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Influence of Mobile Technologies on Tourism: Retrospective and Future Perspectives

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This insight paper examines how growth of mobile technologies is reshaping the tourism industry. Tourist's preferences for and use of mobile technologies while traveling have led to continuous innovations that enhance the tourist experience and business success. Destinations that do not adopt new mobility trends will lag in meeting tourists' expectations.

Introduction

The new era of Information and Communication Technology (ICT) ushered in a paradigm shift in the world of tourism. The way consumers travel and the experiences they have are undeniably being shaped by technological advances (Dorcic, Komsic & Markovic, 2019). Among all the ICT technologies, mobile technology has influenced tourism destinations, tourists, communities, and stakeholders in both promoting and strengthening the tourism industry-as-a-whole (Kim & Kim, 2017). Also, mobile technology, including sensors, chips,

and the Internet of Things (IoT), is influencing tourism development (Doric et al., 2019). This paper offers insights from the academic literature on how mobile technologies changed tourism and how mobile technology innovation continues this transformation.

A Retrospective of Mobile Technologies and Tourism

The release of iPhone in 2007, the first SMART phone, introduced the first wave in mobile technology. Along with wireless data transmission through long-term evolution (LTE) and Wireless Fidelity (Wi-Fi), mobile technology became a significant part of people's lives and the tourism industry (Byun et al., 2017). In a study by Koo, Park and Lee (2017), they found consumers who travel used the Internet for their planning purposes. In addition, consumers use of social media, video sharing, and portable devices like tablets and mobile phones were used more frequently by those travelers too (Koo, Park & Lee, 2017).

Tourists as consumers are major stakeholders in their tourist experiences. The success of any mobile technology adoption by travelers requires it to be effective by being easy to use, convenient in completing tasks, and portable (Lu et al., 2015). The important aspect of a mobile technology is it should enhance the tourist's experience while making travel more efficient and effective (Bader et al., 2012). Among all the mobile technologies, the greatest growth is found for smartphones and its applications. Because consumers tend to use their smartphones daily, it is a habit that continues even while traveling and on vacation (Wang & Fassenmaire, 2013). Tourism destinations now depend on and communicate with tourists using real-time data and information as almost every consumer owns a digital device. Mobile technologies play an important role in shaping tourism and different tourist behaviors and activities related to tourism destinations (Kim & Kim, 2017).

Destinations use mobile technology as a tool to actively help tourists solve issues and problems that arise in real time. For example, Kurata (2012) explained that crowding has become a problem for many destinations with destination managers having a hard time mitigating this issue. Mobile devices are an important information resource which tourists can use to identify when to visit for low crowded areas. Tracking people's movement and using their devices to determine crowd flow has application for crowd density planning by destinations. However, it raises issues of data privacy and protection (Raun et al., 2016).

Portable technologies are effective communication sources in crisis management such as in a natural disaster or in an active shooter scenario. Tourists can use them to gather information on evacuation, nearest shelter, or safety confirmation (Kasahara et al., 2013, 2014). For tourists who love trekking, hiking, and biking in nature, mobile technologies are very useful in helping them plan their route. Pitma et al. (2013) discussed how GPS systems in smartphones can guide travelers to their destination while also ensuring safety. Another aspect of portable mobile technology is its usefulness in applying convenient Quick Response (QR) codes for tourist activities. QR codes embedded in digitized loyalty cards were widely adopted in the hospitality industry and are very popular in the tourism industry (Hopken, et al., 2012).

In recent years, apart from smartphones, applications of virtual reality (VR), augmented reality (AR), and other mobile technologies are changing tourism experiences. Tourism destinations have engaged with tourists in co-creating experiences (Morosan & Defranco, 2016). Gamification or augmented reality (AR) applications are a new area in tourism which is drawing the attention of academicians. Xu et al. (2016), stated that visitors play games because they want to gain more practical information about the destination. Garcia et al. (2017) also stressed that games offer tourist destinations the opportunity to balance the distribution of visitors over a period-of-time.

A Future Perspective of Mobile Technologies and Tourism

The future of travel and tourism will be highly determined by using mobile technologies (Future Traveler Tribes 2030, Understanding Tomorrow's Traveler, 2015). In the current environment, mobile technology and especially smartphones have become essential tools used by tourists to gather destination information. Thus, tourism websites and technology applications need to be compatible with smartphones, well designed, easy to use, and offer well-structured and organized information (Liberato et al., 2018).

Mobile technology trends that were introduced in 2019 and 2020 will change and benefit different aspects of tourism and the tourist. See Table 1 below. Dorcic et al. (2019) explained that new app functions, sharing capabilities, IoT, data connection, and simplicity need to be considered carefully when developing mobile applications for use in the tourism sector. Visitors look for services that are easily enabled in smartphones which makes it easier for them to make decisions and have a personalized experience. These trends are only possible through reliable mobile applications with access to information (Gibbs et al., 2016). Augmented reality (AR) applications or gamification can be very effective in supporting tourism, but improvements are needed. Also, there is a need to offer smartphone applications such as push information, feedback, and routing to make it more useful for visitors (Dorcic et al., 2019).

Table 1. Mobile Trends and Technology Benefits Introduced in 2019 – 2020

Mobile Trends	Technology Benefits
Block Chain Apps	Easy and quick transactions Simple and easy to use Better data protection
IoT	Better reading devices and sensors Better management of devices
Augmented Reality Virtual Reality	Development of apps for practical purposes Examples are education, navigation, and interior design
5G/6G Connectivity	Fast connectivity leading to improved user experience
Mobile Payments	Faster, easier transactions from anywhere

Mobile technologies offer tourist benefits by providing them the opportunities to engage in self-created experiences which in turn create data that tourism destinations can use to improve management of the destination. However, the applicability and importance of mobile technologies are not being recognized by many tourism destinations. This results in missed opportunities (Shoval & Ahas, 2016). A major concern for mobile applications is privacy issues. Privacy needs to be given higher importance as people are very serious when it comes to their personal space and privacy (Gretzel et al., 2015).

Implementation of mobile technologies in destinations is about enhancing the tourism experience of visitors, but just implementing these technologies is not enough. Each tourism destination needs both human and social capital, leadership, and innovation to successfully introduce technology and enhance the visitor experience (Boes et al., 2015). A study by Qin et al. (2017) shed light on mobile applications and shareholders, where they focused on quantifying mobile applications i.e., mobile applications of hotel and airlines and their returns on the stock market. However, these areas of study are in the beginning stages. More exploration is needed regarding how stakeholders might use mobile technologies to generate greater value for them. This also calls for educating the stakeholders on the range of viable technologies for enhancing the tourism experience and what will be achieved by introducing these technologies in the destinations.

Conclusion

Mobile technologies have grown into a driving force in tourism. Business transformation through technology is making it easier to be more efficient in transferring information. Tourists have adapted to mobile technologies because they offer information relevant to the experiences they want. This access has a direct impact on their stay in certain tourism destinations. Thus, with the frequency of new technology trends being introduced, the tourism industry has a responsibility to meet the continuing challenge of applying new technologies to the benefit of tourists. Introducing new technologies into tourist destinations will position them well for future developments by continuously updating and creating new strategies that meet the current and future demands of destination tourists.

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