



## MOBILE TECHNOLOGY: A TOOL TO INCREASE HOTEL SALES AND REVENUE

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### Abstract

**Purpose** - Mobile technology enables users to access information and applications anytime, anywhere, providing greater flexibility in communication, collaboration and information sharing. The strategic importance of mobile technology should not be underestimated, given that the rapid pace at which mobile technologies are being adopted and improved is creating opportunities for new, innovative services that can be delivered via mobile devices. The purpose of this paper is to explore the possibilities of mobile technology as an extremely important tool for hotel companies, helping them to distribute information, simplify processes and increase productivity and sales in general. In addition, the purpose of this paper is to determine the status and role of mobile technology in driving revenue growth in the hotel industry.

**Design/Methodology** - Based on an extensive desk research in the existing literature, this study examines how mobile technology can significantly improve hotel operations. Secondary data were used to draw conclusions about the potential of mobile technology in the hotel industry.

**Findings/Results** - The paper contributes to the discussion on the increasingly important role of mobile technology in the hotel industry. However, mobile technology has changed the perception of hotel guests and the way they experience good things. Therefore, this paper, which deals with the significance and importance of mobile technology in hotel operations, attempts to answer these questions: To what extent is mobile technology present? How are they used? What role do they play in modern hotel operations and in the hotel industry in general?

**Originality/Value** - This paper focuses on the mobile technologies, like mobile apps, in order to deeply understand to what extent hotel guests' accept the usage of these technologies for the choice of hotel, by providing issues for researchers and practitioners. Mobile technology still has growth potential as technological development never stops, and this will completely change the traditional and conventional approach to hotel management.

**Keywords:** *Mobile technology, Mobile apps, Hotel industry, Hotel Sales.*

## 1. INTRODUCTION

The figure of nearly 3 billion smartphone users (Statista, 2020) cannot leave anyone indifferent. Both the tourism industry and the hotel industry have realized the benefits of using mobile technology and smartphones in business. The future of the hotel industry will increasingly depend on mobile technology, and therefore it is necessary to continuously monitor new achievements and technological solutions that it enables. With the right deployment and usage, it is possible to increase both hotel sales and hotel revenues. In a dynamic and increasingly sophisticated market, new technologies are emerging that are on their way to completely transform the hotel industry. Mobile hotel apps are redefining the customer experience in the hotel industry. Guests are looking for convenience, and customized hotel apps play an important role in providing the best experience to customers. Mobile technology plays a critical role in the guest experience of a hotel stay, adding incredible value and enhances guest satisfaction by improving the quality and flexibility of hotel services, communication efficiency and personalization of services (Zhang et al., 2019).

Mobile technology has transformed most people's business lives and is present in almost every aspect of the modern economy. The increase in the number of mobile devices in the world and access to the internet have made it possible to conduct numerous activities, regardless of where the user or hotel guest is located. Mobile devices have reached every corner of the world and are indispensable for business and leisure travelers (Lei & Law, 2019). Many hotel guests appreciate hotels that continually introduce and offer new technological amenities that directly impact guest satisfaction and provide hoteliers with an additional source of revenue (Bilgihan et al., 2016).

The combination of mobility and Internet access provides hotels with many opportunities to improve their service and keep pace with the increasingly rapid development of mobile technology. The growth, proliferation, and adoption of mobile technology is having an amazing impact on the hotel industry, affecting the guest experience pre-arrival, during the stay and post-departure. Hotel companies have implemented mobile applications that cover the entire cycle of the hotel guest, from searching for a hotel, booking, checking in, using the application as a concierge to search for various services, to leaving the hotel.

Mobile devices, with their functionality and mass of users, have stimulated a completely new business platform, forcing all serious companies, especially in the hotel industry, to pay special attention to this segment. This happened through various mobile applications developed by hotel companies to offer new services to guests and facilitate the development of existing

services. One of the latest trends in the hotel industry is the integration of mobile technology in almost all business processes, through which they achieve a new dimension of contact with guests while offering them new products and services. As competition for market share increases, hoteliers need to transform their business to adapt to new multi-device mobile Internet connectivity and deliver a personalized user experience to exceed expectations and win back customer loyalty (Lam & Law, 2019).

## **2. MOBILE TECHNOLOGY**

As an innovative and competitive marketing tool in offering services and online transaction capabilities, mobile technology is critical to the success of businesses. For hotel businesses to survive and thrive in a competitive environment, digital transformation has become a necessity (Lam & Law, 2019). Nowadays, tourists are becoming more tech-savvy and demanding, looking for unique and personalized experiences and interested in interacting with mobile technologies (Dorcic et al., 2019; Bounatirou & Lim, 2020). The following data also shows how important and present mobile technology is in the hotel industry (Kumari, 2020):

- about 85% of international tourists use a mobile device during their trip,
- about 74% of travellers say they would prefer the hotel app for booking and other details,
- almost 70% of last-minute reservations are made on a mobile device,
- mobile hotel apps help about 70% of travellers make booking decisions,
- 88% of hotel guests want a mobile app that offers them a personalised experience.

Mobile technology is undoubtedly one of the key drivers of new ways of traveling. The mobile device has become a travel guide, travel agent, calculator, camera, translator, the best restaurant finder and much more. According to TripAdvisor, 45% of users use their smartphone for everything related to their vacation. Furthermore, as there is a need to adapt corporate services and communication through mobile devices, KLM has created an information service for travellers with Facebook Messenger (Vidal, 2019). The right use of mobile technology increases guest satisfaction on the one hand and creates the prerequisite for an increase in revenue on the other. Tourists are addicted to mobile technology to do everything from book a restaurant or a family pass at a theme park to translate key terms, ask for directions and guiding themselves toward new places (Çınar, 2020).

### **3. MOBILE TECHNOLOGY TRENDS IN THE HOTEL INDUSTRY**

Growing customer acceptance of technology, combined with shorter technology lifecycles, presents a major challenge for hotels (Brochado et al., 2016). Mobile technologies are transforming the intangible hotel services into tangible (Lukanova & Ilieva, 2019). Modern guests have become increasingly expert in the use of new technological solutions, forcing hoteliers to offer precisely those services that rely on new technologies. To provide personalized service and a quality experience at the hotel, hoteliers are embracing new trends such as (Kumari, 2020):

- Artificial intelligence and chatbots
- Big data and virtual assistant
- Internet of Things (IoT)
- Direct bookings through the App
- Augmented reality (AR) and Virtual reality (VR)

#### **3.1. Artificial Intelligence and Chatbots**

Artificial intelligence is playing an increasingly important role in the hotel industry and performs some human functions that help potential hotel owners save significant costs, minimize human errors, and provide better service. The use of artificial intelligence helps improve the quality of services, such as faster responses to guest requests and the ability to handle a large number of requests simultaneously with almost no capacity constraints.

The best example of using artificial intelligence is to use it to provide a personalized service. The Hilton hotel chain uses a robot named ‘Connie’ that is able to provide information to guests who communicate with it. It also has the ability to learn from human speech and adapt to individuals (Revfine, 2020). It is important to keep in mind that technology is not an employee substitute, but a tool to help employees perform better (Leung, 2019).

#### **3.2. Big Data and Virtual Assistant**

Big Data can be used to provide personalized services. It allows the hotel to adapt to real-time trends, run targeted marketing campaigns, make recommendations for specific locations based on age, gender, places previously visited, etc. Crucially, they can be used in predictive and behavioral analytics, helping hoteliers identify key trends or patterns (Revfine, 2020).

Virtual assistants are becoming one of the foundations for delivering a superior and personalized user experience. Moreover, Gartner predicts that by 2021, virtual assistants will conduct approximately 15% of business interactions with customers (Priyadarshini, 2020).

### 3.3. Internet of Things (IoT)

The Internet of Things is being used in many different areas to increase efficiency and provide a better customer experience. Homes are increasingly transforming into smart homes and starting to give way to smart hotels. This offers hoteliers the opportunity to better serve guests, offer value-added services, and run the facility on the back end with far greater efficiency than was ever possible before (Car et al., 2019). IoT improves the guest experience and helps to better understand guest behaviour (Nadkarni et al., 2019).

For example, “Hilton and Marriott have experimented with slightly different takes on the ‘connected room’ concept, where users are able to control many of the room’s features from their mobile phone, or from a provided tablet” (Revfine, 2019).

The Internet of Things (IoT) is a very important factor in the tourism and hotel industry, enabling new ways of doing business. Numerous industries have potential benefits from the Internet of Things, but the travel industry is already a pioneer when it comes to IoT investment. Table 1 shows the IoT location and its function.

**Table 1.** Recommended IoT Location

IoT Location	Type of IoT/sensor	Function
<i>Inside Hotel</i>		
Guest Room	Movement sensor	Energy management system adjusted in-room environment and ambiance according to guest presence and their location inside guest room.
	Voice sensor	Voice activation controlling in-room devices such as curtain, lightings, room temperatures etc
	Temperature sensor	Measure room temperature ensure guest can stay with comfortable environment
	Door lock	Mobile app can act as keyless card for door lock system
	Wearable sensor	Monitor guest health situation during their workout and provide
Restaurant & Lobby	Location sensor	Identify registered members presence and send push welcome message or events invitations
	Promotion beacon	
Hotel facilities	Availability beacon	Delivery availability notifications to hotel guest
Warehouse	Inventory tag	Detect item profile and location; Examine expiry date and par-stock level
<i>Outside hotel</i>		

Building	Temperature sensor	Measure external temperature and make adjustment on energy management system
	Light sensor	Detect the sunlight and adjust the blinds and brightness of the lighting system
Roadside	Traffic sensor	Detect parking space and traffic situation
Social network	Content sensor	Monitor social network and UGC sites content related to hotel and alert manager to feedback promptly; customer's stay history can be extracted from internal big data for management review.
PEST Data	Contextual data extractor	Extract PEST contextual data around the world and store in hospitality big data

Source: Retrieved from Buhalis & Leung (2018)

### 3. 4. Direct Bookings Through the App

Mobile applications and smartphones enable a business to provide information and services at the right time and place. Mobile applications provide a direct connection between the business and the consumers. A direct connection brings two benefits: lower distribution costs and increased customer loyalty (Qin et al., 2017).

In the modern hotel industry, the existence of mobile applications enables the booking of accommodation through mobile devices, either through online booking platforms or through hotel mobile applications. Accommodation revenue is the most significant and takes the largest share of a hotel's total revenue, but in addition to selling accommodation through the mobile application, it is possible to find additional sources of revenue through various offers and services placed directly to users. Furthermore, advances in technological solutions offer benefits not only to hotel guests but also to hotel service providers (Linton & Kwortnik, 2019).

### 3.5. Augmented Reality (AR) and Virtual Reality (VR)

The technology AR allows elements that do not exist in real life to be seen through an application via the screen of a device, usually a mobile phone, and has become an important concept in the hospitality industry in recent years. Augmented reality is typically applied through a smartphone app and used to add more layers to the real environment. For example, the user can point the phone at the restaurant and view guest reviews or point the phone at the hotel map to find additional information about nearby attractions.

Virtual reality is a technology that allows virtual tours of places in 3D. Large hotel establishments allow tourists to experience VR with the possibility of a 360-degree view of the accommodation, which gives the guest a sense of space and security. This can make a difference, especially at the stage when customers are ready to make a reservation, as it gives

potential customers a much clearer impression of what to expect when they actually visit (Revfine, 2020).

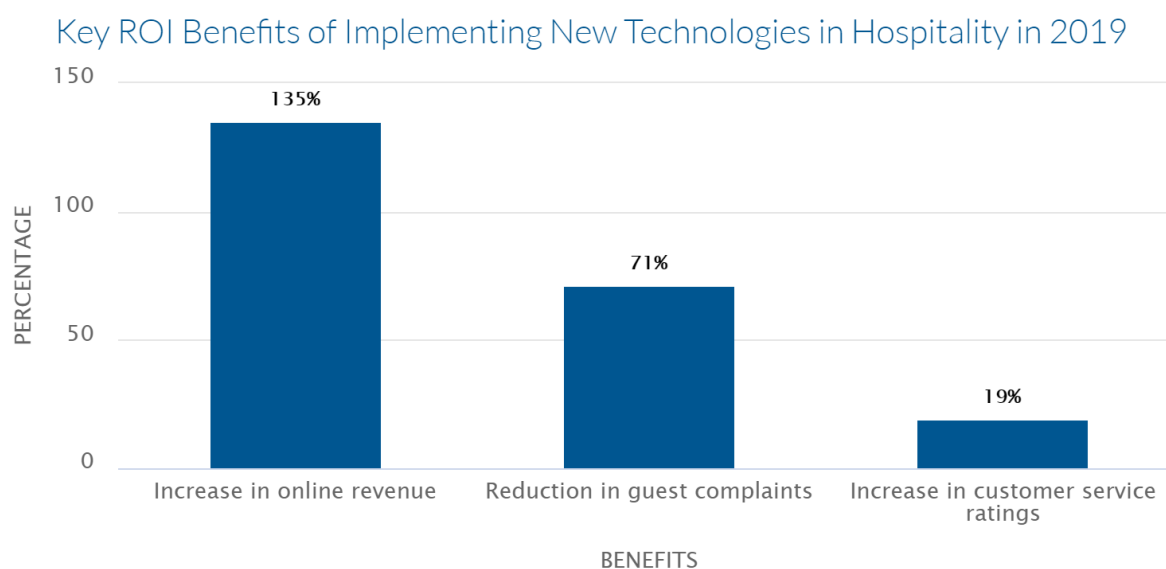
#### 4. THE IMPACT OF MOBILE TECHNOLOGY ON HOTEL SALES AND REVENUE

By investing in mobile technology, almost all hotels have the primary goal of increasing revenue, improving guest service, and positively impacting the overall efficiency of the hotel (Jung et al., 2014). Many hotels and accommodation businesses have experienced improved financial performance following the introduction of new technologies, and it is argued that IT applications could increase the competitive advantage of hotels, for example by reducing operating costs, creating additional value, increasing agility, reducing service turnaround time, and developing new products and services (Hua et al., 2020; Vikas & Deependra, 2019).

Hotel experts recommend hotel owners to invest in new technologies as the share of reservations and sales of products and services via mobile devices in total bookings and sales is increasing day by day, which can eventually translate into strong growth in hotel revenues and earnings.

Digital transformation and technology are becoming key to generating higher customer demands. FinancesOnline's study confirms this statement, reporting that the hospitality industry has seen a 135% increase in revenue and a 71% reduction in guest complaints as a result of implementing new technologies (Graph 1). In addition, 81% of guests want a better digital customer experience from hotel brands (Knepp, 2020).

Graph 1 Key ROI Benefits



Source: Gilbert (2020)

Immediately after arriving at the hotel, one of the first things guests do is to organize their experiences at their destination as quickly as possible. The starting point of their entire journey becomes the hotel, which immediately opens up a unique opportunity for hoteliers to not only get closer to their guests by increasing their satisfaction, but also to increase hotel service and sales at outlets such as spas, restaurants, and more. To achieve successful hotel communications that drive better reviews and higher sales, the need to implement technology is critical. As we all know, hotel staff is the most important factor that influences hotel guests. However, hotel establishments need to ensure that their guests can not only easily access the information they want whenever they want, but also stay informed about all the experiences that have been created just for them (Morantis, 2019).

The increased use of mobile devices has changed customer needs and expectations. As more and more people use mobile devices to find out about products and services, the mobile market has become a very efficient and profitable new distribution channel. With a dedicated app, hotels can easily reach their guests and inform them about special promotional offers. Through the application, it is possible to offer the guest who has booked the accommodation to move to a better room, at a certain extra cost, of course if there is free capacity in the hotel.

When the user of the application, who is on his way to the booked accommodation, accesses the hotel's mobile application to perform a mobile check-in, he must be offered additional options to improve the existing reservation at an additional cost. The goal of any quality hotel application is to provide the guest, the user of the application, with as many options to choose from as possible. By simply adding local attractions, local services, or internal menus, hotels can significantly increase revenue from their existing facilities through a mobile app. Another very crucial mobile technology that can significantly improve a hotel's revenue is "contactless payment technology". This includes smart payment gateways such as Apple Pay, Android Pay, Samsung Pay, Visa Paywave and MasterCard PayPass (Hussain, 2019).

Faced with this new scenario, many managers in the tourism sector have insufficient knowledge of the new information technologies and therefore need to familiarize themselves with the benefits of these tools and spend both time and effort to improve their management (Ortega-Fraile et al., 2018).



## 5. CONCLUSION

Mobile technologies and the advent of smartphones have already shaped the global tourism market and will continue to do so in the coming years. The number of smartphone users is increasing year by year, opening up new opportunities for those hotel businesses that want to keep up with the times or keep up with the development of new technologies. In this sense, the competitiveness of each economy depends, among many other factors, on its ability to simultaneously use new technologies to create new jobs, contribute to GDP growth, create new services and / or industry and achieve a better online presence through new business models, processes and innovations.

Hotel companies that have realized the importance and significance of mobile technologies and the placement of information on mobile devices through mobile applications have also gained a competitive advantage over others and increased the loyalty of their guests through the various programs they offer. However, mobile technologies offer a variety of new features and opportunities that hotels can take advantage of to improve revenue and customer satisfaction.

Knowing that information is available to the user at all times, regardless of the location or country the user is in via their mobile devices, should not be ignored. To stay and survive in the challenging market, hotels must follow the trends and achievements of the modern world, especially the innovations in mobile technology. The importance of mobile technology and users' dependence on it is growing by the day, so hoteliers need to decide how and in what ways to incorporate it into their business to ensure that their guests are satisfied and loyal. To operate as successfully as possible and gain a competitive advantage, hotel companies cannot ignore the importance and benefits of using mobile technology in the hospitality industry. The use of mobile technology can not only improve the user experience, but also bring financial and operational benefits to the hotel.

To prepare for what is to come, hotel managers and hotel staff should be ready to adopt new technologies to improve the efficiency and effectiveness of various work processes. We believe that this article will be useful for researchers and practitioners in this field and help them understand the great potential of mobile technologies, especially in the hotel industry. Furthermore, this paper can be the basis for further research to determine and investigate the extent to which mobile technologies influence guest satisfaction and the extent to which they encourage guests to spend more at a particular hotel or destination.

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