Chapter 12
Emerging Technologies and Future Trends in Tourism

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ABSTRACT

The tourism industry has transformed and benefited from innovations of Artificial Intelligence, Augmented and Virtual Reality. These innovations are changing the paradigm of how travelers design, consume and engage with travel products and services: Self-controlled, personal, and environmentally friendly transport options. AI is useful in designing a travel itinerary and predicting the same, AR and VR enhance the experience during travel and make it easier for everyone to travel. Blockchain technology manages transactions, booking systems, and loyalty programs to improve system credibility. Also, new technologies like self-driving and electric cars have brought new forms of transport like self-driving tours, sustainable travel, and improved last-mile connectivity. All these technologies develop smart sustainable tourism, applying technology while preserving the environment and promoting social consciousness. Thus, it will lead to further enhancement of these technologies and make the tourism sector more beautiful, efficient, and ecological.

THE CONJUNCTION OF TECHNOLOGY AND TRAVEL

The tourism industry, which has relied on its operations on people and the tangible things that can be touched and felt is today standing at the brink of a new shift. These changes are attributed to the advancement in technology that has had

an impact on how people explore the world, plan their travel and even-engage with the destination. Travel, on the other hand, has been a very personal endeavour and has more to do with physical engagement with the land, the culture and the people. However, the digital revolution is already introducing a new revolution where technology enhances these experiences or even substitutes them and thus, improves, personalizes or even green the processes of travel.

Today, the most relevant technologies that define business development are Artificial Intelligence (AI), Augmented Reality (AR), Virtual Reality (VR), and Blockchain (Bank, 2018). These are not just new versions of the current existing systems but they are a complete shift in the way the tourism industry operates and how it interacts with the customers. For instance, there is the case of AI which is being used to offer the hyper-personalized travel planning where the algorithms take time to analyse a number of variables in order to come up with the best itineraries that are customised to the specific requirement of the individual traveller (Beverungen et al., 2017). Contrarily, augmented and virtual reality help eliminate the constraints of physical distance thus enabling the potential tourists to explore the travel destinations before they even board a flight thus improving the decision making and pre trip experience.

It also aims to resolve some of the biggest questions that the travel industry is currently facing while combining technology and travel. A major issue of the current growing global tourism is sustainability, and it is addressed by using the IT solutions and analytics that help manage resources more efficiently and reduce the adverse impact on the environment. For reference, the Internet of Things (IoTs) devices and smart sensors are placed in famous tourist attractions to oversee the volume of tourists and streamline the utilization of resources so that there will be less emission of greenhouse gases from tourism. In addition, blockchain is increasingly being applied to travel transactions to enhance their authenticity and minimize the probability of fraud while simplifying such operations as booking and payment.

One more field that is rapidly developing with the help of technology is the personalization. Earlier, travels were generic and people did not have many choices to choose from. Today, however, AI and big data are making it possible for a new generation of personalized travel where every aspect of the trip – the hotel, the things to do – are based on the traveller's likes and dislikes. This change towards personalization not only improves the customers' experience but also helps the travel companies to stand out from their competitors.

In addition, accessibility of travel is being enhanced by technologies in a very big way. For example, AR and VR can provide different ways of accessing destinations that may be difficult to access for people with disabilities. These technologies offer a form of virtual experience, which enables a person to capture a certain place and its features even if he or she cannot visit the place. In the same way, the utilization

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