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## **KNOWLEDGE PRODUCTION IN TWO MATURE DESTINATIONS**

The Balearic and Canary Islands are good examples of mature destinations (Hernández & León, 2007) that need to differentiate their product to compete in the future. For a sector to be competitive it must have a "knowledge triangle" (KT) that is as effective as possible; this refers to the interaction of three sides: research, education and innovation.

The generalization of the KT to tourism has to consider that there are two different actors involved: the firms and the destination, with the DMOs and key stakeholders. New knowledge can bring about changes that induce innovations and these changes can be originated at the firm level or at the destination level.

There are various sources of knowledge in tourism: the knowledge-based resources of firms (intellectual capital) and tacit knowledge gained by DMOs and stakeholders. Hjalager (2010) indicates that the destination is a repository of competence and knowledge, crucial for the development of products and services. Intellectual capital is the set of intangible resources and capabilities related to different categories of knowledge, which can provide a firm competitive advantage; it divides into: human capital (knowledge, skills, experience, motivation, etc. embedded in the firm's employees), structural capital (methods, capabilities, routines, procedures, etc. embedded in the organization), and relational capital (knowledge, capabilities, procedures, etc. embedded in the organization which arises from relationships with external agents: supplier, customer, partner or other). The exchange of inter-organizational information with external agents enriches organizational knowledge and encourages the creation of new ideas.

The aim of this paper is to develop a model that identifies the areas of knowledge needs in tourism, based on the inputs of tourism activities, and to apply/test the model with the scientific production (explicit knowledge) of the universities in these two mature destinations. This model considers the knowledge needed by the firms and the destination, DMOs and key stakeholders

Knowledge is the new asset that can help companies and countries in their struggle for competitiveness (Tseng & Goo, 2005; Dean & Kretschmer, 2007). Research creates new knowledge that education transmits to people who then transform it into innovations.

There is much literature analyzing the topics covered in tourism journals (Xiao & Smith, 2006; Tribe, 2006; Song, Dwyer, Li & Cao; 2012; Tribe, Xiao & Chambers, 2012; Tribe & Xiao, 2011); the research topics in doctoral theses; or the contributions of different fields in some destinations (Jafari & Aaser, 1988; Hu & Huang, 2011). The research topics identified in all this literature are environmental issues and impacts; tourist experience, typologies of tourists, motivation and behavior; culture and heritage; firms and supply; and macroeconomic issues.

Figure 1 presents a model where tourists, environment, physical heritage of the destination (Razumova, Lozano & Rey-Maqueira 2009), and cultural heritage are the basic inputs of tourism activity (Smith, 1994). The firm (and the destination) must manage these resources to meet tourist demands, to create wealth and to increase welfare and quality of life in the

destination. The model identifies at least four areas of knowledge needs that would benefit from innovations. One research area is the tourist, and the new knowledge generated should lead to novel tourism products well-suited to the characteristics of tourists. It should lead to service innovations and new forms of service provision, stemming from applied research in Psychology, Sociology, History and/or Statistics.

#### PLEASE INSERT FIGURE 1

Another research area is the environment – particularly environmental valuation and impact assessment – making it possible to develop new tourism products based on this new knowledge. Environmental Science, Economics, Civil Engineering, Oceanography or Architecture will provide applied research in this area. The organizations in charge of a destination can play an important role in this applied research.

A third area is the valuation of culture and reduction of the impacts of tourism activities thereon. In this case, Social Sciences and the Humanities will provide the applied research that will enable innovations.

The fourth research area is Business Management. Three types of conceptual innovations are needed: organizational, commercial and technological. The first two will always depend on the characteristics of the business and technologies that will facilitate them, especially ICTs. The tourism industry relies on the use of technologies from other sectors and uses them to innovate. This opens the possibility for novel interventions in the sector in the design of innovations. Finally, a fifth area can be identified if we consider the need to understand the economic underpinnings of tourism activity, in order to analyze this activity as a generator of wealth.

But what knowledge is produced by the academia in these two mature destinations? Empirical evidence was gathered through two main sources: 1) PhD Theses on tourism in the Balearic and Canary Islands; and 2) papers published in Social Science Citation Index (SSCI) journals by researchers from universities in both destinations. In the Canaries there are two universities (University of *Las Palmas de Gran Canaria*, ULPGC and University of *La Laguna*, ULL) and in the Balearics only the University of the Balearic Islands (UIB). Information on all the dissertations over the last 25 years was gathered through the TESEO database and databases available in these universities. A thesis or a paper can develop several types of knowledge simultaneously (Tribe & Xiao, 2011).

The analysis of the theses in both destinations over the last 25 years indicates that they mainly focus on generating knowledge regarding the tourist and the environment (Figure 2). In the ULPGC, 33.3% focus on creating knowledge concerning the tourist, 66.6% on the environment, 16.6% on culture, 5.55% on business management and 38.8% on analyzing the activity as a generator of wealth. In the ULL, 33.3% of the theses generate knowledge regarding the tourist, 40% on the environment, 26.66% on culture, 13.33% on business management and 20% on tourism as a generator of wealth.

#### PLEASE INSERT FIGURE 2

In the UIB 15.38% of dissertations generate knowledge concerning the tourist, 34.62% on the environment, 7.69% on culture, 23.08% on business management and 23.08% on tourism as a generator of wealth. Hu & Huang (2011) obtained a similar result in a review of doctoral theses in tourism in China, where they mostly focus on competitiveness issues of a destination (R&D on tourism as a generator of wealth) and on the tourist.

The analysis of the tourism journals indicates first that the researchers in the Canaries mainly focus on generating knowledge regarding the environment, business management and the

tourist (Figure 3). Second, the researchers in the Balearics are creating knowledge to understand the economic underpinnings of tourism activity, the tourist and the environment.

#### PLEASE INSERT FIGURE 3

The researchers from the ULPGC mainly publish in *Tourism Management*, *Tourism Economics*, *Annals of Tourism Research*, *Scripta-Nova*, and *Ecological Economics*; those of the ULL in *Tourism Management*, *Tourism Economics*, *Applied Economics* and *Urban Geography* (Figure 4); and the researchers from the UIB in *Tourism Management*, *Tourism Economics*, *Annals of Tourism Research* and *Boletín Asociación de Geógrafos Españoles*.

#### PLEASE INSERT FIGURE 4

These findings should be of interest to policy makers when designing a policy for promoting the KT in tourism-based economies although some open questions remain. First, is the scientific knowledge produced in mature destinations different from that of emerging destinations? Second, is this formal knowledge what the business sector needs? Finally, the model can be used to identify the knowledge generated within the firm and to check whether collaborations with universities have contributed to the generation of knowledge and if so, to what extent or to identify the knowledge generated by DMOs.

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