

Chapter 71

The Future of Tourism Guidance in the Scope of Industry 4.0 and Next- Generation Technologies

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EXECUTIVE SUMMARY

Next-generation technologies such as robotics, the internet of things, artificial intelligence, sensors, cognitive technologies, nanotechnology, quantum computing, wearable technologies, augmented reality, intelligent signaling, and intelligent robots have led the fourth industrial revolution, often referred to as Industry 4.0. With the rapid advance of technology, most people today rely heavily on the internet to get information while traveling anywhere, because the use of technology has deeply penetrated daily life. The internet also makes travel easier and more convenient. For instance, it is possible to plan travel using smartphones and applications and at the same time meet instant travel needs as they arise. Therefore, the aim of this study is to examine tourism guidance within the scope of the super-smart tourists of the future, to determine the usage areas of next-generation technologies in the field of tourism guidance, and to give recommendations for tourism guidance in this regard.

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INTRODUCTION

Technology has a significant impact on human lives due to its continuous and rapid development, and therefore technology may be regarded as an unpredictable and important force that people must pay attention to (Hooijdonk, 2015). For example, while the number of mobile phone users in the world was 2.32 billion in 2017, it is expected to exceed five billion by the end of 2019 (Statista, 2018), showing the importance of mobile applications for economic industries. Smart technologies are accepted almost without notice by users and may be found in almost all areas of life today. Tourism destinations have also started to implement smart technologies in order to prevent ongoing climate change and to enrich the experience of tourists within the framework of European Union objectives (Endesa, 2008).

Next-generation technologies such as robotization, the Internet of Things (IoT), artificial intelligence, sensors, cognitive technologies, nanotechnology, Internet services, quantum computing, wearable technologies, augmented reality, intelligent signaling, intelligent robots, big data, 3D technology, and intelligent networks have led to the fourth industrial revolution, known as Industry 4.0. These Industry 4.0 technologies have started to change business environments and lifestyles due to their rapid use in business life, communication, and education. Therefore, countries, governments, local administrations, enterprises, and educational institutions have started working to adapt to Industry 4.0 technologies. The term “smart” also entered the literature with Industry 4.0. Höjer & Wangel (2015) state that technological advances are not so significant on an individual basis; rather, different technologies used in a connected, synchronized, and harmonious way impact our lives in a unified fashion. Harrison et al. (2010) define the concept of “smart” as using real-time and real-world data, integrating data, sharing data, and using analytics, modeling, optimization, and visualization to make better operational decisions. The term “smart” has become a word that describes the technological, economic, and social developments brought about by sensors, big data, open data, and new technological avenues for communication and information exchange (e.g., the IoT, GPS, and NFC) (Gretzel et al., 2015).

In recent years, intensive efforts have been made for the use of information and communications technology (ICT) in the tourism industry (Stamboulis & Skayannis, 2003). However, there are limited studies addressing how smart applications affect tourism. Considering the fact that tourism represents a significant source of income in developing countries, more attention should be paid to the adaptation of the tourism industry to next-generation technologies. Especially with the increase in the number of “Z generation” tourists, technology has found a place in the tourism sector. In this context, the concept of the super-smart tourist, also called Tourist 5.0, has been discussed in the literature. The expectations of professional tourism guides by super-smart tourists in the context of next-generation technologies have started to change. In this context, this study will first address how industrial revolutions have influenced tourism. Information is then given about next-generation technologies. Finally, the effects of next-generation technologies on professional tourism guides are discussed.

BACKGROUND

A Brief Overview of the Effects of Industrial Revolutions on Tourism

The first industrial revolution (FIR) began in England in the 1750s (Leighton, 1970). In 1781, James Watt patented the steam engine, the driving force behind the FIR. Steam engines were then used in the

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