Chapter 12
Advanced Technologies and Tourism Behaviour: The Case of Pervasive Environments

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ABSTRACT
The current chapter provides an overview of the most advanced technologies for tourism sector, with emphasis on pervasive environments, which represent innovative systems based on an efficient integration of Virtual Reality (VR) and affective world. The aim is to show how tourism industry might exploit the current advances in Information and Communication Technology (ICT), such as VR, web-based technologies, mobile devices, etc., to catch tourists’ attention and gain competitive advantages over competitors. In particular, these technologies are capable of promoting touristic destination in a global perspective and affect potential tourist decision-making process, by investigating the main characteristics and possible integrations. Moreover, especially pervasive environments are efficient tools to entertain and attract tourists’ interest, by showing potential destinations in an innovative and exciting way capable of influencing users’ decision-making process. In addition, this chapter outlines the possible implications for both marketers and tourists.

INTRODUCTION
The increasing competition among territories forces the tourism industry to develop new marketing strategies capable of spreading the touristic potentiality of the territory, in order to attract more touristic flows (Dwyer et al., 2009; Zhang et al., 2009; Pantano & Naccarato, 2010).

Form a tourists point of view, the industry tries to develop the offer which best fits consumers’ needs, whereas from a managerial standpoint, the industry tries to develop new strategies capable of maximizing the profitability of local business, of optimizing the impact of tourism by ensuring a sustainable balance between economic benefits and socio-cultural and environments effects, of improving the quality of life of the local population (Buhalis, 2000).

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In recent years the innovation in the touristic sector, in terms of new kinds of tourism (i.e., gastronomic tourism, beer tourism, etc.) and innovative technological tools (i.e., recommendation systems, virtual reality, etc.) has reduced the cost of products/services delivering (Shaw & Williams, 2009) and modified the traditional components of the marketing mix in order to gain competitive advantages. In this scenario, innovative strategies must take into account the communication potentiality of the advanced technologies with the purpose to maintain existing visitors and attract new ones. Therefore, the key issue is the identification of the most performing tools for promoting and revaluating the territories.

To achieve this goal, it is possible to exploit the current advances in Information and Communication Technology (ICT). In fact, previous studies has showed the relationships between tourism and advanced technologies from different standpoints (Buhalis & Law, 2008), as mobile devices (Cutri et al., 2008; Kemperman et al., 2009), virtual reality (Guttentag, 2010), adaptive museum guides (Pianesi et al., 2009) and latest as pervasive environments (Pantano & Servidio, 2009). In one hand, these tools offer an innovative and effective way for communicating touristic products to consumers and, as a consequence, for influencing their final choice; on the other one, they offer to managers the possibility to both monitoring the tourists’ behaviour and preferences, and exploit it for the development of new efficient communication strategies.

The first part of the chapter focuses on the most advanced technologies for tourism sector, by investigating on one hand the state of the art of the current ones used in the field (i.e., Virtual Reality, web-based tools, etc) for attracting new touristic flows, on the other one on the previous studies on tourists acceptance of these technologies, as well as on their emotional response; whereas the second part focused on the analysis of pervasive environments and on their application to a particular territory (Calabria Region, Southern Italy), with emphasis on the promotion of its historical resources thought this technology, in order to point out the effectiveness of the pervasive environments and their usage scenario, as well as their implications for both marketers and tourists.

**BACKGROUND**

**Virtual Reality**

A large deal of research highlighted the new advances in Information and Communication Technology (ICT) might affect the tourism sector (Buhalis & Law, 2008; Buhalis & Molinaroli, 2003), in terms of enhancing the collaboration between tourist operator and traveller, by involving tourists in the product creation process (Ingvar et al., 2007), and providing more detailed information about the destinations offer. In this context, the most used tools are web-based communities and portals, and mobile devices. Especially the web tools play an important role on the diffusion of tourist information to wide targets (UNWTO, 2001). Since there is a rapid increasing of ICT in tourism, new technologies would be utilized to extend the current business models.

These technologies are mainly based on the Virtual Reality (VR) applications in order to offer virtual reconstructions of the real destinations capable of improving the human “feeling of presence”. In fact, these reconstructions provide a more realistic representation of the environments, by focusing on the integration of virtual agents (Gutiérrez et al., 2008; Brunetti & Servidio, 2010). Furthermore, the reconstruction may refer to a single object, a building, a landscape and it becomes very effective in the case of archaeological ruins. In this case the reconstruction allows to both compare a virtual view of the original state of the object and the current one, and virtual touch and manipulate the object without damaging it, as well as it allows to achieve more information on the ancient use, involved materials and so on.

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