

INTRODUCTION

Special Issue on Tourism Competitiveness in the Digital Economy

For the last decades, tourism industry has become one of the most important economic sectors worldwide, attending to its size and also to its growth rates. Tourist arrivals have reached a record figure of 1,322 millions of people in 2016, according to the last figure given by the barometer of the World Tourism Organization, presenting a 7% of interannual growth rate. For a few years now many institutions and experts have announced changes in the type of the tourism that must be promoted from the destinations, especially from the most affected by mass tourism/ over tourism, focusing on sustainability and digitalization. These topics go hand-in-hand with the transformation that has also become necessary in the global economy of the 21st century. The tourism industry has experienced an ongoing adaptive process, which has been accelerated during the last twenty-five years by the appearance of Information and Communication Technologies (ICTs) and the problems derived from climate change.

Obviously, the distribution of tourism impact is not equitable among countries or regions. Moreover, the «transformation» derived from the ICTs goes beyond only concerning the tourist flows from its origin but starts stimulating drastic changes in the destination too, mainly in the form of smart tourism destinations. These changes are promoted fundamentally to improve the quality of life in the cities, as well as its profitability and sustainability based on innovation and new technologies. These facts make it essential to employ a regional perspective on any analysis about possible future directions of the sector. All of this, linked to necessity of identifying the challenges and the opportunities the tourism sector is facing in the next years was what motivated Journal of Regional Research to present a monographic issue on tourism. ICTs, climate change and the rise of collaborative economy, amongst other, have posed plenty of questions about the future of one of the most important economic activities in the world.

The elaboration of this monograph, including the tasks of selecting the most relevant topics that had to be addressed and identifying which teams, in an international context, should be entrusted to make the most relevant and disruptive contributions, has required several months. The coordination of the issue has been developed by **María Jesús Such Devesa (University of Alcalá)***, **Ana Ramón Rodríguez (University of Alicante)** and **Patricia Aranda Cuéllar (University of Alcalá)**. After the

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evaluation and revision duties were applied to all contributions, this monograph is finally composed by ten articles, than can be categorized in three groups:

1. Tourism competitiveness problems, addressed by different regional perspectives such as Spain competitiveness model, the accessibility importance in the tourism competitiveness index, the over tourism implications for a case study or the need of public support for talent and entrepreneurial management.
2. Innovation and its different applications in the tourism prices model.
3. Smart Tourism Destinations (STDs), approached from various points of view, including mobility and georeferenced information, the existence of a synergy between smartness and sustainability or the requirements for the establishment of smart tourism regions.

It is a matter of placing the tourism sector in front of the challenges it is currently facing. The majority of the changes that have taken place in tourism are linked to the digital economy advances and to the way the sector copes with them. In this context, Spain as the first tourist destination in terms of tourism competitiveness, is risking its future leadership. The relevancy of the tourism sector in the Spanish economy, its resistance to the economic crises and its enormous potential, joined to the complexity of the tourism competitiveness concept, encourage to think and act on the routes of competitiveness improvement of the sector. In this frame, it is appropriate to question if the changes in the Travel & Tourism Competitiveness Index (TTCI) methodology in the last report are able to reflect destinations performance better or if it should be necessary to add other criteria that, in the current age of the knowledge, is capable of approximating reality better.

In this context, **Luis Moreno Izquierdo**, **Ana Ramón Rodríguez** (University of Alicante-Spain) and **María Jesús Such Devesa** (University of Alcalá-Spain) present an article titled «The challenge of long-term tourism competitiveness in the age of innovation: Spain as a case study» in which the question of whether the innovative deficit that accompanies the tourism sector on a global scale also occurs in the competitive tourism leader in the world (Spain), and if progress is being made to guarantee the future leadership of its destinations is posed. For this, the innovative framework of the country in its European context is analyzed, emphasizing the innovative intensity of the most important tourist regions. Spanish tourism companies are also analyzed in comparison with those that operate in other sectors and their ability to innovate with respect to them. Formulas for the generation of tourism industries are presented, these are capable of assimilating and creating innovation with the idea of facing the transformations that the sector is currently experiencing with the appearance of intelligent tourism destinations, the collaborative economy, and other disruptive changes such as artificial intelligence. Meeting these challenges will mean going through a series of more specific policies and strategies that allow the promotion of Smart Tourist Destinations and the development of a more digital and responsible economy that takes as a reference the collaboration between citizens and tourists who live in the destination.

It is in this context of change and innovation of the destinations that the so called sharing economy arises, with the purpose of efficiently exploiting goods and services between equals, taking advantage of the Internet, the digital economy setting and the transformations that aim towards the intelligent destinations. Both concepts, «sharing economy» and «smart tourism destinations» are of interest for being precisely two of the key elements that define the shift from the traditional destinations to a new concept of them in which the relationship of the tourist with the surrounding is completely transformed.

The growing concern present in recent state of the art and the firm commitment adopted by the World Travel & Tourism Council (World Tourism Organization) to act to strengthen investigation about tourism massification emphasize the importance of including the overtourism challenge in this Special Issue. Even the European Parliament itself and the European Commission show a clear concern about this problem for the competitiveness of destinations in a period not too long. Cities such as Venice, Barcelona, Palma, Berlin, Amsterdam, Machu Picchu (Peru), Phi Phi (Thailand), Reykjavik or New York, among many others, are some of the destinations on a global scale that already suffer a movement contrary to the tourist activity regarding the problems derived from its activity.

In detail, the contribution made by **Ana Trancoso** (Universidad de Alcalá) focuses on how cruise ship tourism impacts the island of Venice. From a socio-cultural perspective analysis, the conversion of Venice in one of the Heritage in Damage UNESCO sites in 2016 is studied. Cruise ship tourism is one of the triggers that truly helps to better understand the development of this overtourism phenomenon in Venice. In her work, «Venice: The problem of overtourism and the impact of cruises», the author exposes how cruise ship tourism creates a great impact in the city, comprising relevant externalities such as pollution, noise, smoke, alteration of heritage and the environment, endangerment of citizenship, architectural and cultural heritage and the environment.

Stimulating a tourism innovative sector, capable of taking advantage of all its competitive advantages and its diversification and attraction potential. Promoting an innovative environment that generates knowledge, talent, able of catching the best ideas, the best practices and ready to diffuse them in the whole productive system. It is necessary to adopt a digital strategy in the productive sectors in which the technology is capable of driving productivity. What really matters is the leadership on sustainability by being able of training human resources and spreading knowledge.

Following this, the paper presented by **Saúl Cobo Soler** (SEGITTUR), **José María López Morales** (University of Alcalá-Spain), **Andrés Fernández Alcántud** (SEGITTUR) and **Marta Santamaría García** (SEGITTUR) show how entrepreneurship based activities and its associated competitive advantages are potential solutions to the key challenges the Spanish tourism sector is facing in the nearest future. Governmental and public initiatives on entrepreneurship, human capital and talent are key for our country to strengthen a sustainable tourism sector. In this work, titled «Public support for entrepreneurship, human capital and talent in the context of Span-

ish tourism», a profound review of these previously mentioned effects is presented, along with a regional analysis of regional public policies related to the entrepreneurial tourism activities in Spain, showing important concentration of public efforts in some destinations and regions and also an important bias towards technology-related enterprises, in line with the most recent literature, that presents innovation and new technologies as key elements to ensure a future.

An important part of tourism recent literature discusses which are the key elements for destination competitiveness. Synergies with the development of smart destinations and their sustainability are pursued but there is no international agreement concerning the competitiveness measurement. **Natalia Porto** (National University of La Plata-Argentina), **Ana Clara Rucci** (National University of La Plata-Argentina) and **Matías Ciaschi** (National University of La Plata) in «Tourism accessibility competitiveness. A regional approach for Latin American countries» seek to establish the importance of an adequate accessibility to tourism sites represent an increase in international tourism flows for 17 Latin American countries for the 1995-2014 period. Through the elaboration of an accessible tourism index and a gravitational panel data model with fixed effects, accessibility is acknowledged as an important aspect in explaining tourism international demand.

At a sectoral level, technology and innovation are transforming each and every one of the touristic areas, and phenomena that we currently experience related to the collaborative economy should not surprise tourist destinations. If in the early 2000s technology was decisive for low cost airlines to be more competitive than traditional airlines, today the same digital revolution allows models such as Airbnb or Uber have a greater impact than traditional models in the accommodation sector. The existence of technology that models prices facilitates the understanding of this phenomenon of collaborative economy and allows us to obtain a different perspective on its impact on the sector.

All tourism-related stakeholders are implied in the digital transformation of the sector. Literature is recently identifying frameworks to better understand the dynamic of online prices, based on demand and supply, as well as on the geographical location of the hotels. The work presented by **Manuela Pulina** and **Valentina Santoni**, from Università di Sassari & CRENoS (Italy), titled «Hotel online pricing policy: A review and a regional case study» reviews the most important literature concerning online hotel pricing policy. It classifies strategies from three points of view: demand, supply and regional characteristics. Electronic word-of-mouth (e-WOM) and reputation are key aspects from the demand side whilst the supply side does not present any digital transformation in its competitive scheme. This paper is complemented by an analysis on how hotel online policy is influence by accessibility and mobility within regions.

In line with innovation and technology use in the tourism sector applied to online rental prices, the paper titled «The use of artificial intelligence in price maximisation in the tourism sector: its application in the case of Airbnb in the Valencian Community» by **Luis Moreno Izquierdo**, **Galina Egorova**, **Álex Peretó Rovira** and **Adrián Más Ferrando**, from Universidad de Alicante (Spain), shows how the application of artificial intelligence models in price optimisation for tourism rental sector is significantly

better than the use of traditional procedures. This work uses Airbnb data to reveal how machine learning optimises performance when the existence of a vast number of accommodation offerers meets the same enormous amount of tourists. These two conditions require optimisation of the price of the products but also and optimisation of the utility demand in order to provide the most appropriate selection for the tourist.

Collaborative economy can be understood as a continuation of the technological revolution that the tourism sector is experiencing, whose transversal nature, together with the high volume of demand, allows it to be a testing ground of the application and development of numerous technological advances. Undoubtedly many questions are opened about regulation, the future or the consequences for traditional sectors and impact on tourism, although it is certain that the collaborative economy, in one form or another, will continue its pathway towards consolidation in the tourism market, and in special with the reinforcement of smart tourist destinations.

The work titled «Smart Tourism Experiences: conceptualisation, key dimensions and research agenda» by **Francisco Femenia-Serra** (University of Alicante-Spain) and **Barbara Neuhofer** (Salzburg University of Applied Sciences-Austria) explore how tourists' experiences are potential focal points of smart tourism development. Thus, Smart Tourism Experiences (STEs) need a more profound study to develop a clear and agreed definition of what they represent. This paper explores a comprehensive analysis of the literature to propose a new conceptual model for this STEs, in addition to an agenda for further research. Two examples are given of how destination and companies should promote these, explored from a marketing and strategic viewpoint.

Innovation and knowledge, applied to tourists' activity will be key to give answer to the competitive demands in the destinies of the 21st Century. Knowledge acquires more value in the current era as an inexhaustible resource, able to promote innovative solutions to issues such as overtourism or the coexistence and management of spaces between residents and tourist activities. Tourism destinations must be understood as flexible and dynamic entities, whose life cycles evolve from presenting sharp growth rates to a maturity level that can be revitalized or led to extinction. Indeed, destinations that do not know or are not able adapt to the changes that occur in the environment, end up starting a competitive decline that, besides being accompanied by a decrease in tourists, shows other problems as a minor profit return per visitor or the decline of economic zones.

The intensive use of technology that involves the implementation of an intelligent tourist destination, will allow the continuous measurement of aspects linked to sustainability that, until now and in the absence of such technology, were difficult or simply impossible to measure, and therefore, manage. Precisely, in this management of information, derived from new data sources, is where the response to the problems derived from overtourism and the doubts generated by the emergence of the collaborative economy is framed in many occasions.

José Francisco Perles Ribes and **Josep Ivars Baidal**, from University of Alicante (Spain), suggest a combination of two of the most important topics present in current literature and in this Special Issue: smartness and sustainability. The combi-

nation of these two concepts permits the achievement of sustainability based on the creation of a smart tourism background for destinations. Three key steps are presented in this work, titled «Smart Sustainability: a new perspective in the sustainability tourism debate», with a view to better understand this synergy: an appraisal of sustainability concept applied to tourist destinations, an evaluation of the new possibilities that the smart destination perspective offers to rethink sustainability and the proposal of the smart sustainability model, which comprises principles of the circular economy and imposes limits to growth.

The sustainability of destinations is currently at stake and is feasible that new technologies and artificial intelligence are their only tools for becoming competitive destinations and, therefore, sustainable. In many cases, a destination by itself can not afford the conversion to an intelligent tourist destination, for several reasons such as the high costs involved or the lack of enough infrastructure. For this reason, transcending territorial areas and reinforcing cooperation networks between adjoining cities or towns to create smart tourism regions is the key.

Smart tourism destinations are rising important interest lately, not only related to individual smart destinations but expanding quickly towards smart tourism regions. The work carried out by **Ulrike Gretzel**, from University of Southern California (USA), shows the important bias present in the current literature, and also in the practice, towards cities, explaining the reasons why it is not possible to implement in a direct line smart cities principles to smart tourism regions. This work, titled «From Smart Destinations to Smart Tourism Regions» sustains that these smart tourism regions have latent experiences that are substantially different to existing ones, providing significant synergies but needing a more thorough and specific development than smart cities or individual destinations.

According to previous affirmations, smart tourism development requires an important amount of mobility and georeferenced information. If the preceding article showed a supra-local framework of smart destination, the following contribution adopts the local scope, namely the tourist micro-destination, as subject of study. The key value of geolocated information is that allows the delimitation of tourist zones or neighborhoods.

For this purpose, **Raúl Hernández** and **Yurena Rodríguez** from University of La Laguna, Spain, present methodology for the determination of tourism destinations at a local scale on the work titled «Foundations and Relevance of delimiting local tourism destinations». The identification and reference of the most crowded areas of a big city and the delimitation of the different neighbourhoods are currently key aspects for evaluation, planning and management of tourism activities but yet there are few applications in the touristic field. This work also illustrates with an example of the application of these criteria to the Canary Islands.

On a final note, presenting this tourism innovation monograph is a valuable opportunity to reunite all upcoming challenges and put the focus on where the tourism sector is headed and what specific problems are defying destinations as we currently know them. These challenges are characterized by innovations both on this sector but also on cross cutting technologies, disruptions or new forms of consumption.