Chapter 2
Digital Transformation and Tourist Experiences

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ABSTRACT

Technology has transformed the tourism industry over time, and today, this transformation has accelerated with digitalization and Industry 4.0. With the application of new generation technologies that shape Industry 4.0 to the tourism industry, the concept of smart tourism has entered the literature and digitalization has accelerated in tourism. It can be said that digital transformation has had an impact on tourist experiences. In this context, this chapter aims to describe the potential impact of digital transformation on the tourist experience. For this purpose, the following topics and concepts will be studied: uses of Industry 4.0 technologies in tourism industry, digital transformation, tourist experiences, and effects of digital transformation on tourist experience.

INTRODUCTION

Historically, "technology" has played very crucial role in human life, and it has been driving force for socio-economic growth and development through the ages. In the course of history, human beings used variety of technological devices, means and instruments from primitive horse-pulled carts to supersonic aircrafts and spaceships for transportation and from primitive hammer to computers in order to facilitate human work and life. Nowadays, societies use the most contemporary devices, vehicles and equipment

including software in smart devices, as a result of technological progress. Moreover, latest technological progress permits artificial intelligence such as robots, self-controlled drones and driverless cars and other digital technologies. The word "technology" originally comes from old Greek language, as a combination of the words "τέχνη" (techno) - "craft, dexterity and handicrafts" and "-λογία" (-logy) "science", meaning "the science of craft or skill". According to this definition, all the skills, methods and processes used in the production of goods and/or services they needed and/or scientific investigation on these topics in the course of history are included into the meaning of this concept (Wikipedia, 2021).

Today, robotization, Internet of Things, smart networks technologies, 3D, big data, smart robots, smart signaling, wearable technologies, quantum computing, Internet of Services, nanotechnology, cognitive technologies, sensors, and artificial intelligence have led the fourth industrial revolution. Industry 4.0 can be said to be the intelligent automation of technology-based and cyber-physical systems (Cotteler and Sniderman, 2017). According to Hooijdonk (2015), although new generation technologies are accepted generally unnoticed by users, and the author also emphasized that they take place in almost all areas in life. Industry 4.0 technologies have started to change lifestyles and business environments by being used in areas such as business, education, and communication in our lives. Especially the Z generation consists of people who use and love technology intensively, socialize through the internet and interact with mobile technologies. This situation is expected to be even more intense in the Alpha generation, which is the generation of the next years. Although the Alpha generation, also defined as digital children and whose toys are electronic, are still in their childhood, they are very familiar with digital technologies, and it is thought that digital environments will become an inseparable part of their lives. The main reason for this is that the Z and Alpha generations were born in the digital world and internet era that are already present in social life (Bağçı ve İçöz, 2019).

The tourism industry is rapidly adopts technology. With the application of new generation technologies to tourism, the concept of smart tourism has emerged. "Smart tourism" is defined as tourism supported by initiatives provided at the destination to collect data from human minds about organizations, government institutions, physical social connections, and infrastructure. Smart tourism has a clear focus on experience enrichment, sustainability, and efficiency (Gretzel et al., 2015). Internet of Things (Gretzel, 2011), such as smart tour guide (Yüzbaşıoğlu et al., 2018), smart ticket and cards (Topsakal et al., 2018a), smart hotel management (Topsakal et al., 2018b), smart travel agency technologies and smart remote video monitoring systems are used to develop smart tourism. Industry 4.0 technologies work based on effective and efficient communication in real time.

End-user internet service systems, cloud computing, and Internet of Things are intangible resources such as human resources and information resources or technological tools. The real effects of smart technologies emerge with the combination of technology and existing infrastructure (Lopez de Avila, 2015). For example, near-field communication (NFC) is an important technology that has become very widespread in smartphones and offers many new applications for the tourism industry (Egger and Jooss, 2010). Internet of Things technology enables physical objects to be connected to each other via the Internet (machine-machine). Thus, machines can communicate and work together via remote controls (Holler et al., 2014). In addition, the use of smartphones and applications can be considered as a source of experience and reflective stage, as it provides useful information on the tourist's trip to the destination. Because smart phone users can access destination-specific applications via smart phones and send messages to tourists via technologies such as Beacon at the destination (Nabben et al., 2016). Beacon technology can locate place of tourists and send personalized messages (Toedt, 2016).

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