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Smart Tourism: Effects on Consumer Experience and Business Competitiveness

This study analyses the effects of smart tourism on consumer experience and small and medium-sized enterprises (SMEs). Its main contribution is the integration of the demand and supply perspectives of smart tourism. The demand view considers the impact of smart consumer experience on different aspects of consumers and the moderating effects of gender. The supply view focuses on how the use of smart technologies affects different aspects of tourism SMEs (service cannibalisation, co-creation and value offerings) and the competitiveness of SMEs. The empirical study will be undertaken in the USA and Europe.

Key words: smart tourism, SMEs, consumer behaviour, value creation, competitiveness

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Introduction

The use of different online technologies has become an important issue that can influence consumers and organisations alike. The Internet has revolutionised diverse industries within the economy, but technology is evolving even faster in the tourism industry. The development of new technologies is creating a digital revolution in the tourism industry, giving rise to the concept of smart tourism (Huang et al. 2017). The term *smart tourism*, along with the associated technologies, has become a common term to describe this interconnection, synchronisation and concerted use of different technologies for travel (Gretzel et al. 2015).

The notion of smart tourism has developed thanks to advanced information and communication infrastructures and capabilities. Specifically, small and medium-sized enterprises (SMEs) have undergone a major re-engineering of structures, processes and strategies to take advantage of the full potential offered by emerging smart technologies. These factors improve tourism management and governance, facilitate service innovation, enhance tourist experiences and allow firms to achieve competitive advantages. Hence, smart tourism is highly relevant as a strategic tool for tourism development, value creation and competitiveness (Hunter et al. 2015).

Numerous studies have focused on the use of smart tourism technologies (Arenas et al. 2019). However, no studies have analysed the impact of the use of smart technologies using a double perspective on both the consumer level and the business level. Motivated by these trends, this ongoing research pursues two objectives. (1) The first is to identify the constituents of smart consumer experience (SCE) and to model outcomes at the consumer level (behavioural intentions, word of mouth, buying effectiveness, consumer well-being, perceived risk and stickiness to organisations). Furthermore, the study will analyse gender differences in the effects of SCE. (2) The second objective is to examine how the use of smart

technologies affects co-creation, value offerings and perceptions of service cannibalisation as well as business competitiveness. Both models will be analysed in Europe and United States.

This paper first presents the conceptual framework for smart technologies and their effects on consumers and businesses, offering hypotheses and a theoretical model. Next, the paper outlines the method, describing the data sample and the data collection process. Finally, the paper highlights several critical managerial implications and discusses limitations and suggestions for further research.

Conceptual framework

Smart tourism is defined as an information and communication technology (ICT)-integrated tourism platform that incorporates tourism sources and technologies such as artificial intelligence, mobile communication, cloud computing and the Internet of things (IoT) to provide explicit information and satisfactory services to tourists based on the development of innovative mobile communication technology (Zhang et al. 2012).

The emergence of smart tourism has changed people's consumption habits and tourism experiences (Jovicic, 2019). In particular, a shift towards consumer-centric perspectives has occurred, whereby consumers occupy the central role in both the co-creation and the consumption of their experiences (Shaw et al. 2011). Smart tools are instrumental in enabling tourism organisations to develop dynamic connections between firms and consumers because technologies enable them to network with others and seamlessly exchange resources. Thus, the use of smart technologies can influence consumers and organisations.

Smart tourism and customer experience. There has been increasing interest in the consequences of the use of smart technologies on SCE. Smart technologies have the potential to improve consumer experience by providing superior and personalised services (Foroudi et al. 2018). SCE acts as a system attribute that affects user evaluations of smart technologies.

However, as tourists begin to encounter technologically sophisticated business services, there have been concerns regarding customer adoption and their psychological reactions towards smart technologies (Roy et al., 2018). This study considers that SCE leads to increases in consumer-level outcomes such as behavioural intentions (H1), word of mouth (H2), quality of life (H3), buying effectiveness (H4) and perceived risk (H5), as well as business-level outcomes such as stickiness to organisations (H6). Analysis of gender differences in terms of the effects of SCE is also important (H7). Thus, exploring the factors that constitute consumer experience with smart technologies is an important research issue. With smart technologies, customers enjoy greater autonomy in creating their own experiences, which creates a need for further research to understand the constituents of consumer experience. Overall, consumer experience measurement and management offer a promising way to meet the challenges posed by the changing marketing landscape, which has been shaped by smart technologies (Brandt et al. 2017).

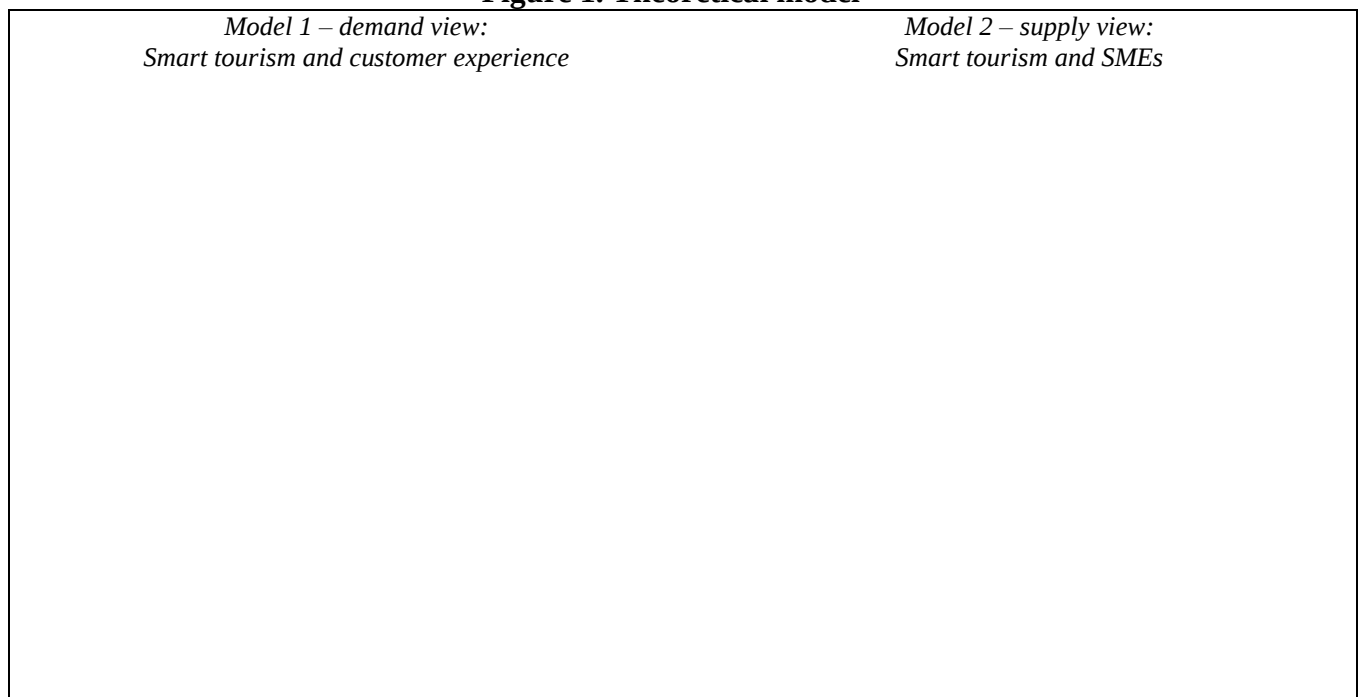
Smart tourism and SMEs. The implementation of smart technologies benefits SMEs by offering better customer experience, improved firm management, cost reductions and increased profitability. The emerging idea of smart tourism refers to a platform where tourism SMEs and customers use smart technologies to reinvent and reinforce their roles in the sharing service economy and improve the quality of customer experiences. The new paradigm of smart tourism will be all-around, real-time consumer centism and co-creation (Gretzel et al. 2015; Buhalis & Sinarta, 2019). In addition, the use of smart technologies leads to value offerings to consumers. Through interactions and assistance by the service provider, value is created. Therefore, it is also suggested that the use of smart technologies by SMEs has a positive impact on value co-creation (H8) and on value offerings (H9).

Another consequence of smart technologies is the perception of service cannibalisation (H10). Several studies suggest that the use of ICT and smart technologies are

raising questions over the future of face-to-face agents of tourism organisations, who perceive that their sales, market shares and roles are declining in favour of online channels. Sales agents' perceptions of changing roles and declining sales are conceptualised as perceptions of service cannibalisation (Marr, 2016).

Finally, the use of smart technologies offers ways of creating and delivering more value to consumers. This greater value is achieved by predicting customer needs and increasing loyalty while reducing unused capacities and increasing efficiency and productivity (Rust and Huang, 2014). Consequently, the use of smart technologies involves continuous improvement and streamlining ideas to empower employees, shareholders and consumers. In this sense, the issues analysed from the organisational perspective (co-creation, value offerings and service cannibalisation) can affect SMEs' competitiveness (H11, H12 and H13). Figure 1 shows the integrated view of smart tourism from a consumer behaviour perspective and an organisational behaviour perspective.

Figure 1. Theoretical model



Method

Data collection and sample

Data collection will be conducted in two stages. First, to achieve the first main objective (i.e. to study the relationships illustrated in Model 1 – demand view), quantitative primary research will be undertaken using data on consumers of tourism SMEs (DMOs, travel agencies and hotels) located in the USA ($n_{1USA} = 300$) and Europe ($n_{1EU} = 200$).

Second, to achieve the second main objective (i.e. to study the relationships illustrated in Model 2 – supply view), primary research will be conducted by designing a questionnaire for managers and employees of tourism organisations (DMOs, hotels, travel agencies, etc.) located in the USA ($n_{2USA} = 150$). Key informants will be asked to provide detailed information about their company. Subsequently, to obtain data from tourism organisations in Europe ($n_{2EU} = 150$), stratified sampling by type of business (DMOs, hotels, travel agencies, etc.) will be used.

Research instrument

To achieve the first main objective (Model 1), data will be collected through a structured questionnaire consisting of closed questions measured on 7-point Likert type scales. The questionnaire will be administered through face-to-face interviews, although in some cases, it will be self-administered through an online survey method.

Data analysis

Once the data have been collected, a covariance structural analysis will be carried out and a structural equation model will be estimated to confirm the validity of the proposed conceptual framework. The researchers will first perform confirmatory factor analysis and will then develop a structural causal model that will allow them to obtain information about the proposed hypotheses. Next, a multigroup structural equation model will be estimated to test the moderating role of gender on the relationship between SCE and consumer effects. To

perform these analyses, EQS and SPSS statistical software will be used. Finally, the researchers will perform a latent class segmentation using Latent Gold software to detect groups of consumers according to the variables in Model 1. Next, to achieve the second main objective (Model 2), SEM-PLS modelling will be applied using SmartPLS statistical software to determine the relationships. These results will provide insights into the differences between the applications of the two models in the USA and Europe, providing recommendations and suggestions for SMEs.

Discussion, conclusions and implications

The purpose of this ongoing study is the creation of two models to analyse the effects of smart technologies on different aspects of consumers and SMEs in the tourism industry. In addition, this study will also examine gender differences in the effects of smart technologies on consumers. Smart tourism research remains scant. It mostly consists of case studies of theoretical initiatives, and it has largely focused on the consumer perspective. In this context, this study helps explain how smart technologies create different effects on employees of tourism organisations (hotels, tourist attractions and travel agencies), allowing the development of more tailored services to meet consumers' real demands. Thus, the findings of this study will provide several contributions.

First, this study will contribute to the literature by empirically investigating smart technology in the tourism context. Second, it will examine the constituents of consumers' experiences with smart technology and identify the key dimensions of SCE. In addition, gender differences will also be analysed in the study. Finally, this study will contribute to smart technology and service innovation in the tourism industry by empirically examining the consequences of SCE and the effects of smart technologies on organisations. Thus, this study will bring together theoretical contributions from tourism planning and marketing, information technology, and networking.

This study will provide a series of implications for tourism organisations in relation to the adoption of smart technology. It will offer suggestions for firms to enhance the consumer experience and achieve competitive advantages and will highlight the importance of smart technology as a strategic tool for tourism development and value creation. In this sense, smart technologies can revolutionise tourism and create opportunities for new levels of service, value creation and interaction. This study will provide an opportunity for consumers and SMEs to achieve specific results in this area. The perspective adopted in this research will provide useful and scientifically valuable information for the European and US contexts. This information will be particularly valuable for tourism SMEs because of the benefits and recommendations that this study can provide to help these firms improve the services that they offer. In addition, this study will help SMEs benefit from targeted business support (e.g. know-how and advice, information and networking opportunities, and cross-border partnerships), improve their access to global markets and international value chains, invest in human capital in organisations by providing practice-oriented vocational education and training, and create valuable links with research centres and universities to promote innovation.

Several limitations of this study should be acknowledged. First, this study will use a sample of organisations from the USA and Europe, which may limit the generalisability of its findings. It would be necessary to investigate whether tourism organisations in other areas would respond to the survey in a different way. Another limitation is the cross-sectional design. Future studies could consider designing a longitudinal study to assess the relationships over time. Lastly, with the dynamic emergence of smart technologies in tourism, this stream of research is only in its infancy. Further exploration is needed to fully capture the adoption, implementation and impact of smart technological solutions in tourism.

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