A Study of Technology Used In Hospitality Industry

Chandra Shekhar

Master's In Hotel Management, Institute of Hotel Management and Catering, Udaipur Rajasthan, India

Abstract: *Information Technology has played an important role in the hospitality and tourism industry over the last decade. Technology has helped reduce costs, enhance operational efficiency, and improve services and customer experience. Both customers and businesses can benefit from improved communication, reservations, and guest service systems. Technology has helped tourism and hospitality industries replace expensive human labor with technological labor. This helps reduce labor costs, but also helps avoid customer service issues.*

Keywords: Information Technology, tourism and hospitality

1. Introduction

Smart technology is changing everything from the homes we live in to how our cities are managed. The hospitality industry is no exception. In many ways, the hospitality industry is leading the charge in the adoption of smart business technology.

From operations to guest experience to marketing, smart hotel technology offers a variety of cost savings and revenue opportunities, and it is enabling hotel owners to reach new levels of profitability Hotels leave no stone unturned in today's extremely competitive business environment, and a key weapon in their arsenal is technology. However, with technology in a constant state of flux and constantly unlocking new opportunities to improve customer satisfaction and boost internal efficiency, hotels have their task cut out leveraging technology to remain one-up on competition.

We all know that the hospitality industry is often defined as the sectored system of innovation and production! Technology has played a substantial role in achieving economic growth by garnering economic means for consumers to travel. The augmentation and contribution of air travel as a means of transporting tourists to different locations is an important contribution of technology to the hotel industry. The evolvement and progress of AI with information technology has had a tremendous impact on the hotel industry which also includes the world of hotels.

This, in turn, has helped airlines to reduce costs and get closer to the customers by increasing their outreach. The boundless public use of the Internet has created a number of conditions that have been game-changers in both beneficial and detrimental ways to the modern travel agency. While computers have been an integral part of the hotel agency, since their widespread adoption, the Information Age has brought considerable new benefits. Few enterprise-level software allows hotels under specialized programs which are dedicated exclusively to managing their businesses and organizing their database.

Both customers and business can benefit from advances in communication, reservations and guest services systems. Technology's greatest impact can be seen on front desk where property management has quickened over the years, the speed of service, reduced labor cost, improved accuracy and modernized look and flow of lobby. Point of sale one of the most important technique for speedy transactions makes payment to the merchant in exchange for goods or services. Under the hospitality industry, the tourism suppliers like British Airways have started applying e-commerce operations thereby allowing their customers to directly access the reservations systems. The approach and application of mobile technologies have further impacted the hospitality industry. It is now possible for customers to view and choose various travel and tourism options by surfing the internet through their cell phones.

2. Technology Used In Hospitality Industry

1. Online Bookings

The most apparent manifestation of technology in the hotel industry is hotel bookings. The internet also obviously makes accessing information easy, and transparent. Data such as check-in and checkout times, rates, facilities on offer, and other key details allow guests to make informed decisions. Surveys show that around 48% of smartphone users in the U.S are comfortable researching, booking and planning their entire trip to a new travel destination using only a mobile device.
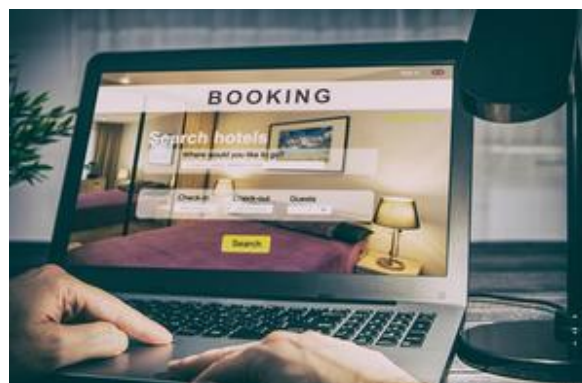
Popular websites such as booking.com, agoda.com, hotels.com, and even websites of hotel chains, such as ibis.com and others are now the default way people search for room, deals and make bookings. There are already websites that compare deals and offers from various websites, and with technology advancing, the day is not far off when potential

guests can experience their room in a virtual reality setting, before making a booking.

According to the Oracle Hospitality report, 35% of guests said they would prefer the ability to schedule room cleaning and 26% said they would like to receive a smartphone notification to show if their room was being cleaned.

Improved analytics may also allow guests to select hotels with facilities that best match their tastes, interest, and convenience. Hotels that do not embrace technology and facilitate such options for their guests stand to miss out big time.

2. Remote Check-In/Check-Out

According to hospitality.net, by the year 2021, mobile app downloads worldwide are expected to reach 352.9 billion per year, clearly solidifying mobile technology's position as the way of the future. Of course, superior guest service will always involve personal interaction – in any business – but hoteliers who evolve with this shift toward mobile will be providing the instant access and self-service options guests (particularly millennials) crave.

By enabling guests to check in remotely through their mobile device, hotel owners can better predict/manage their staffing needs and save considerably on labor costs. This technology can also alert hotel staff when guests arrive (enabling them to spend less time on the welcoming process), offer appropriate upgrades/upsells, and provide them with a more personalized guest experience, even on their first visit.

At the end of the guest stay, travelers can enjoy a seamless self-check-out experience that also allows them to arrange for their preferred transportation to their next destination (whether it be taxi, airport shuttle or a ride-sharing service such as Uber or Lyft), further saving on labor costs.

3. Robotic Butlers

Aloft in Cupertino has implemented hi-tech features to optimize hospitality for guests. In addition to keyless entry via Aloft smartphone app and Apple TV in every room, Aloft Cupertino employs a robotic butler called Botlr to deliver 24/7 customer services of all kinds.

The robot butler is on hand to greet arriving guests, deliver items to rooms, mingle in a first-floor club lounge and rooftop bar, and even dance--or at least roll back and forth--to music.

YO2D2 is a customized product created by San Jose, California-based Savioke. At three feet tall, the robot is built to safely navigate crowded spaces, summon the hotel elevator, and interact with guests by way of touchscreen. Savioke is best known for its flagship product, Relay, a delivery robot used in logistical operations, offices and high-rise apartments. Yotel already employs a number of bots in other locations. In New York, Yobot stores guests' luggage. Yotel Singapore has two new delivery robots named Yoshi and Yolanda..

4. Digital Concierge

Renaissance Midtown Hotel, New York, features an interactive wall called The Discovery Portal. It's a virtual concierge where guests are allowed to choose from categories of entertainment, dining and much more by stepping onto a circular hologram projected on the floor. In addition, the hotel also offers in-person concierge service to provide guests with in-depth information on what they have found in The Discovery Portal.

There are many more hotels that are using digital concierges to help their hotels stand out and take their guest relations to another level. A digital concierge will never replace face to face interaction and is not intended to do so but having a digital concierge service can be used in conjunction with one and can help improve customer satisfaction and can lighten your daily workload. If you are in the hospitality business you know, that is always welcomed.

5. Smart Solutions

Smart appliances and home automation solutions are a godsend for the hotel industry, with automated temperature control, lighting, alarms, TV, radio, blinds, and other technological innovation contributing to improved customer satisfaction, and improved services, while reducing overheads at the same time. Guests may, for instance, turn the air conditioner on through an app installed on their smartphone, to ensure optimal temperature when they enter the room. For the hotel, this is a much cost-effective solution compared to leaving the air conditioner on at all times.

6. Smart Reserved Parking

Hotels now can use smart sensors and hotel apps to allow guests to reserve parking spots in advance of their visit and to have their space assigned upon arrival. This will save hotels the labor cost of manually managing parking inventory and it will give guests a smoother experience from the moment they pull in.

7. Mobile Room Keys
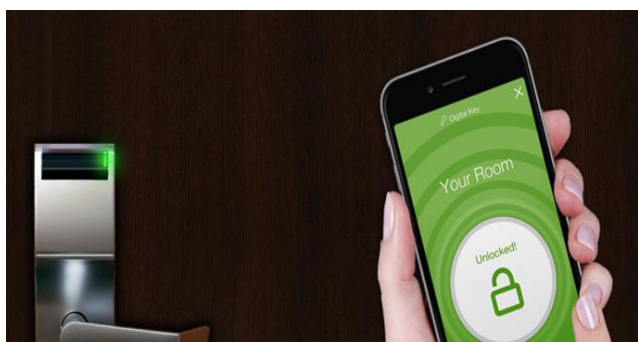
Today more and more hotels are offering guests room access via their smartphone app. This is saving costs from printing environmentally harmful plastic keycards and its eliminating the hassle of managing keycard inventory that is prone to loss and demagnetization.

8. Chatbots & Artificial Intelligence

In the modern age, customers expect to be able to interact with hospitality companies across a variety of digital channels and receive rapid responses. Of course, actually having staff monitoring all of those channels and delivering swift responses can be difficult, if not impossible, which is where chatbots and AI come in.

Chatbots are able to understand simple questions and provide answers almost instantaneously, taking the burden away from customer service staff and improving the experience for customers. Meanwhile, AI's uses extend into other important areas for hotels too, including data analysis.

9. Virtual reality to enhance the travel experience

Japan has come up with a great Travel experience which teleports travellers to multiple global destinations.

You can take a two-hour flight where you can travel around the globe in a virtual environment. You can have takeoff and landing experience, lovely meal as well as the city tour of your favorite city.

In a similar experiment, Marriott Hotels have come up with virtual reality travel right from the room. Now, this virtual reality although not a new technical term, has never realized the expanse it can achieve. 2018 may be the year when more and more organizations start using the same to enhance the customer experience.

10. Voice Enabled Devices

We have reached a point in history when we can carry a message to any distance with only our voice. And no, we're not referring to the telephone, but to a newer, easier, and more exciting way of communication, that does not require the use actual use of a mobile phone or the dialing of a phone number: voice messaging through AI. This is one technology trend that has been highly raved about for a few years now, starting with Siri, Google assistant and Amazon Echo, but it has only recently been integrated in the hospitality area.

For hotel businesses, voice messaging brings a world of possibilities, from enabling staff to communicate with each other faster, to offering a new and more remarkable experience to hotel guests. Voice enabled devices are becoming more and more popular in hospitality and travel and many hotels have already adopted this new and exciting piece of tech.

11. NFC Technology:

Near Field Technology (NFC) is the generation next short range high frequency wireless communication technology which enables user to exchange the data between devices. Apart from payments. (Aurecon Group, 2016).Four Seasons hotel can use NFC to personalize guests experience at hotel like Four Seasons or resorts

12. Smart Energy Management

Smart thermostats and occupancy sensors can monitor and respond to fluctuations in occupancy. Likewise, smart energy-management systems use sophisticated machine-learning algorithms to continuously analyze historical thermodynamics, local weather patterns and peak demand loads to optimize energy consumption in real-time, all year round. Smart energy savings aren't just wild speculation. Smart energy-management systems can reduce hotel energy costs by up to 20 percent and generate some of the fastest payback periods in the industry (between 12-24 months). They can also significantly increase the resale value of a hotel.

3. Conclusion

SI no.	ANOVA Table (IT Department vs. Non- IT Department)	Sum of Squares	dF	Mean Square	F	P
	Customer demand for technology			Between groups		
1	Wi-Fi	115.7143	1	115.7143	3.62	0.115473
2	Online check-in	115.7143	1	115.7143	6.89	0.046821
3	Mobile apps	115.7143	1	115.7143	5.9	0.059455
4	In-room entertainment	115.7143	1	115.7143	3.96	0.103253
5	Biometric security	115.7143	1	115.7143	4.99	0.075799
6	RFID	115.7143	1	115.7143	4.38	0.090572
7	In-room checkout	115.7143	1	115.7143	3.81	0.108403

Exciting technology advances will undoubtedly improve many business processes within the service industry; there are few signs that customer service and human interaction will be fully replaced by automation any time soon. Tools like AI, AR, and biometrics can bring us to a new level of enablement and a transformation of the customer experience in the hospitality context, but their purpose is inherently limited to providing a more frictionless experience with mundane tasks -- not amenities and experiences.

Technology is no match for the warmth and personality of the maître D's welcome at your favorite restaurant or the hotel concierge whose 20 years of personal connections lands those sought-after dinner reservations or concert tickets.

The future of hospitality will accommodate both human interaction and more advanced efficient technologies that best serve both consumers and businesses alike.

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Author Profile

Chandra Shekhar is student of Masters in Hotel Management in IHMC Udaipur. He is Hotel Management graduate from MLSU Udaipur Rajasthan, India