Chapter 13
Incorporating VR, AR, and Related Technologies in the Tourism Industry: State of the Art

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ABSTRACT

The chapter exposes the importance of tourism in the world economy, gives an overview of what academic and practitioners are doing regarding the use of engagement-facilitating technologies in tourism, and suggests avenues for further research. Authors give insights about the evolution and important of tourism. The chapter presents an overview of the state of the art on the use of engagement-facilitating technologies (mainly virtual and augmented reality) in research. Examples of applications of engagement-facilitating technologies are given. Authors suggest future research directions and present conclusions.

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INTRODUCTION

The world is changing with the development of innovative technologies, including Augmented Reality (AR), Virtual Reality (VR), Internet of Things (IOT), Artificial Intelligence (AI), among others, that started to be used by the tourism sector. Overall, these technologies may be designed as engagement-facilitating technologies because they have the capacity to affect humans at leisure and work. These technologies may contribute positively to perform the tasks more easily at work and to expand and extend the tourist experiences or even consumption experiences (Kumar et al. 2016; Verhoef et al., 2017; Ng & Wakenshaw, 2017).

Recently the world assisted to the power of AR through the success of the smartphone game Pokemon Go that induced urban discovery and had impact on perceptions of public spaces and increase place attachment, as examples that can be extended to the tourism sector, in this case through gamification of the user experiences. Research has also been conducted in aspects such as the impact of AR in enhancing museum experiences and purchase intentions (e.g., Tussyadiah, Wang, Jung, & tom Dieck, 2018; Jung, Chung, & Leue, 2015), mobile AR acceptance in urban heritage tourism (tom Dieck & Jung, 2017) or the impact of Virtual Reality in attitudes toward tourism destinations and visitation intention (Tussyadiah, Wang, Jung & tom Dieck, 2018).

Considering the above examples, these technologies bring new research in topics such as, how to measure and increase their acceptance in tourism, how to measure their effectiveness to induce visit intentions and/or improve location perceptions how to design technology platforms adapted to the tourism sector, among others, whose knowledge will contribute to improve tourism location competitiveness strategies, considering all possibilities that these new technologies bring to this sector.

In this vein, the current chapter intends to expose the importance of tourism in the world economy, (ii) give an overview of what academic and practitioners are doing regarding the use of engagement-facilitating technologies in tourism, and (iii) suggest avenues for further research.

The remainder of the chapter is composed by the background, where we present an overview of the relevance of tourism in the world and the link between tourism and technologies, mainly focused on VR and AR and the state of the art on this subject. Next section is devoted to examples of the real use of such technologies in the tourism industry. Finally, we present suggestions for further research and the conclusions.
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