Chapter 8

Virtual Reality Applications in Tourism

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ABSTRACT

Through modern ages, tourism becomes a vital part of human life. With the advance of technology, tourism movements gain new tools. Those tools gave tourism an edge on management, marketing, education, and economic areas. Also, on demand side, new types of tourists with their brand-new demands and motivations became an important factor for those responsible for tourism supply. One of the most noticeable tools that new technology era has brought is virtual reality applications. Despite dating back to the 1950s, VR (virtual reality) has gained an interesting reputation in the last few years with the advances of related technologies. VR applications are used in many sectors like construction, military, communication, marketing, education, etc. Tourism industry is one of them of course. Especially, VR is used as both a tool and product in hotel & accommodation sector, recreation & entertainment, transportation, destination marketing, and a touristic product itself.

INTRODUCTION

Virtual reality (VR) plays a vital role in many sectors nowadays due to its technological and practical advantages. VR is a risk-free application for many jobs and lowering costs for some others. And sometimes, VR makes it possible what looks impossible for the other way (Craig, Sherman, & Will, 2009). Tourism industry with its hospitality, travel, transportation, marketing, management, recreation segments and sectors now use the benefits of VR like other sectors and industries (Sharda, 2010).

Since tourism is a service-oriented industry, it’s argued if VR would really be useful for tourism. However, recent developments on VR technology, changing demands of Z generation and challenge of competition in the market created a space of use for VR with IT (information technology) in this industry.
Virtual Reality Applications in Tourism (Xiang, Magnini, & Fesenmaier, 2015). It is now important to take full advantage of VR and understand how to successfully apply it in tourism.

The main aim of this chapter is to investigate how to use VR application in tourism industry. Also, it is beneficial to understand how VR works itself and its components. Like many other things, VR comes with its side effects and weaknesses. This chapter also investigates that weaknesses to maximize the productivity of VR use in tourism.

First of all, virtual reality is defined with its historical development process in next subtitles. While making research about this chapter, its naturally seen that almost all literature were prepared in the name of natural or applied sciences mentality by the researchers of those fields. For tourism researchers, it might be a little tricky to fully understand and assimilate knowledge about this literature. With that, this chapter is prepared in a social sciences point of view, focusing and analyzing knowledge by social sciences researchers’ eye. Instead of applied sciences’ quantitative definitions and equations, this chapter aims to look the subject by an angle of qualitative and social view. It is believed that this will make it easier for social sciences researchers to contribute to the literature by further researches.

BACKGROUND

Virtual reality basically provides a medium that is in fact unreal for its user which they may experience unlimited scenarios with a computer system (Hobson & Williams, 1995). In another definition, virtual reality presents ultimate interface between computer applications and humans in a three-dimensional graphical world (Stone, 1995). Contrary to these two definitions which use “computerized” word, The Oxford Dictionary (OED) first made the definition of VR in 1980 as a synthesized reality with computerized clothing (Whyte, 2002, p. 2). There is a reason why VR systems called synthesized and that reason is of images that participants see in displays are usually generated by computers. They might as well be almost-real version of external world or they might also be fully creative and fictional.

Virtual reality dates back more than it’s expected. In 1962 a vision director Morton Heilig developed first VR simulator named Sensorama Simulator (Bostan, 2007). In 1963, Sutherland developed a sketchpad which is also considered as the foundation of computer aided drafting system (CAD) and this development gave Sutherland the title: father of virtual reality systems. In fact, more and more computerized systems were developed since then based on Sutherland’s model and today we reach the realistic and multifunctional VR systems (Craig, Sherman, & Will, 2009).

VR systems can be basically classified into 3 categories such as immersive (using Head Mounted Displays), semi-immersive and non-immersive VR systems (Gutierrez, Vexo, & Thalmann, 2008, p. 2). Full immersive VR systems are most realistic ones and comes with the highest price as expected. In fully immersive mediums, users body stay in the real world but almost all her/his senses are concentrated into virtual world. User freely roam around, experience and travel in immersive mediums. There might be a large zone for user to really move parallel to her/his movement in virtual world or as a space saving solution, there might be a walking mill similar to treadmill. All those motions are transferred via the avatar of the user (Ventrella, 2000).

In semi-immersive systems, there might be an HMD but these systems are usually fit for basic uses with lower freedom for user. In public malls, there are examples of semi-immersive VR systems. User wear an HMD helmet in front of a flat screen, seeing a recorded tape of a VR image, feeling like she/he is really inside of that medium. User might look around and may interact with limited objects by the