



# The Impact of Digital Technologies on Tourism Consumption – Case of Croatia

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**Abstract:** *Tourism has a tremendous impact on the economy of a country and the realization of tourism consumption is a prerequisite for economic growth. Digital technologies are an important part of modern tourism. Technology is evolving rapidly, and the tourism industry must follow modern trends to remain competitive. Throughout this research, the technologies of the future, which represent a great potential for the change and development of tourism, will be discussed. The purpose of this research is to determine whether digital technologies influence tourism consumption and how they can facilitate information access about the desired destination. The research was conducted on 159 test subjects in the Republic of Croatia using a questionnaire survey. Digital technologies shape the human perception of a particular destination and influence tourists' choice of where to stay. Since most people today use digital technologies to learn about a product – a destination in this case – tourism consumption will be absent or significantly lower in destinations that are not advertised with the help of some sort of technology. It can be concluded that there is a direct relationship between the use and presence of digital technologies and the realization of tourism consumption. These hypotheses have been confirmed throughout this research.*

## 1. INTRODUCTION

Tourist spending is one of the economic criteria for tourism success. It is defined in various ways, but in the broadest sense, it includes the total tourist consumption of people who buy heterogeneous tourism products. Production and consumption in tourism are closely linked. In this synergy, information, and communication technologies (ICTs) are the most important factors for increasing economic competitiveness. The development of digital technologies has raised the question of how they can be used to improve tourism outcomes, reduce costs, and increase efficiency, customer satisfaction, and local satisfaction. Technology provides faster and more accessible information, it changes the tourists' needs and motivation, it penetrates all the stages of creation, supply, and consumption of a tourist product.

Digital technology's main goal is to make everyday tasks easier and solve many of mankind's problems. The development of new technologies helps save lives, it changes the way of life and communication. Technology benefits work by increasing efficiency. For the developing countries, technology means better infrastructure, better transportation, schools, hospitals, and medical care along with other utilities. The impact of technology in all aspects of life and business is extremely significant.

Digital technologies are changing technological, economic and social norms. They have penetrated all society's sectors and are influencing the dynamics and direction of changing business models in many economic activities. Tourism is one of the activity sectors with a definite inter-

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action with digital technologies. It is an area where digital technologies have penetrated rapidly and strongly, with the testing and implementation in the global tourism market, in line with the accepted Sustainable Development Goals (UN 2020). Research interest is expanding and there is an increasing number of social and economic studies that take a multidisciplinary approach to the study of this phenomenon in the context of sustainable development (Gossling, Hall 2019).

Research in the field of digital technologies and tourism from the period of the beginning of intensive computerization (introduction of computerized reservation systems) and the introduction of boarding schools (Werthener, Klein, 1999) is numerous. Today, this sector is one of the most dynamic ones in the field of tourism research (Buhalis, 2003; Leung et al., 2013). In a meta-study on a range of topics, Ukpabi and Karjaluto (2017) highlighted several key research areas: ICT applications, social media, segmentation based on digital technologies. Most of the research was related to exploring the demand market and consumer needs and satisfaction, but the key is exploring the supply market, without which digital technologies cannot be implemented in the tourism market (Law et al.2019).

What emerges from the analysis of the research, and what is needed in the context of sustainable tourism development, is the fullest possible exploration of the impact of digital technologies on all the key determinants of tourism development: economic, sociological, technological, and environmental impacts (Benckendorff et al. 2014, Goosling, 2017, Nagle, Vidon 2020). In one of his more recent works, Gossling (2021) highlights the changes that digital technologies bring to businesses and business models, as well as new demands on consumers' personal development. There is a phase of change underway. The pervasiveness of these changes depends on several sociological aspects which then depend on a number of variables. These can be the level of education, the level of urbanization, the economic prosperity of society, technological literacy and similar.

The research conducted on tourism demand trends examines the following aspects: the importance of social media in tourism (Zeng, Gerritsen, 2014), the impact of websites (Law, 2010), the impact of marketing activities (Leung, 2015), the relationship between tourism information and tourist behaviour using 413 online questionnaires as an example (Majedd, 2020), and consumer tourism preferences (Cosma, 2012). The impact of digital technologies on the tourism consumption of a particular consumer group indicates which technologies are most effective in communicating and guiding tourism consumption. A study of a group of Millennials using Romania as an example, identified devices, applications used, methods used in planning, booking and during travel, in addition to research on budget levels and payment methods (Padurean, et al., 2016). The research about the influence of modern technologies on travel agencies confirmed the importance of informatization and modern technology when communicating with consumers (Mihajlović, 2013). The survey included 200 agencies, of which 82 questionnaires were collected from employed managers. The results confirmed the importance of digitalization and underlined the need for regular training on the implementation of new technologies.

One of the elements for shaping tourist consumption is tracking the motives for tourists' arrival. The source of information that tourists used to discover about the destination in advance is an important factor in planning and preparing a tourist trip. According to the research results, the most frequently used source of information is the Internet, more than 50% on average in Croatia, which is twice as much as other sources of information. The last place is taken by traditional forms of information such as brochures and printed material, which indicates significant changes in marketing approaches in recent years. The Internet is used mainly by guests from Spain,

and least by those from Bosnia and Herzegovina. Most used are the travel agencies' websites (Booking.com, Expedia, Holidaycheck.co.uk), followed by social media, sites of establishments and, in fourth place, sites of Croatian tourist boards (Marušić, et al., 2019, p. 33).

## 2. TRAVEL AND TOURISM COMPETITIVENESS & DIGITAL TECHNOLOGY FOR THE EU MEDITERRANEAN ECONOMIES

In recent decades, the tourism industry has become increasingly important. On a global level, tourism is one of the most important economic sectors. In 2019, 1 in 10 people worldwide – or 1 in 4 new jobs – are employed in the tourism sector, while total employment in tourism accounts for 10.6% and total output for 10.4% of GDP (WTTC data).

The role of tourism in the country's GDP is crucial for all countries. In many countries with inbound tourism, the latter accounts for a high percentage of exports in total. Tourism brings several positive as well as negative impacts and there is, therefore, a need to continuously monitor the macroeconomic environmental factors to optimize the impact of tourism on the overall economy. The exponential growth achieved in recent years can be attributed to the impact of improved technology and its availability, the increase in the number of more convenient travel and flight options, and the desire of consumers to travel to new and more distant destinations.

A study was conducted on the relationship between the tourism results achieved in the pre-pandemic year 2019 and competitiveness in tourism with the assessment of the level of tourism infrastructure for the implementation of digital technologies. It is estimated that the level of economic development, the globalization of the economy and the overall economic competitiveness influence the assumptions and the achieved level of digitalization in tourism. The achieved level of digitalization in tourism varies and depends on the national infrastructure, legislation, achieved globalization in tourism and the level of foreign direct investment in tourism. During the analysis, several indicators were observed. They are the following:

**Table 1.** TTCI indicators - description

Indicator	Description & Source
Arrivals per capita	Arrivals at tourist accommodation establishments (tour_occ_arnat) per capita (Eurostat database, ec.europa.eu/eurostat/web/tourism/overview)
Travel & Tourism Competitiveness Index (TTCI)	Measures travel and tourism competitiveness of 136 economies through 4 subindexes: enabling environment, travel and tourism policy and enabling conditions, infrastructure, natural and cultural resources (1-7 best) (World Economic Forum, www.weforum.org)
Travel & Tourism Competitiveness Index <i>Subindex A: Enabling Environment</i>	Enabling environment subindex measures the general conditions necessary for operation in a tourism country and include 5 pillars: Business Environment, Safety and Security, Health and Hygiene, Human Resources and Labour Market and ICT Readiness (1-7 best) (World Economic Forum, www.weforum.org)
Travel & Tourism Competitiveness Index <i>Subindex A: Enabling Environment</i> Pillar 5: ICT Readiness	ICT Readiness is pillar 5 in the methodology of TTCI. It measures the existence of hard infrastructure and capacity of businesses to use and provide online services and IT technology (1-7 best) (World Economic Forum, www.weforum.org)

For the comparative analysis of the EU Mediterranean countries, which include Croatia, Cyprus, France, Greece, Italy, Malta, Portugal and Spain, the selected indicators were based on the year 2019. Values were compared by size and range (Table 2).

**Table 2.** Tourism, TTCI and ICT for Mediterranean EU economies - 2019

Country	Arrivals per capita	Arrivals pc rank	TTCI	TTCI rank	TTCI Subindex A: Enabling Environment	TTCI Subindex A rank	TTCI Pillar 5: ICT Readiness	TTCI ICT Readiness rank
Croatia	4.80	1	4.5	4	5.1	4	5.2	4
Cyprus	3.70	3	4.2	6	5.5	2	5.9	1
France	2.60	7	5.4	1	5.6	1	5.9	1
Greece	3.11	4	4.5	4	5.2	3	5.2	4
Italy	2.20	8	5.1	2	5.2	3	5.5	3
Malta	4.10	2	4.4	5	5.6	1	5.8	2
Portugal	2.71	6	4.9	3	5.5	2	5.5	3
Spain	2.88	5	5.4	1	5.5	2	5.8	2

**Source:** Eurostat and Weforum database

Based on the data collected and the comparative analysis, the conclusions are summarized in Table 3. The basic conclusion of the analysis is that macroeconomic conditions are a prerequisite for faster and more successful implementation of digital technologies in tourism. Countries that have met the colour conditions of the environment can expect a positive spill-over effect on the faster growth of competitiveness in travel and tourism in the next period.

**Table 3.** Comparative analysis for TTCI indicators – Mediterranean EU countries – 2019

Variable	The rank of Mediterranean EU economies (high-low)	Conclusion
Arrivals per capita	Arrivals pc rank: Croatia, Malta, Cyprus, Greece, Spain, Portugal, France, Italy	Small markets (by population) with a higher economic impact of tourism on total GDP, employment, and exports (second TSA method) perform best and rank highest. Larger economies with a diversified structure of economic activities show a lower dependence on tourism and tourism performance.
TTCI	TTCI rank: France, Spain, Italy, Portugal, Greece, Croatia, Malta, Cyprus	According to the TTCI methodology, the highest level of tourism competitiveness in the world was achieved by Spain and France, which share the first place. The top 20 countries in the world continue to include Italy, which is in 8th place, and Portugal in 12th place, followed by Croatia and Greece in the group of Mediterranean EU countries. They are followed by Malta and Cyprus. The countries with the highest total tourism volume, which are among the leading destinations in the world, are ranked as the most competitive.
TTCI Subindex A: Enabling Environment	Subindex A rank: France, Malta Spain, Portugal, Cyprus Greece, Italy, Croatia	The evolution of the index, which provides information on the level of development and competitiveness of the environment for the development of tourism, allows us to conclude that the level of this indicator is higher in all Mediterranean EU countries compared to the overall TTCI, which we can consider positive. Particularly surprising are the high values in Malta and Cyprus, while the lowest values were obtained in Greece and Croatia. This indicator is largely correlated with economic development indicators (e.g., GDP per capita).
TTCI Pillar 5: ICT Readiness	ICT rank: France, Cyprus, Spain, Malta, Italy, Portugal, Croatia	The tourism infrastructure for the introduction of digital technologies has been developed in Cyprus, France, Malta, and Spain. All Mediterranean EU countries have higher ICT index scores than the Enabling Environment Index score as well as the overall TTCI. From this, we can conclude that economic policy makers in the Mediterranean EU countries have recognized the importance of digital technologies and have created the initial conditions for faster and more efficient adoption of digital technologies in tourism.

**Source:** databases, authors' research

### 3. RESEARCH DESIGN

This research aims to determine whether digital technologies influence tourism consumption and how digital technologies can further facilitate access to a destination's information, and what it has to offer to have a positive impact on tourism and economic development. A survey was conducted with the following hypotheses:

- H1:** The level of tourism consumption is related to the use and availability of digital technologies.  
**H2:** H2: The level of tourism consumption is related to the applicability and availability of a particular digital technology at the desired destination.  
**H3:** Digital technologies enable faster and more efficient access to the distant market, generate a greater number of guest arrivals and increase tourist spending, thus having a positive impact on tourism development.

The first hypothesis investigates whether tourism consumption is related to the use of digital technologies. It aims to find out if tourists choose a particular destination based on their use of digital technologies and whether they make a reservation through the accommodation-booking application. In this way, establishments and destinations that are less known can increase their market presence and increase the destination's popularity, in addition to making more profit. Therefore, the use of digital technologies directly contributes to pre-trip and in-destination consumption. The second hypothesis investigates whether tourism consumption depends on the available digital technologies at the destination. The question is, if the destination, facilities, or other tourist attractions are not present on the Internet, will the tourist visit specified destination and how will this affect his/her consumption. The third hypothesis aims to determine whether the presence on the Internet attracts more guests and thus increases the awareness and attractiveness of the destination and generates higher revenues.

The questionnaire contained 15 questions divided into several groups. The first group consisted of socio-demographic questions (respondents' gender and age, completed level of education, employment status and monthly income, which was designed as an optional question). This was followed by two questions related to the tourists' stay and the type of booking:

- When was the last time you visited a destination in Croatia and stayed longer than a day?
- Did you use any of the accommodation booking sites or apps when choosing your destination? (This is an exclusive question. If the answer is negative, the survey concluded here.)

The remaining questions and their analysis should be used to test the research hypotheses.

- How digital technologies affect tourism consumption; whether it increases, decreases, or remains unchanging because of these technologies.
- How and to what extent digital technologies contribute to the choice of a destination and "enable" tourism consumption before the trip, which consequently has a positive impact on tourism consumption at the destination itself.
- Which websites and applications users are most likely to utilize and to what extent can they lead the potential tourist to the final realization and spending?
- To what extent the use of websites or applications has led to greater tourist satisfaction and / or time and financial savings for consumers.

### 4. FINDINGS

The survey was conducted in August 2021 in the region of "Kontinentalna Croatia". Considering the impact of the COVID -19 pandemic on the decrease in tourism spending, only domestic

guests were included in this study. The questionnaire was distributed in the Facebook group “Putoholičari” (which has 209,000 followers and publishes several posts a day).

The set target for the number of surveys collected was 100-200. 159 questionnaires were successfully collected, of which 25.8% were men and 74.2% were women. As expected, the largest percentage of respondents was in the age group up to 25 years of age (29.6%) and the smallest in the age group of 56 and older. The remaining age groups were evenly represented in the structure of the participants. Most of the participants have a university degree (40.3%), while the fewest respondents only have a primary education (3.8%). The smallest percentage of respondents is retired (0.6%), while the largest group is employed (73.6%). The second place is held by high school and university students (20.1%), who have more time and motivation to travel. By income, the most numerous group has a monthly income ranging from 4,001 to 6,500 kuna (30.7%); followed by the group with a monthly income ranging from 6501 to 9000 kuna (29.4%); the last is a group with an income ranging from 1501 - 4000 kuna (5.2%). We can conclude that the profile of the average participant is a young, highly educated, and active person who travels more frequently and regularly compared to the older population. People with higher purchasing power are a prerequisite for tourist travel and interest in exploring tourist facilities.

Most of the participants (79.9%) have visited a destination in Croatia this year (2021), while the smallest group of respondents (9.4%) have travelled to Croatia 2 or more years ago. The vast majority of respondents, 2/3 of the total, used the internet or applications to book their accommodation, while 1/3 of respondents booked their accommodation through the recommendation of friends, acquaintances or in some other way.

The first question related to the use of digital technologies was related to the reason for traveling to a particular destination. Most participants chose a particular destination based on pictures of the destination on social media (57%), while a few participants chose a destination based on recommendations from influencers on social media. Recommendations from friends and family account for the 39.3% and are still an important factor when deciding on a destination. In conclusion, the presence of the destination on social networks is crucial to attract potential tourists.

The website most used for choosing and booking was Booking.com (83.8%), followed by Airbnb, while a minimal percentage used Sniffer and Black Egg. Booking.com dominates the market in accommodation booking and marketing of various tourist facilities. In this way, lesser-known destinations can be promoted and attract potential guests. Booking.com is well organized and very present on social media.

The majority of the participants (55.1%) said that the applications helped them find their desired goal. The least number of participants indicated that these applications did not help them at all (3.7%). The rest of the participants gave a score of 3 or 4, with positive responses predominating. This leads to the conclusion that the accommodation booking sites are useful in searching for the desired destination and finally booking the accommodation.

The next question was related to the participants' satisfaction with the accommodation found before arriving at the destination. The majority of the participants (94.4%), indicated that they were very satisfied with the accommodation found prior to arrival, awarding scores of 4 and 5. No one indicated that they were dissatisfied with the found accommodation. Thus, the accommodation search and booking apps and websites helped in selecting a satisfactory accommodation.

After having stayed at the chosen accommodation, the majority of participants were very satisfied, 61.6% of them. In comparison to the previous question, the number of participants who are neither satisfied nor dissatisfied (score 3) has increased from 5.6% to 12.1%. No response of marked dissatisfaction was reported. Although there is a slight decrease in grades 4 and 5 from the reported 94.4% to 86.1%, the results show no dissatisfaction with the facility. In conclusion, advertised accommodation facilities match the pictures and descriptions on the websites and applications. In this way, guest satisfaction is established, and arrivals can be repeated. Sometimes fake accommodation is advertised on accommodation booking sites, but the results of this question suggest that this is not common and/or usual.

Most users indicated that reviews from other users were very useful (56.1%). Three participants (2.8%) gave a negative answer to this question. It can be concluded that other users' reviews are one of the most important factors found on accommodation booking sites and applications, as a potential guest can use these reviews to get an impression of a particular accommodation and make a final decision about the arrival and/or stay.

When asked if they made their own choice based on the ratings, 63.6% of the participants answered positively. The remaining participants did not choose their accommodation based on ratings. These answers confirm once again the importance of sharing one's own experience with others.

“Do you feel that you have saved money on accommodation by using digital technologies?” The answers to this question are quite even: 53.3% of participants believe that the use of digital technologies (websites and applications for booking accommodation) has helped them save on accommodation, while the rest of participants, i.e., 46.7%, believe that digital technologies have not helped them save on accommodation. It can be concluded that additional questions need to be asked on this topic to get a more certain answer. Based on this research, websites and various applications can help to save on accommodation, as they provide a comprehensive overview of the available accommodation options in different price ranges and facilitate the proper selection of a tourist product. Moreover, it is possible to find accommodations at lower prices when making first-minute reservations than during the high season or right before the trip. However, price reduction is only possible to a certain extent, as accommodation providers adjust prices according to current occupancy. Although, it is not uncommon for the last-minute offer to be the best deal, especially during disruptions in the tourism market or in unfavourable and unexpected situations. As tourism content websites become more heterogeneous and complex, they increasingly offer lesser-known content and destinations. In this way, networking and related publications have an extremely positive impact, and this advantage is crucial for emerging tourism destinations.

Most participants used mobile applications to self-select a restaurant or other tourist offers at the destination (83.2%). This suggests that the use of digital technologies during a stay in a destination is extremely important for the choice and intensity of tourist spending. The participants who did not use digital technologies at the destination gave the following reasons: 71.4% do not have the habit of using these technologies and some respondents did not have the intention to use additional content because they are familiar with the destination. On a positive note, no one cited unavailability of technology or usage inability. This suggests that applications and websites are available in destinations, but consumers don't have the habit of using them.

Only participants who used digital technologies at their destination answered the question about the specific applications they used. This question was designed as a multiple-choice question

and 146 responses were received from 89 respondents. Most users indicated that they primarily use Google Maps (86.8%). The second most used website is TripAdvisor, used by 50.5% of the respondents. The most popular destination applications are therefore general applications that most respondents already have on their mobile devices and there is no need to install new ones. This shows that local applications which were developed for a specific destination, are not popular or are not sufficiently distributed. One of the main reasons for this is the lack of sustainability of investment in the development of a new application. This is due to strong competition and global applications that have a large market and influence on consumer awareness.

“Do you feel that, by using digital technologies, you have saved money during your stay?” For this question, as with the previous one, the percentage of those who answered positively is similar to those who have not. However, more than half of respondents, 55.1%, believe they saved money during their stay at their destination, and slightly fewer, 44.9%, believe they did not. From these results, it can be concluded that digital technologies certainly help when making the right choice, but this does not necessarily mean at the best price. Taking into account that the tourists’ motivation and consumption may change during their stay in the destination compared to the pre-trip planning, digital technologies may promote higher consumption as they allow finding some lesser-known attractions and new tourist facilities.

To the question “Would you choose a holiday destination again?”, the majority of participants answered positively (93.5%), while the remaining 6.5% or 7% answered negatively. This conclusion confirms the hypothesis that digital technologies have helped tourists choose the ideal holiday destination to which they would also like to return. These results show how modern digital technologies perfectly connect offer and demand at a distance, which is one of the peculiarities of the tourist market and business in tourism.

## **5. CONCLUSIVE REMARKS AND FURTHER RESEARCH**

Based on the results of the survey, digital technologies are widely used when booking accommodation. Most of the participants use some form of digital technology for their destination selection. This confirms the direct influence of digital technologies on destination choice and the decision to travel. Research has confirmed that booking sites are very helpful in choosing a destination. Reviews left by other users have also been found to be very useful in choosing desired accommodation, and 64% of respondents have chosen their accommodation for this very reason. Based on the above, it is possible to confirm the first hypothesis and conclude that tourism consumption is related to the use and availability of digital technologies.

Only 17% of participants asserted that they do not use digital technologies in connection to restaurants or other tourism services at the destination itself. When justifying their response, no one indicated that digital technologies were not available at the destination, although this response was offered. Respondents did not use digital technologies primarily because they were not in the habit of using them. Most respondents who used digital technologies used Google Maps (87%) because of its popularity. None of the respondents used local applications of the destination itself. The second hypothesis can be confirmed. It states that digital technologies were available and widely used in all destinations visited by the respondents.

Moreover, the revenue and attendance of establishments that can be found on the Internet will increase, as 83% of respondents use digital technologies to find the desired establishment. The



presence of the destination on the Internet facilitates the potential tourist's access to the remote market in a way that allows a brief inspection of the destination before the visit. In this way, tourists are satisfied with the accommodation they found and the destination they chose. 93.5% of them said that they would visit this destination again. It can be concluded that digital technologies have had a direct impact on the influx of guests to a particular destination, making it easier to book and visit all the destination's facilities. Thus, the impact on tourism consumption in a particular destination is directly related to the use of digital technologies.

The researched topic of the importance of digital technologies on tourism consumption behaviour is a crucial area of academic and professional research in tourism and business. This is only the first phase, which confirms the importance of digital technologies in increasing tourists' spending and consumers' willingness to participate in research. Such a positive attitude will lead to high-quality results that will contribute to the overall positive impact of tourism on economic development.

In order to continue the research, further questions should be posed. Considering the importance of tourism, it is necessary to include foreign tourists in the research by inbound markets due to the characteristics and different power in tourism spending, as well as different traditional and marketing activities. It would be interesting to conduct a detailed analysis on individual consumer groups and segments, to include tourism management in the research, i.e., to extend the research to the tourism industry, and the area of Adriatic and continental Croatia. In conclusion, digital technologies are an indispensable element for the development and promotion of the overall competitiveness of the destination, the region, and the economy. Digital technologies have a great impact on the shaping and intensity of tourism consumption and in the future, this impact will be even greater due to new forms of hardware (new devices and products) and software (new applications, social media, artificial intelligence).

## REFERENCES

- Benckendorff, P. J., Sheldon, P. J., & Fesenmaier, D. R. (2014). *Tourism information technology*. CABI.
- Buhalis, D. (2003). *eTourism: Information technology for strategic tourism management*. Prentice Hall.
- Cosma, S., Bota, M., Tutunea, M. (2012). Study about customer preferences in using online tourism products. *Economics and Finance*, 3 (2012), 883 – 888.
- EUROSTAT database, <https://ec.europa.eu/eurostat/web/tourism/data/database>
- Gossling, S. (2017). Tourism, information technologies and sustainability: an exploratory review. *Journal of Sustainable Tourism*, 25(7), 1024–1041 <https://doi.org/10.1080/09669582.2015.1122017>
- Gossling, S., & Hall, C. M. (2019). Sharing versus collaborative economy: how to align ICT developments and the SDGs in tourism? *Journal of Sustainable Tourism*, 27(1), 74–96. <https://doi.org/10.1080/09669582.2018.1560455>
- Law, R., Leung, D., & Chan, I. C. C. (2019). Progression and development of information and communication technology research in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 32(2), 511–534. <https://doi.org/10.1108/IJCHM-07-2018-0586>
- Law, R., Qi, S., & Buhalis, D. (2010). Progress in tourism management: A review of website evaluation in tourism research. *Tourism Management*, 31(3), 297–313. <https://doi.org/10.1016/j.tourman.2009.11.007>

- Leung, D., Law, R., Van Hoof, H., & Buhalis, D. (2013). Social media in tourism and hospitality: A literature review. *Journal of Travel & Tourism Marketing*, 30(1-2), 3–22.
- Leung, X. Y., Xue, L., & Bai, B. (2015). Internet marketing research in hospitality and tourism: a review and journal preferences. *International Journal of Contemporary Hospitality Management*, 27(7), 1556–1572. <https://doi.org/10.1108/IJCHM-05-2014-0268>
- Majedd S., Zhou, Z, Lu, C, Ramkisson, H. (2020). Online Tourism Information and Tourist Behavior: A Structural Equation Modeling Analysis Based on a Self-Administered Survey. *Front. Psychol.*, 2020. <https://doi.org/10.3389/fpsyg.2020.00599>
- Marušić, Z., Čorak, S., Beroš, I., Ambrušec, M. (2019). Stavovi i potrošnja turista u Hrvatskoj Tomas Hrvatska 2019, Insitut za turizam, 1-268.
- Mihajlović, I. (2013). Dinamika utjecaja novih trendova u turizmu primjenom ICT-a i posljedice transformacijskih procesa na poslovanje turističkih agencija. *Poslovna izvrsnost*, 7(1), 45-71.
- Nagle, D. S., & Vidon, E. S. (2020). Purchasing protection: outdoor companies and the authentication of technology use in nature-based tourism. *Journal of Sustainable Tourism*, 1–17. <https://doi.org/10.1080/09669582.2020.1828432>
- Padurean, A.-M., Schiopu, A., Nica, A., Tala, M. L. (2016). The influence of new technologies on tourism consumption behavior of the millennials. *Amfiteatru Economic* 18, 829-846.
- Stefan Gössling (2021) Tourism, technology and ICT: a critical review of affordances and concessions, *Journal of Sustainable Tourism*, 29:5, 733-750, DOI:10.1080/09669582.2021.1873353
- Ukpabi, D., & Karjaluoto, H. (2017). Consumers' acceptance of information and communications technology in tourism: A review. *Telematics and Informatics*, 34 (5), 618–644. <https://doi.org/10.1016/j.tele.2016.12.002>
- UN (2020). The Sustainable Development Goals Report 2020. Available at: <https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf> Accessed 2 November 2020.
- WEF (World Economic Forum) (2019). The travel & tourism competitiveness report 2019 Geneva: World Economic Forum.
- Werthner, H., & Klein, S. (1999). *Information Technology and Tourism - A Challenging Relationship*. Springer.
- World Economic Forum database, <https://reports.weforum.org/travel-and-tourism-competitiveness-report-2019/country-profiles>
- WTTC database, <https://Research/Economic-Impact>
- Zeng, B., Gerritsen, R. (2014). What do we know about social media in tourism? A review. *Tourism Management Perspectives*, 10 (2014), 27–36. <https://doi.org/10.1016/j.tmp.2014.01.001>