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RESEARCH NOTE

Virtual Reality or Just Reality?
A SWOT Analysis of the Tourism Industry

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Abstract

Developments in information and communication technology are increasingly transforming spatial relationships in tourism from a local into a global dimension. The virtual reality (VR) technology developed in this context is an important tool in this transformation. Virtual reality is an interactive environment generated by computers which enables participants to create countless real and unreal simulated experiences. The aim of this study is to describe virtual reality in the context of the tourism industry, to offer an evaluation by summarizing previous studies and conducting a situation analysis of virtual reality applications in terms of tourism via a SWOT analysis. The results of the situation analysis can be used to remark upon the place of VR technology in the tourism industry. In this framework, some suggestions for the tourism industry and future studies are given.

Keywords
Virtual reality • Virtual tourism • Literature review • SWOT analysis

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Virtual reality (VR) has been the subject of speculation for computer programmers, futurists and scientists for many years. Developments in the field of virtual reality have become much more controversial and the term VR became extremely popular at the beginning of 1990s. VR is used for computer-generated 3D environments that allow the user to enter and interact with alternate realities. The VR users are able to immerse themselves in an artificial world which may or may not be a simulation of some form of reality. Nowadays, VR can be found in every industry including tourism and is used in a variety of ways and often in a confusing manner that is extend to different forms of entertainment, education, management and marketing. Tourism is one of the most dynamic industries where new trends in VR development, new products and the potential of VR offer tourism many useful applications which deserve greater attention from tourism researchers and professionals. Since VR in tourism is booming thanks to modern technologies that keep moving it forward, it is absolutely essential in order to understand how the use of VR will impact the tourism industry in the future.

Baudrillard (1994), in his book "Simulacra and Simulation", questioned how we conceptualize what is left when we lose the real world, arguing that we have slowly lost touch with reality in the 21st century. This leads Baudrillard to the development of the concept of hyper-reality, or in other words, simulation. The aim in developing this concept is to argue that the present world is not a real society and that reality / truth can be found in symbols, images and concrete virtual reality (Ritzer, 2010). Virtual reality applications, which began with video games and the entertainment sector, have now entered every aspect of our lives, including bringing significant changes to the tourism industry (Gurau, 2007). The aim of this study is to describe virtual reality in the context of the tourism industry, to offer an evaluation by summarizing previous studies and to conduct a situation analysis of virtual reality applications in terms of tourism via a SWOT analysis. Considering the increasing number of futuristic studies related to tourism being conducted, it is thought that this study will contribute to the literature across various dimensions.

Literature Review

Virtual reality represents an interactive environment generated by computers that enables participants to create countless simulated experiences, both real and unreal (Hobson and Williams, 1995). Virtual reality applications, in which people can experience and become informed about real-world destinations without actually physically going there, are now frequently discussed in tourism studies; (i) as a means of reducing the negative effects of tourism, (ii) as a marketing tool to increase the attractiveness of the destination and, (iii) as a possible threat to the travel industry itself. Cheong (1995) stated that the tourism and travel industry is perfectly suited to the implementation of VR, and predicted that its popularity would increase,

eventually reaching its full potential. Although many of his predictions have been actualised, various studies in the literature have discussed virtual reality and the areas of tourism in which it is used.

According to Williams and Hobson's (1995) research, which aimed to draw attention to the use of VR in the tourism industry and to address the deficiencies in VR technology, there are three main areas in tourism in which VR is used. These areas are; (i) the creation of theme parks (as in the case of Disneyland), (ii) its use as a marketing tool (tour operators offering simulated experiences to consumers) and (iii) the creation of artificial tourism (virtual tours/ontological disappearance of travel).

Sussmann and Vanhegan (2000) asked the question "*Can VR applications be a substitute for tourism products?*" in their study. The findings of their research reveal that virtual vacations are not perceived as sufficient and suitable alternatives to real vacations, but that they have the potential to be a powerful complement to the real vacation experience. However, the research did emphasise how virtual travel can play an important role for disabled or elderly holidaymakers.

In their study, Anwar and Hamilton (2005) looked ahead to the future by focusing on the humanistic, geopolitical, economic, technological and environmental effects of tourism. The study was based on a conceptual based prediction of the future and led to the proposal of a model that included a discussion of the five key factors that would affect the future global tourism industry. One of the most significant factors discussed is the development of technology and VR applications. It is argued that tourism businesses will need new management (planning) and marketing strategies due to the hyper-reality created by the use of VR technology. They emphasize that the touristic products and activities created by the use of reality and virtual reality will be shaped through humanistic, geopolitical, economic, technological and environmental factors.

Other studies have identified six fields in which VR applications have created significant value in the tourism sector, including planning and management, marketing, entertainment, education, accessibility (for the disabled), and the protection of cultural heritage (Guttentag, 2010; Huang et al., 2016; Pengfei et al., 2014; Sambhanthan & Good, 2013; Tussyadiah et al., 2017).

Methodology

SWOT stands for Strengths, Weaknesses, Opportunities and Threats. A SWOT analysis is used to identify the strengths and weaknesses of a process or situation and to identify opportunities and threats that originate from the outside world (Hill & Westbrook, 1997). It helps in the development of strategies to minimize the impact of weaknesses and threats, while focusing on strengths and opportunities (Stacey,

1993, p. 52). By evaluating the results at the end of the analysis (Thomson, 1997); (i) Strengths and opportunities are harmonized, (ii) Strengths are used to take advantage of opportunities, (iii) Strategies are developed to turn weaknesses into strengths, (iv) Threats are transformed into opportunities that can be integrated with strengths.

In this context, a SWOT analysis was carried out using the information from the literature in order to evaluate the information obtained in the study. The purpose of using a SWOT analysis in this study is to investigate the advantages and disadvantages of VR applications in the tourism industry, taking into consideration research and applications related to virtual tourism. A further purpose of the study is to identify both how strengths can be used against threats/opportunities and also how weaknesses can be dealt with in the development of VR applications, thus determining the opportunities and threats that may arise in the future.

Findings and Discussions

This study presents a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis for the field of VR in the tourism industry. The SWOT analysis is a commonly employed framework in the business world for analyzing the factors that influence a company's competitive position in the marketplace with an eye to the future. In this context, it is hoped that this structured examination of the factors relevant to the current and future status of VR in the tourism industry will provide a good overview of the key issues and concerns that are relevant for understanding and advancing this vital application area. The SWOT of VR applications in the tourism industry that were identified by the analysis are given in Table 1.

VR in tourism offers the potential for the creation of substitutional reality experiences from management to entertainment, which can be extremely useful in the protection of cultural and natural heritage sites. On the other hand, VR applications are considered to be one of the greatest technological innovations of the 21st century in terms of being a new distribution channel for tour operators, the differentiation of known theme parks, a solution to the accessibility problem for the disabled and the elderly, the elimination of security and language problems, the elimination of bureaucratic barriers such as visas, and the opportunity to gain knowledge. However, the lack of technological infrastructure in underdeveloped and developing countries, prejudiced attitudes towards technology and the high cost of VR applications for customers means that, although VR offers simulated versions of real experiences, the view that a virtual holiday/travel experience cannot be a substitute for a real holiday/travel experience should also be taken into consideration.

As can be seen in Table 1, one of the most important VR's strengths in the tourism is, that it enables a unique way of marketing. VR brings value to the sector as people tend to

Table 1
SWOT Analysis of VR Applications in Tourism

Strengths	Weaknesses	Opportunities	Threats
A powerful tool to enhance tourism	Limitations in technology	Protection of cultural and natural heritage sites	The lack of cultural interaction
A powerful promotional tool	Negative first impression	Sustainable tourism and environmental protection	Negative impact on real tourism and travel
Marketing tool for travel agencies/tour operators	Distance from real experience	Accessibility for disabled or elderly visitors	Economic impacts of real tourism in emerging economies or no high-tech destinations
Testing out products before going or purchasing	Lack of resident-tourist interactions	Time travel	Taxation of VR applications in the tourism industry
The ability to provide sensory experiences to customers	High cost for customers	Turning dreams into reality	Contributing to an anti-social process in society
To reduce the negative impacts of tourism	Physical and psychological disorders	Embody another being	Negative effects on other sectors related to tourism
Creating a destination attraction	Ambiguity about tourism policy and planning	Design without limitations	Negative effect on employment in tourism and related sectors
Embody knowledge	Impossibility of souvenir purchasing	Achieve the impossible	Virtual travel/ tourism acceptance and accessibility
Allowing the exploration of each destination in great depth	The lack of definitions for tourists	Be fearless/ removing bureaucratic, security and language problems for visitors	Monopolization or non-competition between tour operators
Positive cost effects for tourism businesses	The lack of a conceptual framework	Alternative tourism experiences such as e-sporting events	Other legal issues

remember better an experience than a traditional commercial. On the other hand, from destinations' point of view, VR plays an important role in attracting potential travellers to destinations, as Graham stated (Graham, 2016). When it comes to VR's weaknesses, it is impossible to replicate the unique physically visited experience in VR. Apart from this, VR offer some opportunities according to table 1. VR can link pre-trip, on-site and post-trip experiences together as the technologies combine all the phases to a unified experience. In addition to that, VR is getting more affordable in the future, thus, anyone can purchase and use it (Adams, 2016; Cavanaugh 2017). Many professionals in the travel and tourism industry are thrilled about the potential of VR, but the size of the consumer market for VR and demand are still low (Kressmann 2017). Therefore, the threat of not achieving is existing (Gaggioli, 2016).

One of the most important technological developments is virtual reality application. VR has given a contribution in the context of video games, architecture and tourism, but the applications are so vast and extend to different forms of entertainment, education or management and to other sectors which enables living experiences with relevance (Guerra et al., 2015). It has been obliged to change meaning of

tourism, travel and tourist definition by virtual reality applications (Hannam et al., 2014). Because these applications effects on visitor/ tourist experiences (Jung et al., 2016; Uriely, 2005) and tourism marketing (Griffin et al., 2017; Huang et al., 2016), planning and management, entertainment, education, accessibility, heritage preservation (Guttentag, 2010), communication and information flow (Schegg & Stangl, 2017), travel types (Pizarro et al., 2015).

The impact of VR technology on the tourism industry will depend not only on how fast and how successfully the technology develops, but also on its cost and acceptability in the community. At this point, one of the most important questions concerning VR applications in the tourism industry emerges; *'Do VR applications deter people from travelling or encourage them to travel?'* Another issue being discussed by tourism researchers, as well as by stakeholders in the tourism industry, is how existing tourism and tourist definitions, which restrict touristic activities to physical movements, may change if VR travel is accepted as real travel (Guttentag, 2010; UNWTO, 2007). The answers to these questions will be the main determinants of the change or transformation of the tourism industry in the future.

Conclusions and Future Research

The use of VR applications, which are created by combining two opposite concepts - virtual and reality - for touristic activities has become increasingly important with the growing influence of globalization and the declining importance of physical boundaries. When also considered in terms of tourism motivations, VR applications in tourism may be handled from different perspectives. In fact, the plethora of tourist motivations are succinctly summarized by Dann (1977) as falling into push-pull factors; (i) push factors - novelty and adventure seeking, escape, cultural experiences, social contact, and (ii) pull factors - destinations' active and passive attractions and activities, ranging from sight-seeing, learning, safari walks, mountain climbing, and art and craft appreciation, among others (Dayour & Adongo, 2015). For people who want to have different experiences, escape from the routine of everyday life, or seek some novelty in the real world, VR applications offer an environment in which such experiences can be had in a simulated world. Therefore, virtual tourism experiences created using simulated reality will be able to take the place of the real experience; this will also lead to differences in the motivations of tourists. This reveals the need to reconsider tourist motivation in the context of virtual tourism activities.

Despite being an important tool in the promotion of the attractiveness and accessibility of the tourist destination, the disadvantages and threats of virtual tourism applications must always be taken into consideration. With the need for new strategies in management and marketing in the tourism sector, where the pace of change is fast,

tourism businesses must keep up-to-date with these changes and implement their policies clearly in the direction of consumer needs and expectations. Failure to do so may put some tourism businesses in danger of folding due to their failure to adapt to the introduction of VR applications.

The most significant limitation of this study is the limited number of articles that were examined. In addition, conference notes, internet surveys, non-tourism-related journals and book chapters have not been included in the study. In future studies, therefore, different findings could be obtained by comparing the findings of studies in different publications. Considering the rapid development of technology, it is estimated that studies of virtual reality and VR applications in tourism may give different results in different places and at different times. For this reason, it is necessary to continually revisit and update the relevant studies.

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