Chapter 1
Progress and Development of Virtual Reality and Augmented Reality Technologies in Tourism: A Review of Publications From 2000 to 2018

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ABSTRACT
Progress and development of tourism technologies and applications available through smart devices provide an increasing diversity in tourism marketing. Augmented reality, virtual reality applications with the smart technologies, which are considered as new marketing communication instruments, increase awareness and help in terms of getting information about tourists and giving information to the tourist. Thus, this chapter provides an assessment regarding the progress of AR and VR researches published in hospitality and tourism journals. In particular, the chapter determines the current fields, topics, and research methods of AR and VR articles published in 32 hospitality and tourism research journals between 2000-2018, comparing the subjects and research methods of 32 journals and discussing the changes in topic areas throughout the years, to offer suggestions for further research on AR and VR for hospitality and tourism journals.

INTRODUCTION
Progress and development of tourism technologies, applications obtainable through smart devices provide an improving diversity in promotion of tourism. Marketers have developed additional inventive practices

to draw in customers in the last decade. These new promoting tools are virtual reality, augmented reality, applications with the smart technologies, which are thought as new promoting communication instruments, increase awareness and help in terms of getting info regarding the tourist and giving info to the tourist.

This chapter aims at examining the development and progress of augmented and virtual reality technologies in articles printed in hospitality and tourism journals between 2000 and 2018. This chapter reviews articles published in last eighteen years. Using a wide range of sources, primarily in tourism literature, it comprehensively reviews and analyses previous studies within the context of AR and VR applications in tourism. The paper additionally projects future developments in AR and VR, and demonstrates essential changes which will probably influence the structure of tourism industry. A significant contribution of the paper is its summary of the research and development efforts that have been endeavored within the field, and therefore the challenges tourism researchers are, and can be, facing. The article reports on a study that analyzed the published AR and VR papers in thirty two research journals in tourism, and examined the trend of AR and VR research based on the publications excluding book reviews, research notes, reports, commentaries, and case studies. The research topics and methods and industry sectors of the chosen articles were analyzed and discussed through content analysis. The majority AR and VR related publications in tourism and hospitality journals were searched and compiled from three online databases. The research topics and methods and industry sectors of the selected articles were analyzed and discussed through content analysis. Almost all AR and VR related publications in tourism and hospitality journals were searched and compiled from three online databases. They were 1) ScienceDirect (www.sciencedirect.com); 2) Emerald Management eJournals (www.emeraldinsight.com); and 3) Sage Journals (http://online.sagepub.com).

Thus, this study aims at providing an assessment regarding the progress of AR and VR researches published in hospitality and tourism journals. In particular, the study aime at:

- Determining the current fields, topics and research methods of AR and VR articles published in 32 hospitality and tourism research journals between 2000-2018,
- Comparing the subjects and research methods of 32 journals and discussing the changes in topic areas throughout the years,
- To offer suggestions for further research on AR and VR for hospitality and tourism journals.

BACKGROUND

Augmented Reality and Virtual Reality

The process of taking and integration digital info either with a live streaming video or with the user’s actual, real time atmosphere is called augmented reality (AR). AR is used by smart phones equipped with GPS technology, and it allows users to pinpoint a location to regulate device orientation (Taylor, 2013). This is such a technology that enables blending new information into a current picture. (Berryman, 2012; Craig, 2013; Höllerer and Feiner, 2004;). The fundamental aim of an AR system is to supplement the real world with 3D virtual objects that exist in the same space as the real world to enrich user’s perception of and interaction with the real world (Azuma et al., 2001).

AR enables smart phone and tablet users to point their phones’ or tablet’s cameras at certain objects (Linaza et al., 2012; Azuma, 1997) – whether it is a print advertising or maybe a cup of coffee or brochures