, easily available, and principal-driven goods and services, and here is why. "(Buhalis, 1998)" According to (DiPietro,2010), technology is always being updated and improved, therefore many hotels spend a lot of money keeping up with the times.According to (Sigala, 2003), getting everything done with the help of technology is not the best strategy. There are benefits and drawbacks to technology. Both the human touch and technological advancements are required. In order to improve the effectiveness of their business support management, procedures, productivity, and decision-making, many hotels are steadily expanding their investment in technology for planning. As a consequence of enhanced customer service and streamlined operations, hotels that use this technology see a boost in efficiency, savings, and income (Siguaw et al., 2000; Huo., 1998). Positive effects on operational effectiveness and productivity may result

from improved stress management, quality of work life, job satisfaction, and other outcomes associated to employment. According to a 2001 study by Cobanoglu et al., technological advancements in the hotel sector have led to higher productivity, better service quality, lower costs, more visitor happiness, and greater long-term profitability. To increase labour efficiency and productivity as well as customer pleasure, the hotel industry has come to rely heavily on technology, as stated by Lam, Cho, and Qu (2007). Wi-Fi networks are quickly becoming as essential as an online booking system in today's hotels. Despite mounting worries about security, wireless technology has expanded at an unprecedented rate (Kasavana, 2005). Not just cordless, but lightning-fast Wi-Fi as well. Guests of Wyndham hotels may take use of the hotel's Internet protocol television to view a virtually infinite number of channels from anywhere in the globe (Borcover, 2010). Inns are increasingly replacing their paper records with digital ones. In order to maximise earnings and provide a stress-free stay for guests, hotels are increasingly turning to computerised technology. All aspects of the check-in procedure are simplified, including room inventory management, reservation processing, rate setting, and guest data gathering. The front desk workers may become obsolete as a result of technological advancements. Guests' photos and room assignments may be taken automatically with the use of image capture and check-in technologies. Many hotels now have kiosks that eliminate the need to interact with the front desk entirely. Rooms may be paid for and unlocked with a credit card. A cell phone's proximity sensor may unlock a door. In-room temperature may be automatically adjusted using motion sensor technology to accommodate occupants of a certain temperature range. This benefits both the hotel's bottom line and its visitors' comfort (Borcover, 2010). Poon (1993) wrote a paper outlining the ways in which technological advancements have benefitted the hospitality and tourist sector in recent decades. According to his definition, "information and communication technology" refers to the latest innovations in the mechanism (computers and communications technologies) and method

(electricity) utilised to acquire, analyse, investigate, store, retrieve, and apply information. How technology might help with buying and inventory management is discussed in buying Systems Solutions (2004). Hotel rooms are a crucial component of any establishment's stock. Even if the number of rooms in a building is set, it may be used more efficiently with the use of IT. Information technology may facilitate the collection and use of guest data for the purpose of customising the visitors' hotel experience, as stated by Customer Relationship Management Solutions (2005). Making a visitor feel "special" via customization increases the likelihood that they will return to a certain hotel, which in turn helps maximise income per available room. When used to the hotel industry, information technology improves service efficiency and quality while opening the door to novel service combinations. According to the findings of (Siguaw and Enz, 1999), customers are more likely to remain loyal to businesses that make good use of technology. Recognising the use of technology to improve efficiency and competitiveness in corporate management has been on the rise in recent years (Ansel & Dyer, 1999). In the long run, hotels will see an uptick in client happiness and service quality thanks to the cutting-edge technologies they are developing and using. As several studies in the hotel sector have shown (Siguaw & Enz, 1999), improving the quality of service provided to customers has always been a top priority. The hotel sector is actively pursuing technological advancements to better serve guests (Siguaw & Enz 1999; Garver 2002). New innovations and a more dynamic internal and external process are both made possible by technological advancements. Booking and reservation systems, marketing, food and beverage management, yield management, and accounting systems are just some of the areas where technology has shown its worth.

**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 lockingtechnologies |
| 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 healingbenefits |

| | | | 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 withplasma cluster technology | Sharp | Sharp patented new plasma cluster Ion technology which sterilizes air inside the refrigerator and fight against mold, thereby preservingfood for longer period. Bread stays fresh for seven to ten days without fungus or mold. |

## V. TECHNOLOGY IN HOSPITALITY INDUSTRY

Kashyap Gaurav's (2015) research showed that H I S (Hotel information system) and other forms of IT play a crucial role in the hospitality sector. According to the literature on HIS, there are four primary components: the front desk, the back office, the restaurant and banquet management system, and the guest-facing interface. Better customer service and more efficient operations are made possible by restaurant and banquet management systems used by the hospitality industry. Reservations, Table Management, Inventory Management, and Back Office Applications are some of the most common areas of focus for RMS. Employee-friendly Point of Sale system utilised mostly in the food and beverage industry, particularly restaurants and Quick Service Restaurants (Kashyap Gaurav, 2015).

Even while most hotels provide telephone booking and reservations, technology has progressed much beyond this (Nikolis, N., 2008). Yield management, Central Reservation Systems, and online booking systems are only few of the modern examples of e-distribution systems that are used to offer products and services to customers. In this sense, high-tech computer systems are used not merely for creating novel ideas and products but also for preserving the status quo. Electronic computers have been widely used by businesses so that they may avoid the need to innovate by coming up with novel approaches to achieving their goals. With the use of computers, large corporations may have more influence on their agents, workers, and, ultimately, customers. Many alterations and frequent upgrades have occurred during 2013–14. They are difficult to tally. High-

definition televisions (HDTVs), wired and wireless high-speed Internet access, a portable Wi-Fi scanner and printer, an MP3 docking station, an Apple i-pod, programmable lighting and temperature control, an energy management system, sensors to track guests' energy use, a smartphone app, etc. are all standard in today's hotels often seen in five-star hotels. Luxury hotels are more likely to include mirror TVs in the restrooms, saunas, and pools.

## VI. CONCLUSION

In a manner, IT has evolved into a strategic resource for giving businesses an edge in their respective markets. Since technology is seen as having significant benefits in competitiveness (Ham, Kim, & Jeong, 2005; Lam, Cho, & Qu, 2007), the hospitality sector heavily depends on technology to boost staff productivity and efficiency and enhance customer happiness. Choosing the appropriate hotel technology is challenging in the current technological arms race. In order to keep their customers happy, hotels must ensure that their visitors have a positive experience with the technology provided. In particular, business travellers who are only in town for a short time will not have the time to learn and master a sophisticated procedure. The key to successful in-room technology is keeping everything as straightforward and user-friendly as possible. In addition, visitors who are equipped with the most recent gadgets are more inclined to tweet, Facebook, or otherwise spread the word about their positive stay at the hotel. Technology is helpful, but it has to be designed with guests in mind. We can't help but be influenced by technology in this day and age. Despite the fact that IT has always played a crucial role in

the hotel industry and its food and beverage sectors, there is still a lot of room for growth in the widespread adoption of new innovations and technologies like social media website ordering, digital menu boards, quick response codes, iPad and other table side device ordering, and mobile apps. Some restaurant groups, however, have already embraced it, with positive outcomes including improved customer service and management, and a noticeable uptick in income.

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