

Sustainable Tourism Development in The Era of Digital Transformation

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Abstarct

Sustainable development in all industries, including tourism is not only a new social trend, but also necessary for the existence of new generations. It is the determinant and a 'must' of the 21st century in which we live. The European Union aims at preserving resources and protecting the environment implementing the suitability principles in legislation. The article aims at showing how the new technologies influence the tourism industry, whether they play a positive role on the sustainable tourism development. It presents the EU documents concerning tourism policy goals highlighting the need achieve the necessary level of environmental protection and social needs. Different IT tools are presented to illustrate and prove the legitimacy of using technology to meet customer needs reducing the cost of service, limiting time, facilitating and increasing the availability of services offered. The method used in the text is descriptive method, analysis of legal acts and analysis of literature.

Keywords: *Sustainability, technology, tourism, EU law*

Dijital Dönüřüm Çaęında Sürdürülebilir Turizmin Geliřimi

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Öz

Turizm dahil tüm endüstrilerde, sürdürülebilir kalkınma içinde yařadığımız 21. yüzyılın belirleyicisi ve bir 'zorunluluęu' olarak sadece yeni bir sosyal eğilim deęil, aynı zamanda yeni nesillerin varlığı için de gereklidir. Avrupa Birlięi, kaynakları korumayı ve çevre mevzuatını uygunluk ilkelerini uygulayarak çevreyi korumayı amaçlamaktadır. Bu makale, yeni teknolojilerin turizm endüstrisini nasıl etkilediğini, sürdürülebilir turizm gelişiminde olumlu bir rol oynayıp oynamadıklarını göstermeyi amaçlamaktadır. Gerekli çevre koruma ve sosyal ihtiyaçlar seviyesine ulaşma ihtiyacını vurgulayan turizm politikası hedefleri ile ilgili AB belgelerini sunmaktadır. Müşteri ihtiyaçlarını karşılamak için teknolojinin kullanılmasının, servis maliyetlerinin azaltılması, zamanın sınırlandırılması, sunulan hizmetlerin kullanılabilirliğinin kolaylaştırılması ve artırılması konusundaki meşruiyetini göstermek ve kanıtlamak için farklı BT araçları sunulmaktadır. Metinde kullanılan yöntem, tanımlayıcı yöntem, yasal işlemlerin analizi ve ilgili literatürün analizidir.

Anahtar Kelimeler: Sürdürülebilirlik, teknoloji, turizm, AB Yasası

Introduction

Tourism is an area of the economy that is strongly connected with the natural environment. On the one hand, the development of tourism depends on its quality and values, and on the other hand affects its functioning. It is therefore necessary to integrate tourism activities with the objectives of environmental protection, as well as to shape new, pro-ecological attitudes of tourism participants. This approach is in line with the concept of sustainable tourism (Niedziółka, 2012, p.159). It is particularly important in times of digital transformation, where many tourism-related services are moving into virtual reality, but tourism itself remains as real as possible and requires consumers to move and stay in a different environment (Godlewska, 2016, p.186).

Sustainable tourism development and ICT tools in EU legislation and documents

It is worth mentioning that tourism is a fast growing industry all over the world, including Europe. In 2015, one in ten enterprises in the European non-financial business economy belonged to the tourism industries. These 2.4 million enterprises employed an estimated 12.7 million persons. Enterprises in industries with tourism related activities accounted for 9.2 % of the persons employed in the whole non-financial business economy and 21.5 % of persons employed in the services sector. The tourism industries' shares in total turnover and value added at factor cost were relatively lower, with the tourism industries accounting for 3.8 % of the turnover and 5.7 % of the value added of the non-financial business economy (Eurostat). The concept of sustainable development is a response to the growing needs of monitoring, management, support and improvement of the demand for tourist services (Chomiak-Orsa, 2016, pp.36–45).

In the adopted Lisbon Strategy, information and communication technologies are one of the key factors enabling sustainable development (Bertolini, 2011). *“It (The European Social Fund) should no longer only finance training but a range of human resource development activities, preferably preventive actions stimulating access to ICT, equal opportunities and social integra-*

tion.” (The Lisbon Strategy..., 2010, p.33). This means that new technologies should serve for the purpose of development, and the financial resources coming from the EU should support this development by sharing and disseminating the possibilities of using these technologies for people.

Not to mention, the crucial document for the tourism policy in EU “Europe, the world’s No 1 tourist destination” stating that: *“The development of information and communication technologies (ICT) and their increasing use by consumers has also radically changed the relationship between the tourism industry and its customer base. An assessment of the level of awareness, accessibility and use of these services by the various operators concerned has shown that they use ICT in different ways by virtue of factors such as their basic skills, their size and their relative position in the tourist chain.”* (European Commission, 2010).

Sustainable tourism, also called responsible tourism, refers to the concept of sustainable development. Its objectives include activities related to minimizing the negative effects of human pressure on the natural environment and the protection and promotion of local cultural products (Krajewski, 2015, p.102). In this way, we strive to develop the region while respecting what is shared with visitors. In response to the growing demand for tourist services, new jobs are created, thanks to which the local community has a chance to find employment (Sitek, 2017, p.120). This phenomenon is particularly desirable in peripheral areas and for some reasons marginalized, it should be added that it is these areas, due to their location, far from cities and in beautiful natural circumstances, have the greatest potential for tourism development of this type.

The current EU tourism policy takes into account ever stronger global competition, and on the other hand, the European comparative advantage, especially visible in landscape diversity and cultural richness. In addition, it should also fully address other structural challenges, mainly related to climate change, a shortage of water and energy resources, the risk of loss of biodiversity and threats to mass tourism for cultural heritage (Sitek, 2007, p.58)

Already in 2007 the EU Commission has prepared a document of sustainable tourism in Europe where it stressed the significant economic challenges for the travel industry. Among others it recalls: safeguarding natural and social assets; minimalizing negative effects at tourist destinations

including the utilization of normal assets and waste production; promoting the wellbeing of the local community; decreasing the regularity of interest; restricting the natural effect of the travel industry related transport; making this industry open to all; improving the quality of the travel industry occupations (European Commission, 2007). According to the Agenda the main goal of the Tourism Policy is *“improving the competitiveness of the European tourism industry and creating more and better jobs through the sustainable growth of tourism in Europe and globally”*. The European Commission supports the strengthening or the creation of platforms – by also using new technologies – where lessons drawn by good and bad practices can be exchanged and where collaboration between tourism and other related sectors can be improved.

In this regard, the European Commission has recognized that measures for the development of tourism are needed, which should focus on four pillars:

1. Stimulating the competitiveness of the tourism sector in Europe.
2. Supporting the development of sustainable and responsible high-quality tourism.
3. Consolidation of the image and visibility of Europe as a set of high-quality tourism trends and based on the principles of sustainable development.
4. Full use of the potential of the various EU policies and financial instruments for tourism development (European Commission, 2010,).

The EU acknowledges the need to support financially the development of tourism in a sustainable way, therefore it also enlists the possible sources of financing, i.e: in particular the Cohesion Policy funds (the European Regional Development Fund and the European Social Fund), the European Agricultural Fund for Rural Development, the European Fisheries Fund, the 7th EC Framework Programme for Research, Technological Development and Demonstration activities.

Advancement and new data innovations have moved toward becoming deciding components for the aggressiveness of the travel industry and for strengthening exchanges with different parts connected to it. Their utilization by public and private travel agents, especially SMEs, ought to be

reinforced through mindfulness raising and association activities and suitable utilization of different national and European projects. There is likewise a need to accelerate the coordination of data society tools and administrations into all travel industry exercises, especially those completed by SMEs, and encourage access for the different the travel operators to the relevant financial instruments.

The modernisation of the travel industry movement ought to be joined by a venturing up efforts to improve the expert aptitudes of laborers in the segment, with a specific view to encouraging their adjustment to new technologies and new market expectations, for instance as far as wellbeing and prosperity, and empowering their mobility. Such endeavors would frame some portion of the 'Europe 2020' methodology, and especially the lead activity 'An Agenda for new skills and jobs'.

The use of IT tools in tourism

Innovations such as artificial intelligence (IS) and the Internet of Things (IoT) redefine our way of life and work. New technologies instantly transform entire industries, such as health care, sport, trade or production.

One of the areas in which data-driven innovations make big changes is the tourism sector. As millions of people across Europe are going on vacation during the summer, hotels, airlines and other tourist organizations are using new digital technologies to develop a summer vacation plan for the future.

The role of ICT in the travel industry showcasing has been widely talked about in the travel industry literature (Bernea, Garcia-Gonzaleza, Mugica, 2012, pp.205-214; Shanker, 2008). As anyone might expect, a few research articles evaluating the state of the art of e-marketing have been published (Law, Buhalis, Cobanoglu, 2014, pp.727–750). In light of the surveys, the examination on e-marketing in the travel industry centers for the most part around predecessors and outcomes of e-promoting. Particularly, website marketing is emphasized.

While useful, most of the existing studies adopt a 'marketing as a function of business' approach to tourism e-marketing, which does not adequately acknowledge the broad scope of marketing theory. What seems to be largely overlooked in e-marketing tourism research is the 'marketing

as a set of skills' approach (Achrol & Kotler, 1999, pp.146–163) in the SME context. This is the case despite a growing tendency in the turbulent business world to also continuously improve digital marketing capabilities in tourism SMEs, notwithstanding when the sorts of capacities required are to a great extent not known in such a quickly creating business sector.

The use of attractive and data-driven innovations will determine the way of traveling in the future, which will guarantee customers a stress-free vacation, while at the same time increasing the profits of companies in the tourism sector.

The Internet of Things will play a key role in the travel sector - it is already used in many ways. Strategically placed sensors can provide useful real-time data to make it easier for tourism organizations to streamline operations and increase customer satisfaction. This technology can be used to optimize air traffic control, improve fuel management and even allocate aprons.

In addition, real-time information on flight status is extremely important for both airport staff and passengers. However, devices that support location determination, deployed all over the airport, can send useful notifications to smartphones of customers and provide them with marketing materials tailored to the place. The Internet of Things data can also be used for predictive analysis, e.g. to analyze existing aircraft data to identify potential problems before they occur. All these operational benefits can lead to lower costs and increased customer satisfaction.

Artificial intelligence, thanks to many applications, also has a big impact on business travel. This technology works great in personalization - a growing number of artificial intelligence chat rooms allow customers to book their travel in a more personalized way. Many travel companies have already tested artificial intelligence technology to conduct conversations, including major airlines such as Lufthansa, Air New Zealand and KLM.

Tourist companies also use existing digital assistants. For example, last year, Virgin Holidays introduced Amazon's "solution" in the form of voice assistant Alex, which allows customers to book their holiday by speaking to a smart speaker without using their hands. The company also used the SI solution to generate subject lines in marketing e-mail messages based

on previous customer activities. This led to increased customer interest, which translated into profit.

Artificial intelligence is also one of the key technologies in which autonomous vehicles are used, used at several airports around the world to increase efficiency. In addition, this technology plays a key role in facial recognition software, which is increasingly used as a security measure at airports to confirm passenger identity.

Attractive technologies such as virtual reality (VR) are increasingly used in the travel sector. Many touring companies make it possible to use VR technology as an alternative to a standard travel brochure, which provides potential customers with a pre-holiday experience. The travel agency Thomas Cook introduced VR technology in several of its facilities and claims that the sale of Royal Caribbean flights increased by an impressive 45 percent³. The company plans to implement VR technology in future locations.

Augmented reality (AR) also contributes to the transformation of the tourism industry thanks to several airports where AR applications help passengers. AR technology is also great in providing entertainment at the airport. At the Heathrow airport in London, an AR children's application has been introduced that allows them to unlock Mr. Men and Little Miss by scanning digital badges deployed at the airport. This ensures not only children's entertainment, but also helps in tracking traffic at airport terminals.

The EU itself also uses IT tools to develop sustainable tourism. It has recently launched Virtual Tourism Observatory (<https://ec.europa.eu/growth/tools-databases/vto/>) that provides access to a broad collection of information, data and analysis on current trends in the tourism sector. It includes the latest available figures on the sector's trends and volumes, economic and environmental impact, and the origin and profile of tourists.

Moreover, the EU uses the eye@RIS³ database that documents the emerging landscape of regional smart specialisations in Europe (run by the Smart Specialisation Platform) showing that many regions are prioritising service innovation and business model innovation in tourism in their smart specialisation strategies and will allocate substantial funding towards that objective. They will for example center their endeavors

around creating aggressive specialty markets and brand advancement, for example, on the travel industry for the old (silver economy) or eco-the travel industry, updating their travel industry esteem chains going for higher market sections, and differentiate their travel industry exercises to wind up less depended from occasional the travel industry. These regions have comprehensive strategies in place not only for going towards higher added value by investing into tourism innovation yet in addition by assembling more overflows into different businesses, for example, social and imaginative ventures, agro-food, development, etc.

Conclusions

When analyzing technological trends in tourism, we can not omit the tools of augmented reality, which will allow customers to visit the object that interests them before they leave. The technology is already available, however, its adoption is still at a low level and one of the blocking factors may be the lack of attractive content. It should change soon. Another tool that promises to increase the level of customer satisfaction and at the same time reduce the costs of their service are chatbots and voice assistants. Possibly, they are not smart enough today to replace a man and probably in the near future massively do not replace communication with travel agents, but we are convinced that over time a significant part of communication about getting basic information about the product or the implementation of their holidays can be automated.

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