Smart Tourism Empowered by Artificial Intelligence: The Case of Lanzarote

Xavier Ferràs, ESADE Business School, Barcelona, Spain
Emma Louise Hitchen, University of Vic, Vic, Spain
Elisenda Tarrats-Pons, University of Vic, Vic, Spain
Nuria Arimany-Serrat, University of Vic, Vic, Spain

ABSTRACT

Artificial intelligence (AI) is changing the rules of the game in many industries. This case details how the combination of open innovation and artificial intelligence generates new opportunities in the tourism sector. Specifically, how to create new customer experiences through searching tools, social platforms and cognitive interfaces to make intelligent decisions. The authors show that it is possible to increase tourist satisfaction by offering a set of customized activities and experiences according to their personal characteristics and motivations. The combination of cutting-edge digital technologies makes it possible to design new services in an automated and cost-affordable manner. The experience has been carried out in Lanzarote (Canary Islands, Spain), with support of IBM’s Watson system. This is a good example of AI-fueled innovation in services, which is adequate for courses on innovation, technology, entrepreneurship and competitive strategy.

KEYWORDS

Customer Satisfaction, Economic Promotion, Entrepreneurship, On-Site Experience Sharing, Open Innovation, Tourism

LANZAROTE’S TOURISM STRATEGY: TOWARDS A SMART TOURISM MODEL

Tourism has a critical impact on the economy in different territories worldwide, with the Canary Islands being no exception. The Canary Islands are a set of seven tiny islands belonging to Spain located in the Atlantic Ocean, close to the Sahara Desert, and are one of the most visited tourist destinations in the world. As a matter of fact, tourism accounts for 31.4% of its GDP, 35.9% of employment, and 30.4% of total taxes collected in the Islands. Even during the crisis in 2008, tourism survived and sustained the islands despite the economic slump, with an average annual growth (from 2013) of 2% GDP. Thus, it may be confirmed and concluded that tourism is indeed the main driver of economic development of the region. Financial margins of tourism companies have improved over the past couple of years, with a consequent increase of 7.4% in the employment rate (Impactur Canary, 2014). Overall, the tourism sector in the Canary Islands has grown by 3.4% since 2013, exceeding the growth of the Spanish average of 2.4%.

However, the tourism industry has not escaped the impact of technological change. Together with new waves of tourists, since the crisis, new information and communication technologies (ICTs) have arrived in the islands. These technologies are transforming the customer experience and management

DOI: 10.4018/JCIT.2020010101
systems of the tourism business. Among these technologies, we can find Artificial Intelligence (AI). In Lanzarote, a pioneering endeavor has taken place, introducing AI to the tourism experience. To some extent, and according to IBM Spain, Lanzarote has been a lead user of the new AI systems applied to tourism (in the words of Elisa Martin-Garijo, Chief Technological Officer of IBM Spain). The objective of this article is three-fold. Firstly, it aims to describe how digital transformation in the tourism sector, empowered by AI systems, can play a key role in safeguarding the maintenance and future growth of the industry. To do so, we use the case of CACT (Centers of Arts, Culture and Tourism). Secondly, this article seeks to shed light on how digital transformation and the application of IT systems to customer experience and processes of a mature industry can generate economic externalities. This fosters the development of new, successful startups (in this case, Red Skios). Thirdly, the example shows how advanced technologies such as AI, in combination with open innovation and customer-driven insights, can improve innovation in very mature industries, as is the case of tourism.

At a national (Spanish) level, the impact of the crisis on the tourism sector has been relatively moderate, since its beginnings in 2008 (Torres, Sala & Farré, 2014). The tourism sector has continued to generate income and employment during the most difficult times (Altimira & Muñoz, 2007). Therefore, valuing the quality of tourism services by customers is key to maintaining this engine of economic development. Although quality certifications are a good indicator (until recently tourist establishments demonstrated the quality of their services through quality certifications, such as ISO 9000), customer information stemming from digital sources is growing in weight as an index of quality (Fuentes et al, 2015). Clients consult opinion sites (TripAdvisor, HolidayCheck or Booking.com) while deciding on accommodation, restaurants or things to do once at their destination. Nowadays, we can see quality certificates issued by digital platforms, such as those mentioned above, on the websites of an increasing number of tourist establishments. Through an intermediate digital platform, customers now certify the quality of the services provided, thereby displacing professional quality certification.

In addition, technological innovation, competitiveness and communication have gained traction in tourism strategies (Martorell & Mulet, 2009; Melián & Bulchand. 2015), facilitating the attention of the tourist customers, who themselves are immersed in the technological revolution (Álvarez-Garcia, Fraiz & Del Río, 2012). The current challenges facing tourism are accommodation supply, communication channels and sustainability criteria, among others. Many of them are focused on achieving social benefits, inclusive development, and environmental conservation, as pointed out by the Secretary General of the World Tourism Organization. At the European level, there is a clear interest in promoting smart tourism. For this reason, the European Commission has created an initiative (a European Award) with the following aims: to promote the tourist offering of European countries; increase the willingness of citizens to share local values related to tourism; strengthen innovative development generated by tourism in cities, surrounding areas and regions; increase the attractiveness of the European cities which receive the award; and strengthen economic growth and create jobs. The initiative envisions awarding the title of European Capital of Smart Tourism, recognizing outstanding achievements in the categories of sustainability, accessibility, and digitalization, in addition to the cultural heritage and creativity of urban European destinations. It is anticipated that the award ceremony will be held in November 2018 in Brussels. This initiative complements other political actions and initiatives by the EU in the tourism sector (more information at http://smarttourismcapital.eu/).

Lanzarote, one of the Canary Islands, is a clear example of the revolution in the industry, with its complete commitment to the quality of the tourism experience, along with technological innovation. Tourism is thereby blossoming in Lanzarote with an increase in foreign tourism demand of 4% in 2015 and an increase in accommodation in the last decade of 37%, according to sources from the Canary Islands Institute of Statistics (ISTAC). There was an influx of visitors to the Centers of Art, Culture and Tourism during 2016, which was 17% higher than the previous year. The number of tourists visiting Lanzarote has increased by 51% since 2010 (Table 1), with 1,334,470 tourists coming from the United Kingdom, 439,609 from Germany and 242,521 from Ireland.
Related Content

“I Would Like Other People to See His Stories Because He Was Woke!”:
Literacies Across Difference in the Digital Dialogue Project
Julie Rust and Sarah Alford Ballard (2020). *Participatory Literacy Practices for P-12 Classrooms in the Digital Age* (pp. 115-138).
[www.igi-global.com/chapter/i-would-like-other-people-to-see-his-stories-because-he-was-woke/237417?camid=4v1a](www.igi-global.com/chapter/i-would-like-other-people-to-see-his-stories-because-he-was-woke/237417?camid=4v1a)

Preparing 21st Century Teachers: Supporting Digital Literacy and Technology Integration in P6 Classrooms
Salika A. Lawrence, Rupam Saran, Tabora Johnson and Margareth Lafontant (2020). *Participatory Literacy Practices for P-12 Classrooms in the Digital Age* (pp. 140-162).
[www.igi-global.com/chapter/preparing-21st-century-teachers/237419?camid=4v1a](www.igi-global.com/chapter/preparing-21st-century-teachers/237419?camid=4v1a)

Can Everyone Code?: Preparing Teachers to Teach Computer Languages as a Literacy
[www.igi-global.com/chapter/can-everyone-code/237420?camid=4v1a](www.igi-global.com/chapter/can-everyone-code/237420?camid=4v1a)

Rethinking Writing Pedagogy: Supporting Preservice and Inservice Teachers’ Digital and Multimodal Writing Practices
Melanie Hundley, Robin Jocius and Emily Pendergrass (2020). *Participatory Literacy Practices for P-12 Classrooms in the Digital Age* (pp. 184-199).
[www.igi-global.com/chapter/rethinking-writing-pedagogy/237421?camid=4v1a](www.igi-global.com/chapter/rethinking-writing-pedagogy/237421?camid=4v1a)