

# TECHNOLOGICAL REVOLUTION IN THE HOSPITALITY INDUSTRY

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## Abstract

The changing face of technology has played an integral role in the development of the hotel and restaurant industry. The manuscript investigated the impact that technology has had on the hotel and restaurant industry. A detailed review of the literature regarding the growth of technology in the industry was linked to the development of strategic direction. The manuscript also looked at the strategic analysis methodology for evaluating and taking advantage of current and future technological innovations for the hospitality industry. Identification and implementation of these technologies can help in building a sustainable competitive advantage for hotels and restaurants.

**Keywords:** Hospitality, revolution, technology, future etc.,

## Introduction

Technology is advancing at a faster pace than ever before, and this is changing both the expectations of patrons as well as the way in which the hospitality industry conducts its business. Some of the trends in industry are leading to great improvements and savings for hospitality industry companies; while some are changing how hotel developers plan their buildings, infrastructure, management structure and staffing requirements.

In this article, Aurecon's experts look at some of the latest trends in industry.

## Wi-Fi infrastructure overhauls

Nowadays, hotel guests who travel with devices such as phones, tablets and computers no longer see Wi-Fi as a perk, but as a must-have when they check in at a hotel.

Hotel guests expect to be able to connect to the internet seamlessly and without too many interruptions, leading hotels to invest in better, faster Wi-Fi infrastructure so that people can do business and use their technology devices with ease when they book their stay.

Hotels are also starting to move away from user pay models. In the past, hotels could charge exorbitant rates and guests knew they would have to pay if they wanted to go online. Installing and maintaining a hotel-wide wireless network may be coupled with costs, but many leading hotel groups have started to install high density Wi-Fi and started to offer in-building mobile phone coverage as guests have come to expect these

services during their stay (not only for themselves, but also for their guests if they are hosting a conference or function at the hotel). It might not yet be financially feasible for hotels to completely abandon the user pay model, but many of them are re-thinking their current infrastructure and pricing models.

### **Digital conference facilities**

Besides being able to offer high density Wi-Fi for conferences and meetings, hotels also need to be able to offer access to audio-visual (AV) and digital facilities for conferences. While the amount of AV and digital equipment that goes into a typical conference room is fairly minimal, staging companies are often hired for various projects in order to equip the facility as required.

A key component in designing effective conference facilities that can accommodate this type of technology is creating easily accessible, concealed pathways in ceilings and flooring where adequate power and data connectivity can be facilitated. If a hotel has extensive conference facilities, network design becomes critical to ensure indoor mobile phone coverage, Wi-Fi connectivity, VoIP, real time location services (RTLS) and internet protocol television (IPTV) as well as all the accompanying AV and digital equipment.

### **Mobile communication and automation**

In many airports, it's no longer necessary to stand in a queue to check in and people are expecting the same kind of easy, technology-driven check-ins at hotels. Guests want to be able to do everything from checking in at a venue's automated kiosk to ordering room service with a digital device instead of standing in queues and moving around the hotel premises to order food.

Thanks to digital innovation and social media, guests also expect digital interactions with the hotel to be personalised. When investing in digital apps for check-ins, room service and other customer-oriented digital interactions, hotel operators are investing in systems and technologies that can personalise the experience for guests, including a guest's name being displayed on the welcome desk at a digital check-in station; their food preferences or past purchases being displayed in a digital room-service order system; and similar.

In addition, the 'concierge in your pocket' concept is fast gaining popularity due to its ability to allow operators to include useful information such as surrounding entertainment venues; medical facilities; and similar services.

Like many of the other technology trends in the hospitality industry, investing in a check-in/concierge app requires a small initial investment and can lead to greater efficiency and savings as hotel staff are able to focus on customer service and property developers don't have to create large static reception desks at each entrance and hotel location.

### **NFC technology**

Near field communication (NFC) technology is the next-generation short-range high frequency wireless communication technology that gives users the ability to exchange data between devices.

Communication between NFC devices can transfer data at up to 424 kbits/second and the communication is enabled when two devices touch each other, which makes mobile payments (by touching the smart phone to a credit card) an instant, secure process. This technology is also ideal for self check-ins by guests at hotels as well as the next trend in this article: smart room keys.

Besides payments and an easier way to gain entry to hotel rooms, NFC technology can also be used to personalise a guest's experience at a hotel or resort. For example, advertising can be targeted based on gender and age (so if a child walks by a digital sign in the lobby, the advertisement can change to promote a local theme park or the hotel's kids club) and this technology could also be used to track loyalty points from a guest's use of the conference facilities or room service. This opens many doors for hotels who want to offer a more personalised experience at their establishment.

### **Robots and infrared sensors**

Some hotels are already offering more futuristic experiences, with robots delivering any items ordered through room service to a guest's door. A boutique hotel that is nestled between Apple's headquarters and other tech companies, called Aloft Cupertino, has a robot butler called Botlr that is able to move between the various floors of the hotel in order to take items such as toothbrushes, chargers and snacks to guests. These types of digital systems not only make it easy for hotel staff to deliver items to guests, but it also offers a forward-facing digital experience to people who stay at the hotel.

Infrared scanners are now also used to minimise disruptions relating to housekeeping (which is a common complaint from customers). Instead of hanging a 'Do Not Disturb' sign on doors or having cleaning staff wake up traveling guests with knocks and phone calls, hotel staff can take a more innovative approach by using infrared scanners that will detect body heat within a room and tell cleaning staff that they should rather come back later if the room is currently occupied.

### **Smart room keys**

Hotels will increasingly install smart room access systems that allow guests to unlock their doors by simply swiping their phones across a keyless pad on the door. Starwood (owner of the Sheraton, Weston and "W" hotel chains) has already upgraded 30,000 room locks across 150 hotels with this system and Hilton will be implementing a similar system at 10 of their US properties this year. In 2016, they will be deploying the smart room key technology globally. This technology will mean that guests don't have to worry about picking up keys and front desk staff won't have to issue new keys in the event that a guest loses their room key.

Another innovative way to offer a keyless experience is through fingerprint-activated room entry systems and retina scanning devices. Retina scanning is even more accurate and secure than fingerprint scans and hotels like the Nine Zero Hotel in Boston have already installed an iris scan system in place of key cards to control access to the hotel's presidential suite.

### **Entertainment on tap**

According to a Smith Micro Software trend report entitled *The Future of Hotel In-Room Entertainment*; people are increasingly plugging in their own devices for in-room entertainment. The hotel room's television, radio and clock are taking a backseat as travellers use their own technology to keep themselves entertained. An earlier survey by Smith Micro Software showed that 81% of respondents wanted access to mobile video content at hotels and 55% said that mobile content availability at a hotel would influence where they choose to stay.

### **Cloud services**

Being able to provide entertainment on tap and mobile content has led to the trend of hotels investing in cloud services. While hotels want to be able to offer digital content, they don't necessarily want to invest in IT infrastructure and IT staff, making cloud computing the ideal solution.

Not only is the initial capital investment lower than IT infrastructure and servers, but it gives hotels the flexibility to expand and adjust their IT needs along with business growth, invest in upgrades without causing a complete IT system overhaul and it removes the administrative burden of managing an IT system in-house. Cloud computing is becoming the norm and we will continue to see hotel groups replacing their legacy IT infrastructure with cloud solutions.

### **Feedback on social media**

Technology has infiltrated almost every aspect of our lives and hotel developers need to realise that almost any person checking in at a hotel, resort, spa or lodge, will have a smart phone in their pockets.

Many companies in the hospitality industry are already using social media to their advantage as guests check-in on location-based social media apps, tweet about their experience on Twitter and share their holiday photos with friends and followers on Instagram and Face book. This trend will continue and hotels can expect to see even more social media engagement from guests who use these platforms to give feedback about their experience, complain and give compliments about their stay. Hotel staffs are also expected to provide feedback and address and complaints or queries from guests in real-time.

From an online, reputation management perspective, this is a trend that marketers and hotel management need to manage proactively. Consumers don't make decisions about where they're going to travel to or book a stay in a vacuum – they turn to community-developed content and rating systems such as Trip Advisor and social media to make decisions about holiday destinations, hotels and leisure. This shift has led to many hotel and leisure groups developing active social media monitoring and communication strategies in order to stay on top of what's being said about them online and making sure that both marketing and operational staff address feedback that has been given online.

An additional way in which operator can take full advantage of technology in this space is using it to communicate how well they are doing (in real time) with respect to their various environmental initiatives (such as real time electricity/water usage reporting, etc.)

### **Converged LANs to support multiple services**

Converged local area networks (LANs) will also help hotels to create more intelligent buildings. A variety of computer-based building services can be automated in order to control lighting, refrigeration, air-conditioning and heating. Besides reducing energy consumption, converged LANs can also be set up to provide a smarter, more personal experience. If a guest is known to prefer his or her room temperature at 18°C with the lights dimmed to 65%, for example, this can be programmed before the guest checks in at the hotel.

### **Integrated, seamless experiences**

Technology doesn't mean that customer experience can only happen online and through devices, check-ins and online comments. All of these experiences need to be part of an integrated, dynamic system so that the guests' experiences are at the forefront of the marketing and

Operational team's mind, if a guest leaves a comment about their stay when they check-out of the hotel, for example, the right people need to reply and acknowledge this type of communication. If a guest leaves a complaint about not being able to stream mobile content during their stay, then processes should be put in place to ensure the right person follows up by communicating with the guest and solving the problem at the hotel.

### **Conclusion**

In the largely customer driven hospitality industry, the use of technology to speed operations and gather detailed customer information is not optional. This rings true about technology in the hospitality industry for large chain establishments as well as little known, mom and pop hoteliers, restaurants and transportation companies.

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