Chapter 11
Expansion of Technology Utilization Through Tourism 4.0 in Slovenia

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ABSTRACT

With more and more people traveling worldwide (the number doubling in the last 20 years), tourist destinations are now more than ever trying to maintain and enhance their competitiveness in the global market. In this regard, novel business models combined with state-of-the-art technology can play a crucial role in not only satisfying the increasing tourism demand but also ensuring a sustainable growth to avoid the deteriorating effects on both the social and natural habitat. For these reasons, the Slovenian government included tourism as one of the priority areas for investment. Hence, the Tourism 4.0 initiative was launched to unite tourism stakeholders with high-tech companies and unify their scattered ideas, experiences, knowledge, and expertise. The ambition is to position Slovenia as a top destination for sustainable tourism with high economic value. This chapter introduces the basic concepts behind Tourism 4.0 and how it relates to technologies for an enhanced tourism experience.

INTRODUCTION

Within this proposed book chapter, the authors present the largest government-funded research and development project in the field of Slovenian tourism, called Tourism 4.0 (T4.0) and launched in September 2018. The name itself originates from the fourth and ongoing industrial revolution known as Industry 4.0 (Vogel-Heuser & Hess, 2016), which is characterized by the cyber-physical systems (CPS) manufacturing, consisting of a heterogeneous data exchange (Lu Y., 2016). If Industry 4.0 aims to achieve higher added-value products and services through operational efficiency and the automation of the production process by utilizing the modern technologies, Tourism 4.0 is aimed at doing the same for the tourism sector.

The motivation behind the project is that, unfortunately, a gap between the tourism industry and the use of emerging technologies still exists. Some of the obstacles for a greater technology implementation are the lack of sufficient knowledge, tools and strategies. These issues are already being addressed within the context of Smart Tourism (Gretzel, Sigala, Xiang, & Koo, 2015), an initiative aimed at applying technological innovations to improving the efficiency and sustainability of the tourism sector, while at the same time enhancing the local residents’ quality of life. There are three main components associated with Smart Tourism:

1. **Smart Destination** – a tourist destination where the state-of-the-art technology is integrated in the destination’s own infrastructure. It applies the same principles of accessibility, efficiency, sustainability and quality of life as Smart Cities, only in this case they are extended to include tourists (in addition to local residents) (Buhalis & Amaranggana, 2013).

2. **Smart Experience** – the convergence of technology and tourism experience (Hunter, Chung, Gretzel, & Koo, 2015). One of the requirements is a technological platform for instant tourism-related information exchange between the stakeholders, thereby also creating a large amount of data in this process – known as Big Data (Buhalis & Amaranggana, 2015). Through this data, destinations can provide personalized services and products to tourists in order to enhance their tourism experience. In this context, the tourists themselves become active participants in the creation of their own experience by sharing the information about their preferences and past experiences.

3. **Smart Business** - a complex business ecosystem which includes a strong collaboration between the public and the private sector (Buhalis, 2000), defined by the digitalization of business activities and by the rapid responses to the changes in the market. As a result of the data sharing between all stakeholders, consumers are also included in the product/service creation process as an important source of knowledge for innovation (Foss, Laursen, & Pedersen, 2011).

Recognizing the potential of the Industry 4.0 technologies by merging them with the concept of Smart Tourism, the T4.0 project ambition is to create a benchmark for the transformation of today’s Slovenian tourism industry into an innovation-driven economy for the benefit of all participants. The main goal is the establishment of a Collaborative Platform that will facilitate the exchanges between all of the stakeholders in the tourism ecosystem. The platform will also enable the collection, exchange and analysis of data for the needs of strategic activities such as marketing, resource allocation, energy consumption and tourist dispersion, all of which are aimed at improving the tourist experience and minimizing the negative impact on the local environment. To this aim, the project partners have a set of defined technologies for the improvement of business processes and activities in the tourism sector.