ARTICLES

EXTENDED ABSTRACT

ROBOTS, ARTIFICIAL INTELLIGENCE AND VIRTUAL REALITY: AN APPROACH TO TOURISM INDUSTRIES

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Currently, tourism not only involves travelling but also living the local experiences. Information and communication technology´s and social networks help to this change. Social networks introduce new elements of emotional character on tourist destinations. This report aims to present the impact of robots, virtual intelligence and virtual reality may have on the tourism sector.

One of the most innovative and disruptive trends is the use of robots in the service industries. Robotization can have a high impact on the travel industry and tourism, industries that are labor-intensive, with many profiles with low qualifications, repetitive work and long hours of work. Smart robots can be multidisciplinary and can replace people performing housework, surveillance, security, transportation or personal care.

However, as pointed out some authors, the introduction of robots in the sector requires define what services can be provided; how they will interact with customers; what new partners are needed in the value chain; how the new business model will be; how the new organizational design will be and how the development and delivery of the service will deploy.

The current smart virtual assistants can help each visitor to a website that needs information by providing predetermined answers and redirecting them where appropriate in cases that do not have the appropriate response. These virtual agents have the ability to communicate in pseudonatural languages

The adoption of systems based on artificial intelligence in tourism, like robotics, could have profound consequences in the tourism sector in terms of employment, operations and quality of service, among others.

Another method that is gaining popularity for its high effectiveness beyond the analysis of text semantics is the sentimental analysis. This analysis allows us to identify what the user feels about a particular site through the qualification of the expressions it uses in positive, negative or neutral terms. In recent years this line of research is advancing by applying to different contexts

The Information and communication technology´s (ICT) and social networks are changing the way buyers and sellers relate with their inner circle and with strangers. They are also changing the tourists necessities since these not only seek to travel but to "live experiences". Tourism provide a way to refresh and live experiences that thanks to Virtual

Reality people can revive easily. The use of Virtual Reality (VR) in tourism is still very scarce. Therefore, this report aims to provide ideas of its use and impact both for industries and tourist destinations. Preliminary studies show that consumers value very positively the opportunity of experimenting –touch, smell, taste or listen- with the products or services before buying and consuming these. Consequently, its potential sales rise exponentially. In other words, what matters the most to tourists is the feeling of well-being and happiness that the trip will provide and the experiences they will live.

Moreover, in tourism, the possibility of being able to previously experience (up to now) has always been limited to images of the destinations. Even though, social networks allow us to take in other travelers feelings and assessments, this experience continues to be someone else´s. It is based on other people´s opinions and experiences, which are contradictory in some cases. Thus, VR offers a real opportunity to capture the natural essence of trips and destinations. Its objective is to have the tourist experience the trip from the initial contact and have him build his own experience.

There is not a unique and agreed definition of what VR is. VR is a complex technology that uses other technologies -3D graphs, photography, robotics and others- to create a virtual environment in which users can find themselves totally immersed inside and where they can interact.

From those definitions, two main characteristics are born: 1. Immersion: feeling of being inside a non-virtual space. A feeling that is achieved through sensory interfaces; 2. Interaction: capacity of the user to act in that environment and receive feedback on his behavior. Both elements together make the user think s/he is really in a determined space living an experience.

There are different types of approaches towards virtual reality depending on the device being used. Each type of device provides a different level of immersion, interaction and presence. An example is digital environments with avatars like Second Life or Facebook Spaces, where the tourist can invent experiences, interact with his friends or visit places using immersive tools such as glasses, gloves or other technological artefacts. As VR technology advances experiences will be more real through vision, sounds and sense of touch. Therefore, the more immersive the VR is, the tourists can feel that their experience has been more real and significant. The immersive VR systems not only provide a better global experience but also involve the tourists more.

In the same way, as the prices of the immersive VR tools (cameras, glasses and other elements that allow immersion) go down, its use and application in different industries, processes and products such as tourism and hospitality industry may be adopted faster. It can become a mass product and of multiple commercial uses with elevated economic and social benefits.

Therefore, the tourist industry and tourist destinations have a very big opportunity they cannot waste in order to continue moving forward in competitiveness, innovation and being attractive for the travelers thanks to VR. Among other applications, VR may be used as an experiential marketing tool to promote products and touristic destinations. As a touristic product for those people that cannot travel due to health issues or lack of mobility. It may also be promoted directly as a souvenir that recalls the experiences lived

such as virtual guided journeys or as an immersive experience package in fantastic places or in places that no longer exist.

Although in the last decades the information and internet technologies have substantially changed the tourism sector, reaching high levels of automation in some activities, the use of robots, virtual intelligence and virtual reality is in a preliminary stage. However, as has happened in the manufacturing industry, the forecasts say that the use of robots will become commonplace in the coming decades. Therefore, it seems urgent both for the sector and for public bodies to identify the opportunities and threats that their adoption presents, as well as the strengths and weaknesses that each company has in this field.