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# Technological advancement in hotel front office

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**Abstract**
Front Office one of the main department of Hotel industry where technological advancement is vital related to reservation, check-in, check out, providing information to the guest queries has recent trends which really have boosted as well as booming at present situation. The various developments have benefitted both hotel front office & guest in making their work at ease, comfortable & prompt. An important aspect of hotel strategic management is comprehending technological innovation. Even though most staff are required to accept technology, much of the existing study in hotel technology has concentrated on the adoption processes. The managerial processes and consequences of technological innovation across the board of a corporation are not well understood in academic circles. The results of a huge, international hotel corporation's invention in hotel front desk technology. To create a thorough operational framework, it was specifically necessary to look at the sequential hiring, training, and implementing process connected to technological innovation, the outputs of technological innovation, and experiential value. The framework offers strategic insight into the effective creation and administration of front desk technologies.

**Keywords:** Kiosks, cloud based, digital concierge, PMS

## Introduction

Front office technology has seen significant development in recent years. Driven in part by the rise of COVID-19 but also by changes in technology, these changes mean that today's front desk is different from the traditional reception office of the past. The hotel industry is a major part of the wider service industry sector. It's an industry that looks after the needs of customers who must be accommodated overnight or longer. Although the hotel industry is closely linked to the wider hospitality and service industries, there are significant differences in scope between them in terms of what they set out to provide. Front Office Technology has seen significant development in recent years. The front office is a major department in any hotel, forming the main point of contact between the business and its customers. The front office has been termed the "face" of the hotel, and for good reason: it's usually the first department that any guest will meet and the point at which they will form their first impressions. Front office technology, therefore, is hugely important. Any technological advance or development that can improve a customer's experience and make life easier for busy staff will make a major difference to a hotel. Front desk technology can save money and time while also making guests happier and allowing staff to focus on the most important tasks. About the advantages of new technology and how to put it into practice. To learn more about mobile phone apps, smart assistants, digital keys, and virtual concierges. It is critical to stay current with front desk technology as it evolves.

Following front office technology trends is critical for providing a good customer experience and staying competitive in today's market. While there is some concern that new technologies will supplant humans in the industry, this is a common misconception. Indeed, new front office technologies can free up human staff by handling time-consuming tasks, giving hotel personnel more time to spend on customer service.

Staff, for example, may need to be away from the front desk from time to time. Having a smartphone app enables them to be present whenever a customer requires their assistance. The front office is much more than just checking in guests. By automating basic processes, employees have more freedom to attend to guests and make their stay more enjoyable, rather than devoting time to rote tasks that automated systems can handle better.

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## Methods utilized

The method utilized is mainly qualitative & information noted from the hotels using various recent trends & various other new developmental approaches through which the hotel can be benefitted. Few questionnaires was also circulated to analyze the requirement.

## Front Office Technology Trends

### Cloud-Based Technology

For decades, cloud-based technology has been an everyday part of our lives. Web-based email or file hosting services are examples of Cloud Technology. Cloud-based systems are especially relevant in the hotel industry, where it is critical that employees are not tied to a specific terminal and where information must be shared quickly. Cloud-based property management services (PMS) are likely to become more popular. Front-office cloud solutions improve hotel operations by allowing systems to be moved from a physical location to the internet.

Cloud-based solutions not only make operations more convenient, but they also make it much easier to keep up with the latest technological trends. Moving hotel operations to the cloud is extremely cost-effective because cloud services require less investment than, say, purchasing additional computers. Because cloud-based services are scalable, hotels can adjust to fluctuations in the demand for computer systems (for example, during high and low seasons). The service provider handles software updates, reducing the workload on hotel staff.

### Self-Check-In Desk Technology

Self-check-in technology has grown in popularity in recent years. With the outbreak of the pandemic, it went from a desirable to a necessary upgrade. Guests now expect self-service check-in as a given. Many hotels now use a check-in kiosk: a convenient one-stop facility that can read debit and credit cards, accept payments by card and sometimes cash, print receipts, provide keycards, and handle other aspects of the check-in process.

Kiosks can also provide additional services or upsells, as well as inform guests about any add-ons they may wish to purchase. A good kiosk has a simple menu, an easy-to-use user interface, and simple commands. In some cases, kiosk instruments can be programmed with multiple language options, making life easier for international visitors. Because kiosks can be sanitised between users, they are a convenient and safe option for hotels.

### Specialized Mobile Apps

We now rely on our smartphones for nearly every process or activity. This is now considered a hotel trend as well. Guests can now use specialized apps to make their hotel stays more convenient and comfortable, in addition to booking and paying for a hotel. While many customers appreciate the human touch of face-to-face interactions, others are more introverted and prefer their privacy. Guests can use a specialized phone app to check in or out, open the hotel doors, pay for items in the minibar, order room service, access their hotel safe, or use guest-only facilities. A hotel app also allows guests to contact the front desk and communicate with staff in real time without leaving the room. Payments can also be handled through the app, making life easier for the guest while also providing additional revenue opportunities for the hotel.

### Smart Mobile Keys

Hotels, as well as luxury residential accommodation and casinos, have embraced mobile key technology. This type of technology is beneficial to both hotels and guests, as well as increasing security for both the public and employees. A mobile key, also known as a digital key, can be used to open doors with a smartphone. It's safe, convenient, and eliminates the need for face-to-face interaction, which has become increasingly important during the pandemic. Mobile keys greatly simplify the check-in process and eliminate the need to provide physical keys (which can easily become lost or damaged). In addition to saving money, reducing plastic waste from physical keys improves sustainability. Mobile keys free up staff, allowing front-desk personnel to focus more on individual guests' needs. This can help to make your property more welcoming and improve the overall customer experience.

### Digital Concierge Technology

To provide services to guests, a virtual concierge or digital concierge employs artificial intelligence. A digital concierge, when combined with mobile technology, can provide all of the information and assistance that a human concierge would normally provide. A digital concierge can help you find and book restaurants, send flowers to a specific room, organize events, and so on. It can also provide additional assistance, such as locating flight information, providing weather updates, and assisting guests in navigating the city. Digital concierge services can be provided via a mobile phone app, the hotel's website, or the in-room television. Mews, an artificial intelligence that assists guests in taking control of their entire stay, provides one example of a virtual concierge. This software enables guests to check in and out, send direct messages to hotel staff, and perform other concierge functions.

### Robotic Staff

Robots in the hotel industry are not a new phenomenon. The arrival of a robot butler — an AI-powered device that would not only process orders from guests but also deliver items to their rooms — sparked interest in the sector in 2014. After receiving an order, the robot butler can deliver food, beverages, toiletries, and towels to guests in about 15 minutes. While this innovation was initially regarded as a novelty, physical automation is now a real and growing feature in many modern hotels. The Henn-na Hotel, a Japanese hotel with an almost entirely robotic staff, is perhaps the most dramatic example. The reception desk is staffed by animatronic dinosaurs, food is served by robots, and rooms include an adorable egg-shaped robotic assistant that responds to guests' voice commands. Of course, humans are still on hand to handle tasks that the robots cannot yet handle.

### AI and Hotel Chatbots

Chatbots, ranging from virtual assistants to AI language teachers, are now a common feature of daily life. Many websites provide chatbots to assist visitors in finding what they need. Since the days of Eliza and other relatively simple programs, modern AI has come a long way, with chatbots providing an increasingly sophisticated and human-like experience. Integrating AI chatbots into your hotel's customer service can help to streamline communications and provide quality service regardless of staff availability.

Chatbots can handle guest inquiries, provide information, solve problems, and generally improve a guest's stay. Because voice recognition technology has advanced so much, guests can now converse with AI in a very natural manner. Because so many people are now accustomed to using Alexa, Siri, and other similar technologies, chatbots are no longer intimidating or perplexing. Even customers who prefer to interact with human staff may feel perfectly at ease using an AI chatbot to handle their requests.

## Smart Hotel Technology Innovations
The hotel industry has been quick to adopt this type of technology as more devices and systems can be equipped with microprocessors and networked to create smart systems. Smart hotel rooms are becoming increasingly popular with guests due to the ease and convenience they provide.

## Mobile Check-in Apps as Part of Front Office Technology
Mobile check-in apps are becoming increasingly popular among both hoteliers and guests, providing a quick, easy, and contactless check-in experience. Learn how mobile check-in apps can help free up staff, make after-hours check-ins much easier, and reduce the possibility of COVID spread at your hotel. Front office technology is constantly evolving and providing new ways for hotels to innovate and provide the best service to their guests. There are numerous ways that technology can improve hotel experiences, ranging from robotics and artificial intelligence being adapted to front desk operations to new ways of communicating with guests via apps.

## Automated Check-ins and Check-outs
Digital check-ins and check outs along with initiating special requests in hotel are now possible for guests on their mobile, tablets or computers. This feature has also been added to mobile applications to provide guests with convenience and choice. When a guest's room is ready, they are notified, allowing them to bypass the front desk.

## Digitized Room Keys
The number of times a room key is misplaced by a guest a duplicate room key is issued. It is inconvenient for the guests to have to prove their identity every time they lose the room key. Digitized room keys have come in handy. Swipe cards have been replaced by smartphones and apps to facilitate check-ins and reduce key loss. First, you create an app with a level of security for your hotel. Guests receive the room key via the app, and the room is only visible when they request it. You can manage the IMEI and assist guests if their phone battery dies or they lose the phone. Guests can also share the room key with their fellow travelers.

## Chatbots
Chatbots can initiate conversations with guests on their smartphones, allowing you to stay connected with them throughout the entire guest cycle. Due to space constraints, guests are hesitant to download an individual brand app with the emergence of thousands of apps.

## TrilyoBot in action
Chatbots, which are built on messenger apps such as Facebook, Slack, and Kik, among others, are an automated response system that can be trained and made to perform specific tasks using machine learning. Trilyo introduced this element for hotels to improve customer engagement and create more loyal customers. Adding this feature to the hotel will allow guests to interact with the hotel without having to call the operator or dial several extensions. Furthermore, chatbots allow for remote check-ins and check-outs, as well as creating WOW moments for guests. Request an extra towel from Room No401? Request for a car from room 305? Is there a wake-up call from room 519? All of these requests can be handled by the bot.

## Near Field Communication (NFC) Technology
NFC allows for the seamless transmission of data from compatible devices over a short distance using radio waves. It is commonly used for payments, sharing media files, or any other type of data with a single tap. All that is required is this small device known as a smartphone that supports NFC. NFC can reduce the workload at the front desk by allowing for faster check-ins and check-outs. Furthermore, it allows for secure payments and protects against theft or loss. As previously discussed, digitized room keys can be shared using this technology, ensuring key safety and misplacement. NFC gives the option of cross-branding and expanding your offerings. A single NFC card or device can be configured multiple times, allowing to add features as needed. It can also be used to collaborate with other vendors such as local restaurants, shops, amusement parks, and so on to provide customers with a seamless experience while they are visiting, thereby increasing guest loyalty. NFC is an effective cost-cutting tool that allows to attend to customers' needs and increase guest satisfaction.

## Infrared Sensors
The traditional method of knocking and announcing the arrival of the staff, as well as waiting for 10 seconds before the second knock, has become obsolete. Infrared sensors detect and emit infrared radiation. The LED light automatically bounces back into the light sensor when an object is near the sensor.

## Facial Recognition
Rather than having to wait in line at the front desk, some hotels are using facial recognition scans to get guests into their rooms. Marriott is currently testing the technology in its China hotels, which reduces check-in time from three minutes or more to less than one minute. Guests approach a kiosk, scan their face to verify their identity, and then scan their ID to obtain their room key.

## Voice-Controlled Rooms
A lot of hotels are introducing "smart rooms," which use voice recognition and AI to include virtual assistants into the space. To receive individualized assistance for both business and leisure travel, visitors are able to use voice control technology in the rooms and talk normally.

## RFID Wristbands
More hotels are abandoning traditional room keys in favor of guest wristbands that use RFID technology. Guests are given wristbands that contain information on their rooms, credit cards, and tickets that may be scanned to obtain entry to their rooms and other facilities and to make payments in place of carrying a room key and their wallets. It's simple

for guests to keep everything with them and free up their hands thanks to the wristband.

## Smart Amenities
Smart features spread throughout the space let visitors entirely personalize their stay and maximize comfort. Every room at the CitizenM Hotel in Amsterdam has a MoodPad tablet, which enables visitors to control the temperature, TV, window coverings, alarm, and lighting from one location. Smart shower doors are available in some Marriott hotels, allowing visitors to scribble down thoughts while in the shower and email the image to themselves for later use.

## Virtual Reality
Imagine being able to enter a hotel room on the opposite side of the globe and observe its precise design, surroundings, and amenities. Through virtual reality, visitors may easily browse hotel rooms, make their selections, and book them online. Additionally, they can get a taste of the area's attractions and decide on their vacation plans before they leave.

## Located-Based Services
The ability to locate visitors and staff in modern hotels enables them to provide more individualized service. A push notice regarding a drink promotion could be sent to a guest while they are in the hotel bar. Based on where guests spend their time, hotel employees might be informed of their preferences. Depending on where guests are on the property, Hilton uses location-based services at some of its properties to notify them of events and activities that might be of interest to them.

## Augmented Reality
Hotels now have more opportunities because to the capability of overlaying information onto visitors' surroundings. AR can be utilized to give visitors tours of the hotel, highlight its features, and provide local knowledge. Visitors can learn about nearby sites and receive suggestions for the finest things to do and see by pointing a smartphone at the map.

## Energy-saving technology
Technology now occupies a significant position in the space. It's intended to facilitate an exceptional experience, but it may also help hotels save a lot of money. Technology used in rooms can range from motion detectors or thermal sensors that identify when a room is uninhabited and turn off the electricity to occupancy-based sensors that help cut energy expenses. When the room is inhabited, these sensors can also be utilized to adjust the lighting and conduct water-saving measures. Additionally, LED lighting can result in significant energy cost savings and creates a cool atmosphere in the space.

## Smart technology
Hotels that employ technology to create a distinctive experience also tend to live simpler lives themselves. In order to provide customers, control over their experience, smart hotels can use technological advancements like voice control, facial recognition, and smartphone control. With certain technologies, visitors can check in and out, start a bath, adjust the lighting and temperature within the room, and even check in and out. Smart technology can lower operating expenses and energy consumption while being more environmentally friendly.

## Wireless device charging
Cables are obsolete in the age of wireless gadget charging. When an item, such as a smartphone or headphones, is put on a charging "mat," wireless charging transmits power from the mat to the object. Hotels can offer wireless charging in guestrooms by utilizing a technology like Chargifi.

## Smart mirrors
This cutting-edge convenience combines a TV screen and a mirror in the guest room. Visitors can view the news, check the weather, or order hotel services using a concierge-style feature while shaving or brushing their teeth.

## Concierge video chat
Communication tools like Crave enable visitors to text, phone, or video chat with hotel workers in real-time by quickly scanning a QR code. Visitors can avoid going down to the front desk because staff can respond to inquiries or fulfil requests promptly and efficiently.

## Remote Check-In/Check-Out
Hotel owners can better predict/manage their staffing needs and save significantly on labor costs by allowing guests to check in remotely via their mobile device. This technology can also notify hotel staff when guests arrive (allowing them to spend less time greeting them), offer appropriate upgrades/upsells, and provide a more personalized guest experience, even on their first visit.

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

## Smart Room-service
Smart occupancy sensors will also assist hotels in sending menu notifications to guests' smartphones at optimal times when they are in their rooms. These notifications may also include personalized recommendations based on previous orders. Many homes food-delivery apps already provide a similar experience, sending push notifications to frequent users at their preferred ordering times and days.

## Conclusions
From the above mentioned various technological trends used it is understandable that hotel industry is changing & also have evolved new systems which have also benefitted the guest and hotels in transforming from the traditional days of operation. Nowadays guest need not require waiting in the queue for the check-in or check out process to take place. Instead, they can perform these options by self-check-in check-out vending machines. Even guest need not require anybody to assist, which can be done by the help of chatbot while guest uses any of the electronic medium at Front Office. Latest trends have boosted Front Office in performing various options which have eased the guest & hotel to increase work effort, reduced time of performing task effectively.

To continue innovating and providing outstanding service while utilizing the most recent technologies, it is important

to stay up to date with trends in order to better understand what clients will anticipate. All of this ultimately increases income while also improving client satisfaction and retention.

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