E-COMMERCE ADOPTION IN MOUNTAIN AND SNOW TOURISM: ANALYSIS OF SKI RESORT WEB PRESENCE THROUGH THE EMICA MODEL

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1. INTRODUCTION

The tourism sector has been one of the most affected by the emergence of new technologies and the Internet, particularly in the way companies distribute their products to the market (Buhalis, 2000; O'Connor and Frew, 2000; Leung et al., 2013). The use of e-commerce in tourism allows reducing geographic barriers, thus reaching an international scale and getting access to more customers (Ortega et al., 2012). The behaviour of tourism service users, their shopping and consumption habits have also been influenced by new technologies (Kim and Fesenmaier, 2008; González-Rodrigo et al., 2010). Consumers are increasingly using the Internet to purchase tourism products and services and as a source of information (Litvin et al., 2008; Pérez Pérez et al., 2002; Law and Bai, 2008; Xiang and Gretzel, 2010). Of the total number of tourists visiting Spain, 64% use the Internet for managing and planning their holidays (IET, 2013). In addition, social networks and web 2.0 have revolutionized communication and trade in travel and tourism (Xiang and Gretzel, 2010). The use of social media and the creation of online communities by tourism enterprises entails higher profits, business opportunities and loyalty (Chung and Buhalis, 2008; Tsimonis and Dimitriadis, 2014). Interactivity between companies and customers through social networks enhances the bond with customers, their satisfaction and involvement, improves brand image and provides greater opportunities for product distribution (Huertas and Marine-Roig, 2015).

In this context, this study aims to determine the extent of e-commerce adoption in an economically important and strategic sector: snow tourism (Lasanta et al., 2007), through

the analysis of the online presence of several ski resorts. For this purpose, we will apply a methodology based on the eMICA (Extended Model of Internet Commerce Adoption) model to the case study of Spanish ski resorts belonging to the ATUDEM (Tourist Association of Ski and Mountain Resorts) and Andorran ski resorts.

2. WINTER TOURISM

Winter snow tourism, especially skiing, has played a key role in the development of the economy and tourism in mountainous areas in Spain such as the Pyrenees (Lasanta et al., 2007; Saz and Carús, 2008). Spain offers a total of 1,039 kilometres of ski slopes spatially distributed across all ranges of the peninsula. Most Iberian ski resorts offer the Alpine (downhill) skiing modality. Nordic Ski (cross-country) resorts are fewer in numbers and less significant in economic terms. Winter ski tourism is a growing economic sector that, in turn, develops collateral economic activities such as transportation, accommodation, equipment rental, etc. (Garcia Abad, 2012), with over 5 million visitors a year and 217,000 accommodation places (ATUDEM, 2015).

In this line, Pearce (2005) proposes that the decision to travel to a ski resort involves personal aspects, resort characteristics, and a set of desired activities. The way to communicate the activities carried out at ski resorts is key because to choose a destination travellers look at the perceived ability of a destination to meet their expectations (Mätzler and Siller, 2003).

3. EMICA MODEL AND METHODOLOGY

The Model of Internet Commerce Adoption (MICA) was originally developed by Burgess and Cooper (1998). It is a model for measuring the progressive development of commercial websites (from simple to more complex) consisting of three stages: a) web-based promotion; b) provision of information and services; and c) transaction processing. The model reflects the evolution of the company to move from a static Internet presence to a dynamic website through increasing levels of interactivity (Burgess et al., 2005). Subsequently, the MICA model has been applied to different sectors, including the tourism industry (Burgess and Cooper 2000; Doolin et al., 2002; Burgess et al., 2011; Ting et al., 2013), which has enabled improving on the original model with an extended Model of Internet Commerce Adoption (eMICA) (see table 1).

This study proposes and uses an adaptation of the eMICA model with the incorporation of some functions and variables. Therefore, each site was categorized according to the phases and levels proposed. It was established that to move from one level to another and consolidate its position, the website had to meet a minimum number of required attributes (Garcia-Lastra and Escalera, 2009; Alvarez, 2014). We analysed the websites of all ski and mountain resorts associated to ATUDEM: 31 Alpine, 21 Nordic, 1 Indoor (Spain) and all the ski resorts of Andorra. In total, 53 websites were analysed. The observations were made during the months of January to April 2015.

Table 1
EXTENDED MODEL OF INTERNET COMMERCE ADOPTION (eMICA)

eMICA	Functionality examples
Phase 1 Promotion	
Level 1 Basic Information	Name, address and contact details, resort status, status of the access to the resort
Level 2 Rich Information	Annual report, email/contact, information about the activities and business environment, online incentives/discounts, weather forecast
Phase 2 Provision	
Level 1 Low interactivity	Basic product catalogue, links to other information, online inquiry form, possibility of filling out online surveys.
Level 2 Medium interactivity	Complete product catalogues, user support (FAQs, website maps, virtual tour, geo-referencing, webcam, etc.), sector-related information.
Level 3 High interactivity	Chat, forums, multimedia, newsletters or news by e-mail. Presence in social networks and links to websites to evaluate tourist services (e.g. online review sites)
Phase 3 Process	Secure transactions, digital signature and encryption, order status and tracking, interaction with servers and databases, Web 2.0, user-generated content.

Source: Burgess et al. (2011) from Burgess and Cooper (2000).

3.1. First Phase: Promotion (information)

This first phase focuses on the use of the website as a tool for communicating the ski resort and its products to the market (low level of functionality, basic visual and informational content). It has two levels: 1) Basic information (Contact, Time and up-date Date, Resort Status, Access to the Resort, Resort Photographs); 2) Abundant information (Contact, Ski information, Weather, Multiple languages, Quality certifications, News/events, Promotions and Online discounts/incentives).

3.2. Second Phase: Provision (dynamic information)

In this second phase it is determined whether the website provides dynamic information of the resort and its surroundings. This last point is key because a mountain ski resort is defined as a tourist destination (Garcia-Lastra and Escalera, 2008). This phase has three levels: 1) low level of interactivity; 2) average level of interactivity; and 3) high level of interactivity.

3.3. Phase Three: Process (functional maturity)

In the third phase, the Internet presence of the ski resort becomes a powerful means of e-commerce. It allows the online sales of products and/or services combined with traditional channels. It reflects the degree of functional maturity of the site from the variables: full purchase process (to recharge the ski pass, for online shopping or accommodation), safe online transaction and interaction.

4. ANALYSIS AND RESULTS

If we analyse the results as a whole, they show that there is still room for improvement in the adoption of electronic commerce by mountain and ski resorts in the Iberian Peninsula. The fact that only 15.1% of websites have reached stage 3, and the vast majority are on level 2 of the second phase (60.4%), indicates a low degree of functional maturity. There has been a certain shift from a static to a dynamic website perspective with increasing levels of interactivity. However, although almost 68% of websites have interactive media, this number is mostly represented by resorts with brochure download or subscription options, with lower representation of Web 2.0 tools or online shopping. Regarding Phase 3 (Process), it accounts for 15% of the websites evaluated. We observe that most websites, in addition to shopping processes and secure payment gateways, provide communication mechanisms that promote user interactivity. However, only 49% of the resorts under study allow full online purchase processes, which may result in a loss of potential customers considering the distance that may separate the skiers from the resort facilities.

Table 2
RESULTS BY RESORT TYPE IN TOTAL

eMICA		Alpine Ski		Nordic Ski		Indoor Ski		Total 53	
Phase 1	**Promotion**	0	0.0%	9	42.8%	0	0.0%	9	17.0%
	Level 1 Basic Information	0	0.0%	2	9.5%	0	0.0%	2	3.8%
	Level 2 Rich Information	0	0.0%	7	3.3%	0	0.0%	7	13.2%
Phase 2	**Provision**	24	77.4%	11	52.4%	1	100%	36	67.9%
	Level 1 Low Interactivity	0	0.0%	2	9.5%	0	0.0%	2	3.8%
	Level 2 Medium Interactivity	22	71.0%	9	42.9%	1	100%	32	60.4%
	Level 3 High Interactivity	2	6.4%	0	0.0%	0	0.0%	2	3.8%
Phase 3	**Process**	7	22.6%	1	4.8%	0	0.0%	8	15.1%
	Total	31	100%	21	100%	1	100%	53	100%

Source: Authors.

If we analyse our results by type of resort, Alpine ski resorts have the highest number of websites by levels and stages, and show the most positive results. Nordic ski resorts

did not show such a high level of e-commerce adoption. Results by resort size (small, medium, large or very large) show no relationship between size and e-commerce adoption. If we focus on results by geographic location, the data reveal that the degree of maturity is higher in the Pyrenees, especially the Catalan Pyrenees, than in other systems. Finally, comparing our study results (2015) with Garcia-Lastra and Ladder's (2008), a significant improvement in the level of e-commerce adoption by the resorts is confirmed.

5. CONCLUSIONS

The future of tourism in Spain in general and of mountain and snow tourism in particular must be addressed with new perspectives focused on innovation and the use of ICT, not only as promotional tools but also as marketing instruments. Our results show that all ski resorts results have Internet access and a website. However, these organizations must go beyond their traditional presence, encouraging interaction and online collaboration and the ability for users to create and share content and knowledge using Web 2.0 techniques. Ski resort websites generally show a medium level of interactivity, in line with their role as first order tourist destinations. However, only half of the websites analysed allow full purchase processes through the Internet. Nevertheless, the study results suggest that the ski and mountain resorts in Spain and Andorra are at a relatively advanced stage of development and Internet use. In addition, this study provides further confirmation of the usefulness of this step-based method for the development of commercial websites in Tourism (eMICA).

The main contributions of this article are that: 1) It provides a valid adapted method to assess the developmental stages of the websites of mountain and ski resorts; 2) It provides an analysis of the different characteristics of ski resort websites according to their type and geographic location; 3) It provides in-depth assessment of the state of e-commerce adoption in this sector of the tourism industry which can allow interregional comparison. In the future, we aim to complement this research with a website content analysis to establish the status of website facilities and their ease of use, and to extend the analysis to other countries.