



## DIGITAL TOURISM IS THE CHALLENGE OF FUTURE – A NEW APPROACH TO TOURISM

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**Abstract** *With the spread of information technology, development has accelerated in all fields of life. 20-30 years ago, the word “digital” only had meaning for informaticians and mathematicians. Today it is present in all sectors; thereby tourism has entered into a new era of digital tourism. In many countries strategy of digital tourism has already been defined. People’s interest in digital techniques and their use has changed over the last few decades and this change has to be followed in tourism as well. Without digitization, tourism will not be competitive either with foreign destinations or with service providers. Digitalization is needed for tourism organizations to meet the ever-growing expectations of consumers. In our study, we would like to set up a new model that summarizes the areas of digitalisation in tourism. In the outline of the model, we use a marketing approach that covers all areas of tourism marketing, so we deal with marketing research, target groups, 7P, organizational issues and educational areas as well.*

**Key words:**

Digital,  
Marketing,  
Model,  
Tourism,  
7P

**JEL Codes:**

M30  
L83

### 1. INTRODUCTION

With the emergence, spread and rapid development of computers, and later computer networks, a new era has begun. In the beginning, mystical computing devices, which occupied entire rooms, became decisive tools for various companies within a few years. Computer enforced work processes took much shorter time than the previous traditional methods; storing, organizing and retrieving data have become simpler. By networking computers, a globalized process of information flow could be realized. In 2000 Hoffman stated that the internet was the most important innovation since the printed media had evolved (Hoffman, 2000). Innovations in the digital economy, such as open source systems, platform technology, cloud computing, ultra-fast and efficient search engines, smartphones and other devices based on wireline and wireless network infrastructure have dramatically changed the image of many industries (Sziva and Nemeslaki, 2016). As a result of digitalisation, tourism has entered a new era as well: the digital tourism era.

### 2. LITERATURE REVIEW, DEFINITIONS

In connection with the conceptual definitions, two main areas were examined in our research. We studied the tourism and its development points as well as the digitization and its manifestations in tourism.

The concept of tourism is most well-known as defined by the World Tourism Organization and the Inter-Parliamentary Union in 1989, who states "It encompasses all free movements of persons away from their places of residence and work, as well as the service industries created to satisfy the needs resulting from these movements." (WTO, 1989). However, modern changes should be taken in consideration, which also changed the definition of tourism, as Michalkó stated in 2001: Tourism is an individual's experience, associated with an environmental change, where services are used.

Nowadays, in the globalizing world, continuous and rapid technological development requires a new approach to tourism. While in the past the intermediary sector (travel agencies, tour operators) played a central role in the tourism industry, in the present days the consumer (tourist)

takes on the organizational tasks and compiles his own travel package. In addition to seeing sights and attractions, gaining experience comes into the focus. With the emergence of new technologies, the system and processes of tourism also changed.

Digitization first emerged encountered in the field of information technology. The definition of digitization involves the process of transforming a work (text, image, sound) into a computer-readable, encrypted form, which has already been released on a different media.

<https://en.oxforddictionaries.com/definition/digitize>

However, digitization is a complex concept that involves a number of processes which are built on one another, and consists of different steps for (almost) every organization. The evolution created by computers and digitization is also called a "third industrial revolution", which has been influencing not only the technical world but almost all areas of the life since the late 20th century. Digitalisation in business means the use such digital technologies that will help to change the business model and create new revenue and value-creating opportunities.

Digitalisation, which means the use of modern information technologies, also occurs in tourism.

The term 'smart' is increasingly used for technological, economic and social development which is generated by sensors, big data, open data, new connectivity, and information exchange. According to Höjer and Wangel (2015), what we call 'smart' technology is not the technological advancement, but rather the interconnection, synchronization and co-ordinated using of different technologies. Harrison et al. (2010) interpret the 'smart' technology as the use of operational, near-real-time data, integration and sharing of data, and complex analytics, modelling, optimization and visualization for better operational decision making. The adjective 'smart' can also be found in the operation of cities (intelligent city, smart city), where the term refers to activities aimed at using innovative technologies at resource optimization, efficient and fair management, sustainability and better quality of life (Gretzel et al., 2015). We can also use the term in the context of tourism. Smart tourism consists of three main components, based on information communicational tools: smart

destinations, smart experiences and smart business system (Lopez de Avila, 2015).

The essence of e-tourism is that the use of info-communication tools appears in all sectors of tourism. According to Buhalis (2003), e-tourism is the digitization of all the processes and value chains in the tourism, travel, hospitality and catering industries that enable organisations to maximise their efficiency and effectiveness (Buhalis, 2003 in: Buhalis, 2011:6). E-tourism, as one type of e-commerce, is also an industry, which deals with sales and marketing of products and services through an electronic system. Like the e-commerce, it also includes electronic data transfer, distribution management, e-marketing (online marketing), online transactions, electronic data exchange, management systems and automated data collection. In addition, e-tourism is complemented by the specific activities of tourism such as the emergence of tour operators, travel agencies and other tourism sectors in the virtual space. E-tourism involves e-information, e-booking (hotels, transport, etc.) and electronic payment for the consumers. (Buhalis and Jun, 2011, Beatrice and Mihălcescu, 2013)

The meaning of digital tourism is linked to the support of tourism experiences through digital tools. (Benyon et al., 2014)

Digital tourism means the use of an info-communication tool, an IT solution that can help to meet the needs of tourists and improves the competitiveness of organizations and businesses in tourism.

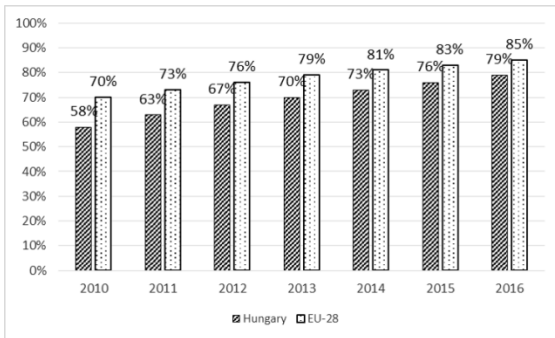
We can see that all the three terms mean nearly the same from different approaches. In the following, we use the term digital tourism in our study.

### 3. THE EMERGENCE OF DIGITAL TOURISM IN HUNGARY

First, it was necessary to establish and spread an 'online presence' for the emergence of digital tourism in Hungary. In 2012, the former Hungarian Tourism Co. summarized the proportion of "online population" in each of the sending markets. Analysing this data series, highlighting our country, it turns out, that in 1997 1% of the Hungarian population had access to the Internet (MT ZRT., 2011). The data of the Central Statistical Office (2017) is showing an explosive development,

according to which in 2010 58% of the population and 79% of the population in 2016 had internet connection. (Fig 1)

**Fig 1: The proportion of households with internet connection from all households (%)**



Source: Own processing based on data of Central Statistical Office (2017)

On the service side, this rapid development can also be observed. Information and communication technology (ICT) have been used since the 1970s in tourism, in Computer Reservation Systems (CRS) by the airlines and then widely at development of Global Distributor Systems (GDS) since the 1980s. In the period between 1997 and 1999, even if only slightly, but digital tourism was present in our country. This is mostly confined to communication in e-mails and a small number of online booking. In 2003, 7% of all hotel and 6% of guesthouse bookings, were initiated online, but the rate of paying for these rooms through the internet did not even reach 1%. However, it is also true that 8% of hotels and less than 1% of guesthouses provided an opportunity to pay online for the rooms. In 2004, it was possible in 52% of domestic hotels and 25% of guesthouses to book rooms online. In the same year, 86% of the hotels, 70% of the guesthouses had Internet access while 70% of the hotels and 50% of the guesthouses created and operated their own website (eNET Internet Research and Consulting Ltd., 2004). According to Sziva and Nemeslaki (2016), tourism was already present in e-specific industries in 2004, mostly in the field of online marketing but was left behind in all areas requiring more complex ICT applications.

In 2012, 45% of total domestic accommodation revenue, about 58 billion HUF,

came from online bookings (eNET Internet Research and Consulting Ltd., 2012).

According to Stiakakis - Georgiadis, the tourism sector is developing in all fields, but the most dynamic development is still observed at the CRM systems, e-communications and e-sales (Stiakakis and Georgiadis, 2011).

The "National Tourism Development Strategy 2030" also set the goal of creating a Digital Tourism Strategy in 2018. The strategy focuses on digitalisation of the tourism sector, which concentrates on professional competitiveness, the digital competence of the workforce, digital marketing, the whitening of the economy and reduction of bureaucracy, start-up business development, sectoral measurements, data management and protection, big data-using, the emergence of digital education in training systems, digital accessibility, network competitiveness, and the development of a support and application system for digital transformation (mtu.gov.hu/cikkek/digitalis-marketing).

#### 4. DIGITAL TOURISM IN OTHER COUNTRIES

In recent years, more and more companies, providing services in tourism and destinations, have begun to incorporate the use of digital assets into their strategy, recognizing that change is essential to the preservation and improvement of competitiveness nowadays. The European Commission has implemented numerous of measures to increase the competitiveness of small businesses in European tourism, integrating them into global digital value chains and thereby improving their workplace creation potential. ([https://ec.europa.eu/growth/sectors/tourism/support-business/digital\\_hu](https://ec.europa.eu/growth/sectors/tourism/support-business/digital_hu))

The European Commission is helping tourism companies in several areas to use digital solutions as widely as possible. Among other activities, digital tourism events, the creation of the Digital Tourist Network and the Tourism Business Portal can be found. The primary objective of these activities is to strengthen education, to engage smaller businesses in the digital value chain and to support digital solutions for the tourism sector in particular. The European Commission thus provides an opportunity for the digital market to take full advantage of the opportunities offered by businesses to increase their competitiveness.

The extent of the use of digital solutions in tourism differs from one country to another. ([http://turizmusonline.hu/kulfold/cikk/bemutattak\\_a\\_z\\_osztrak\\_digitalis\\_turizmus\\_strategiat](http://turizmusonline.hu/kulfold/cikk/bemutattak_a_z_osztrak_digitalis_turizmus_strategiat)) In September 2017, the Digital Tourism Strategy was presented in Austria, which set the goals and tools in the digitalisation agenda, in line with global digital challenges. ([http://turizmusonline.hu/kulfold/cikk/bemutattak\\_a\\_z\\_osztrak\\_digitalis\\_turizmus\\_strategiat](http://turizmusonline.hu/kulfold/cikk/bemutattak_a_z_osztrak_digitalis_turizmus_strategiat)) The Digital Tourism Strategy presents the tasks, along three strategic objectives, that are required to realize digital tourism in eight areas. ([https://www.bmdw.gv.at/Tourismus/Documents/DIGITALISIERUNGSSTRATEGIE\\_barrierefrei.pdf](https://www.bmdw.gv.at/Tourismus/Documents/DIGITALISIERUNGSSTRATEGIE_barrierefrei.pdf)) Overall, we can say that most countries' tourism strategy already includes digitization-based activities.

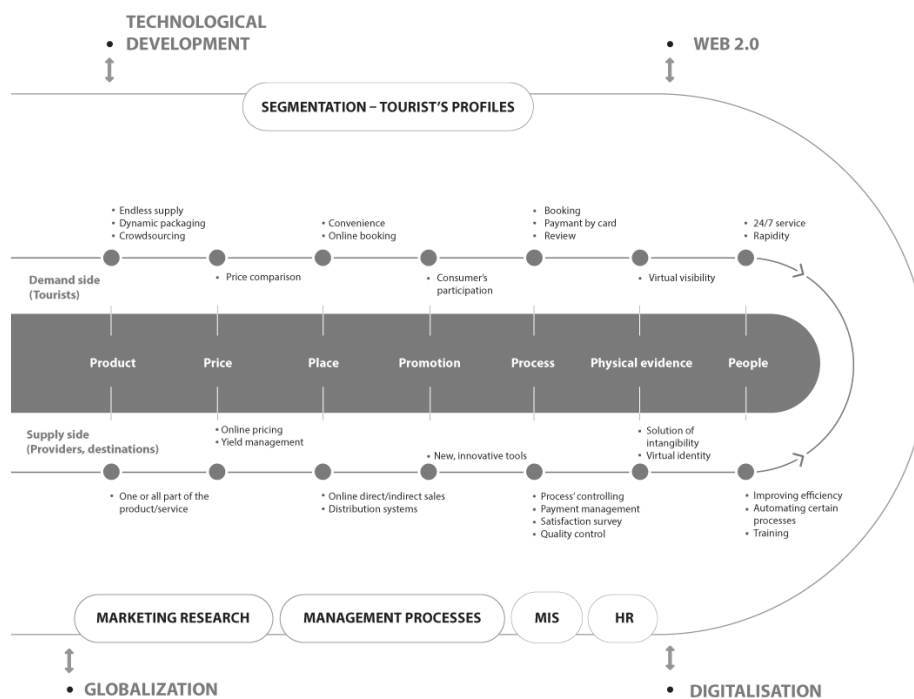
we need to define a new era of tourism, the era of digital tourism. This new type of tourism is not only about the previously defined consumer orientation, but the consumer is now actively involved in marketing processes through digital tools and techniques. Consumers are involved in the development of the product, and they can influence the real-time pricing. The main venue for sales is online/virtual space, and online communication is on the first place among the activities of contact building with the consumers. Consumer, consumer behaviour, and tourist profiles also affect the operation of the model.

In our new model we have placed the e-tools that appear in digital tourism in the marketing-mix elements. (Fig. 2)

## 5. THE MODEL OF DIGITAL TOURISM IN A MARKETING-ORIENTED APPROACH

In our present study, digital tourism is approached from a marketing point of view. Firstly,

**Fig. 2 The model of digital tourism in a marketing-oriented approach**



Source: own model

It is also clear from the model that the system focuses on tourism as a service, with its demand and supply side. In the environment of the system the changes are highlighted that are conducive to the development of digital tourism. The possibility of digitizing other processes within the organization are also important, like management tasks, marketing research, and HR. Marketing tools (7P) connect tourists and service providers, destinations. The figure shows that we investigated the opportunities of digitalisation in the development of a digital tourism system, from both consumer and service provider's sides.

### 5.1 Product

Touristic offer, all of the services that meet the needs of tourists can be interpreted in digital tourism at micro and macro level as well. When developing the supply, we can find a digital product/service or a product/service available by digital device. For example, we can meet with hotel information materials on tablets or smartphone applications featuring destinations. With digital assets, the tourist can reach a wide range of supply elements. Issues of valued outcome, jointly produced with the provider (participation, co-creation), or participation in the product development with the customer's ideas (crowdsourcing) (Horváth and Bauer, 2013) are also possible. Technological development also helps the dynamic distribution of self-organized journeys (dynamic packaging).

### 5.2 Price

Price is the only profit-generating tool for service providers, which in most cases provides information on quality as well. For the tourist, after the choice of destination, price is the second most important factor, but sometimes it also defines the chosen destination. Because of the above mentioned factors, and of the perishability of services, the importance of "real-time" prices has increased. For the choice it is essential to make a quick analysis of the supply and demand, the structure of the costs, and the continuous information about competitors.

Tourists/consumers have advantage from the possibility of "online price comparison" option

(e.g. Tripadvisor, booking.com), which helps to choose the best value for money during a trip.

Software, booking systems, corporate management systems, and databases also accelerate the calculation by service providers; they can examine the prices regularly. By the use of online booking systems, it is possible to compare different prices based on the parameters set by the consumer (taking into account the number of travellers, the time of travel, length, etc.). Digital technology is especially helpful in the Yield Management process by storing past data, analysing data in different aspects.

### 5.3 Place

The biggest change in tourism by digitalisation can be observed in sales. With the Internet, direct booking is also available to consumers. This offers several benefits; it is available 24/7, it offers independence in searching for offers, provides interaction and convenience. Online booking options include a booking system on the companies' own website, use of other booking systems, and booking by email.

Tour operators and destinations have gained new sales channels through innovative tools. The indirect booking options have been expanded and in addition to the GDS (Global Distribution System) online travel agencies (OTAs) play a major role in sales as well.

### 5.4 Promotion

Marketing communications must also keep pace with changing of lifestyle, technical environment and the media world. The development of new and innovative tools has been promoted by the evolution of technology. The consumer is an active participant in the communication process. We can speak about User Generated Content, Consumer Generated Advertising, Viewer Created Content, and e-WOM (Electronic Word of Mouth) (Horváth and Bauer, 2013).

The use of digital solutions is inevitable in this field. The Internet provides an excellent opportunity to reach consumers, to conduct touristic transactions, to execute orders, to provide customer service, and it also serves as a media channel. Online ads may appear in many forms, including emails, search engines, social media, online

advertising, and mobile ads. Visual ads use images, videos, text and graphics to reach consumers; they are well-targeted and can easily reach potential customers (Supekova et al., 2016).

Social media are computer-mediated technologies that facilitate the creation and sharing of information, where user generates the content. Anyone can participate in social media, as it is a community where open dialogues are conducted between users without direction. The advantage of these tools is that they can be upgraded instantly and they provide unlimited, real-time feedback. The effect can be measured immediately and archive materials are easily accessible, while sharing and the participation of consumers is supported by social media. (Fazekas and Harsányi, 2011).

Social media also provide the supply and demand side with the opportunity to participate in the digital marketing communication process. Among the tools available in tourism, social networking can be used for building new connections; as well as sites to share multimedia content, pictures, and videos; and business networking, blogs, forums, micro blogs. Social media can be used for messaging or sharing experiences as well.

Technological development constantly gives new tools to communication professionals, for example, using virtual reality (VR technology) can resolve the inseparability of services.

### **5.5 Process**

Process management involves many elements; most of them heavily depend on the digital technology.

A higher level of process management through digitalisation makes it possible for the service provider to supply precision and easier work. Using a Customer Relationship Management system (CRM), recording transactions facilitates contact with the right segment, presenting customized offers. On the consumer side it means an increasing attention and decreasing sense of risk, accelerating and simplifying the front office processes of the service. There are an increasing number of processes in tourism, where human labour performs only system supervision and the consumer is involved in front office activities with self-service systems; for example, an airport check-in.

Technology has an important role in the field of satisfaction analysis and complaint management. Many places use online satisfaction questionnaires or touch screen tablets in order to have a direct and instant evaluation. These data are then entered into computer databases where they can be analysed, which makes it easier to determine the most common problem areas daily, weekly, as well as to improve the quality of the service faster.

Payment management and queue organization cannot be forgotten either, as they have also been heavily redesigned by digital technology and businesses can benefit from the use of them, for example by using different cashless payment methods.

### **5.6 Physical evidence**

Services are intangible by their nature; they do not have a specific physical appearance and cannot be examined directly. Physical evidence and tools in tourism are the location and the environment of the service (Veres, 1998). With the help of digital devices, the promised service becomes visible and its benefits could be demonstrated. Digital devices and techniques play an increasingly important role in presenting physical evidence that supports or weakens the impact of other elements of the marketing mix. Websites, blogs, social media and other forms of digital activity are important parts of the physical environment. For most consumers, these tools provide primary information about the service.

### **5.7 People**

The human factor is decisive for the services. Since employees are directly connected to the tourists, they influence the image of the service as well. Besides the front staff, the user also has a key role in the creation of the service. For tourists, it is important to have service around the clock, continuous availability, information provision and problem management. Most consumers still require human communication in the processes and human-based services with no emotional service, as some kind of mistrust in machines can still be noticed. However, in many places, the efficiency of human work can be improved by automating certain processes. There are robots in hotels in the Far

East, but many tourists, especially Europeans, are less receptive to the impersonal service. According to the research of Stefán et al. (2018) certain processes can be triggered with robots.

In the selection and continuous training of employees can also be involved digital tools and softwares, such as in job interviews via Skype, or training, pre-screening via smartphone apps, e-learning courses, etc.

## 6. CONCLUSION

Nowadays, digitalisation appears in all areas of life. According to Buhalis and Jun (2011) and our own research, we can conclude that digital tourism is a paradigm shift in tourism due to the emergence of digital tools and techniques. With our model, set up and characterized by marketing tools, we introduced the complex system that is trying to meet the ongoing technological development of the external environment. The model shows all the external and internal factors that can affect digital tourism as well as activities within the organization where we can use digital tools. Recognition of marketing tools can help companies at micro level and destinations at macro level as well and show how to take advantage from digitalisation to be competitive in the tourism market. The development of a long-term digital tourism strategy is important in order to help to find the most efficient use of digital techniques in all areas of the market. As a future research, all areas of the model can be specified or supplemented. Empirical testing of the model can also be the subject of another study.

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