



DIGITALIZATION OR ICT IN TOURISM

Slavoljub M. Vujovic

Institute of Economics, Belgrade, Serbia

©MESTE

JEL Category: O3, O31, O32, O33, Z3, Z32.

Abstract

The research presented in the paper is theoretical, focused on analyzing and clarifying the role and importance of using information technology for tourism development as an economic activity. It also seeks to point out that the use of the term "digitalization of tourism" (or digitization of business in the tourism economy) is unnecessary. Research is not focused on information technology as a new discipline, but on the practical use of technologies to process and transfer data and information, technologies for communications, to enable faster flow of capital and services, and so on. The special purpose of the research is the analysis of the benefits of the use of information and communication technologies from the aspect of the providers of tourism supply, carriers of tourist demand and intermediary factors. The work is part of the research on the project "Development and application of new and traditional technologies in the production of competitive food products with added value for the domestic and world markets - Let's create wealth from the wealth of Serbia" (MPNTR RS, No. 046001).

Keywords: *tourism development, information technology, tourism digitalization.*

1 INTRODUCTION

When it comes to economics and tourism, the increasing use of vague (unnecessary) terms or concepts in scientific research and writing the scientific paper.

Specifically, quite vague terms are used in tourism such as: "creative tourism, digitization of tourism, green tourism, dark tourism, ecotourism, equestrian tourism, rural tourism, children, youth, etc."?

Based on previous research into similar problems in tourism and discussions with experienced researchers, what causes this phenomenon, a unique conclusion is uncritical retrieval of terms

from foreign authors, then, the consequences of translation, ignorance, etc.!

However, here the focus is specifically on the notion of "digitization", which is unnecessary when it comes to tourism, that is, the tourism economy.

Based on the literature focused on the application and importance of information technology in economics and management, there is no need to introduce the term "digitization" when the more concrete and clearer term is application information technology in tourism (Shanker, 2008 and Mihajlovic, 2015).

The expansion of the use of modern information and communication technologies (ICT) or "digitalization" in all walks of life is increasingly intense, so this is one of the reasons for the use of the term digitalization in the literature related to tourism research, and therefore connection, also appears here in the paper.

Address of the author

Slavoljub Vujović

kelovic1967@yahoo.com

The term information-communication technology means a wide range of technologies - the Internet, GPS, wireless, digital radio, mobile phone applications, digital cameras and the like. (Turban, Mclean, & Wetherbe, 2003).

Of the many definitions of IT as relevant, the following "information technologies include all forms of technology that are used to create, store and share information in various forms (business data, speech, sound, images, multimedia, etc.)". (Mitic, 2019).

In the broad sense of information technology, some theorists consider the set of computer systems an organization uses (Turban, Meclean, & Wetherbe, 2003).

In order to emphasize the broader aspect of information technology through the use of communications, especially electronic, some authors refer to information and communication technologies as "technologies such as desktops and laptops, software, peripherals, and Internet connectivity devices designed for information processing and communication" (Mitic, 2019).

In tourism and economy, the application of ICT brings a number of benefits for different participants or entities, while the paper explains the application of information technology or digitization in light of the interests of tourism demand factors and tourism supply factors.

From a broader point of view, when it comes to digitization in tourism, two approaches to the analysis of the benefits of digitization are indispensable: the digitization of processes or activities on the part of the driving factors of tourism (demand factors) and the digitization of processes on the side of the providers of tourism supply.

However, it should be noted that in addition to the interests of the two groups of factors (supply-side and demand-side factors), there are other parties or stakeholder groups interested in introducing and implementing new information and communication technologies, where factors deserve special attention. of the environment.

Some, well-known authors in the world, link the fate of tourism development in the future to the natural environment and humanity, stating: "Tourism has a future only if the goal of its

development is more humanity. Tourism is invented and created for man's sake, not man for tourism's sake. It is important to bring tourism back to people and thus make it more humane" (Krippendorf, 1986, 121).

The fact that certain jobs in tourism, especially on the supply side (e.g. the work of cooks), can not be replaced by an apparatus or machine, indicates the specificity of tourism in the introduction of new information and communication technologies or digitization in relation to other activities.

In a nutshell, digitization from the perspective of time and money providers should contribute to reducing costs, shortening the processing time and maximizing profits, while contributing to higher quality services at the lowest cost and in the planned time from the demand side.

Many authors (Dickson and DeSanntis, 2001; Gill, 1996; Tapscott et al., 2000) consider information technology (IT) to be a major factor in facilitating business in all sectors, while some (Dertouzos, 1997) emphasize that (IT) is a major catalyst fundamental changes in business and management processes.

In accordance with the specificities of the tourist market, the use of information and communication technologies or "digitalization" is particularly pronounced with a strong contribution to marketing activities. Thanks to the application of ICT, tourism providers have more flexibility to offer a wider range of products and services in the global market in a shorter time (Chaffey, 2009).

In addition to a number of benefits, some authors point to the importance of implementing information technology or digitizing the tourism business, in order to improve service quality and increase consumer satisfaction (Law, Leung & Buhalis 2009). The benefits of ICT are particularly visible in data processing, both in terms of time and scope, where ICTs are far more successful than human factors.

In addition to the aforementioned aspects, indispensable in analyzing the importance of ICTs or "digitalization" in tourism, factors in space or security and ecology are also very important, however, broader explanations are directed at the interests of tourism providers and holders of tourism demand, in short, factors demand and supply.

In all EU countries, information security is governed by specific laws and technical standards to achieve IS security standards within the EU (Boc, Dvorak, & Cekerevac, 2019).

2 IMPACT OF DIGITIZATION AND CAPTIVE CAPITAL ON TOURISM DEVELOPMENT

Given that the development and use of new information technologies require capital, and that financial capital is always strictly controlled by certain circles and individuals, the title "*Impact of digitization and captive capital on tourism development*" is defined.

Confirming the importance of digitalization is the focus of the United Nations World Tourism Organization (UNWTO) on the *five pillars* of development in 2018-2019: *innovation and digital transformation, investment and entrepreneurship, education and employment, travel safety and social, cultural and environmental sustainability*.

In order to adequately address new challenges and trends in tourism and improve the business environment for the sector, UNWTO paid particular attention to boosting innovation and digitization in the sector, contributing to the creation of new business opportunities, increased investment in the tourism economy, and increased competitiveness and sustainability sectors.

In the context of the application of ICT in order to increase tourism demand, that is, to increase tourism traffic and tourism revenues, it is necessary to work on animating a part of the population with increasing material wealth, to travel, to spend money visiting attractive destinations. Travel and vacation certainly contribute to better psycho-physical fitness and health, while information and communication technologies directly stimulate an increase in tourist demand, enabling potential tourists to reach information very quickly and easily.

One of the burning problems of economic and tourism development, and thus the use of ICT (digitalization) and their benefits, is captured capital.

In the context of the developmental aspects of tourism, captive capital has obstructive (negative) effects.

The importance of information and communication technologies for the development of tourism can, to a large extent, be understood thanks to the well-known economic theories: mercantilism, physiocracy, comparative advantages, Samuelson's theory, Leonti's paradox, etc., however, they cannot completely shed light on tourism with all its specificities.

It has already been pointed out that the development aspects of tourism as an economic activity can best be understood through consumption.

Through the consumption of individuals, there is an overflow of money from one country to another, or through the export of services, if viewed through the balance of payments of a particular country. It is interesting to note here that one of the world's greatest economists, A. Smith, in his famous work *Exploring the Nature and Causes of Wealth of Nations*, pointed to the importance of the individual's interests in the function of the development of the overall economic system (Adam, 1998).

From an economic point of view, it is inevitable to analyze the benefits of digitalization in the light of time and money as inevitable economic factors, directed towards consumption.

Earlier, before the advent and application of information technology, for example, in the tourism market, carriers offered their services and products using with the help of postal (PTT) services (paper offers), later by telephone and fax, which required more staff and more time (higher costs). However, the introduction of new ICTs reduces costs and time. Now the providers of service providers and service providers simply thanks to the Internet, through their own sites, offer a single offer to all potential users of the world their services and products.

Consumption is at the heart of the benefits of digitalization, that is, the development processes of tourism and overall economic development have been argued by the world's greatest economists - Smith and John Maynard Keynes.

"Adam Smith believed that goods, people and institutions were the real causes of prosperity. Therefore, he also believed that consumption was the basis for economic growth. Keynes believed that in addition to consumption, production was

also important to the economy and that in the modern economy, state intervention was necessary, which was the viewpoint and mercantilist" (Beslać, M., 2013, 31).

Economic or economic and social inequalities and the capture of capital by individuals and groups are certainly negatively affected by tourism. These inequalities and the volume of tourist trips are in reverse proportion.

It is precise because of the large-scale continued capture of capital by the minority, at the expense of the majority, in order to control capital (and thus of work and life), that these inequalities are deepening.

Today, as J-J. Rousseau, the main stumbling block of the economy, beginning from the individual to the largest corporations (e.g. Agrokor in Croatia, Port of Belgrade and Azotara Pancevo in Serbia, etc.).

The question is, did the technological and technological progress of the whole twentieth century lead to the progress and wealth of the population or, to put it better, the progress aimed at creating inequality.

There is no inequality without the state, in the sense that the state does not function as it should function, because it selectively applies the law, thus enabling individuals to make enormous riches by abusing the law and taking it from others.

The control of material wealth by the minority, through corporations and the irregular use of leverage by the state, has contributed to the current 1% of Americans in the US prosper and 99% enslave (Stiglic, 2011).

"Through the process of globalization, national economic structures are destroyed (national producers with all their specificities are either destroyed or bought and then unified under" international standards") and subjugation of the world economy to the interests of the world oligarchy and transnational capital (by sphere of activity and by origin basically American). As a rule, the contradictions between the interests of the transnational and national capital are resolved by recruiting the latter into the service of international corporations and creating a domestic comprador elite that is included in the peripheral layer of the world oligarchy (Dusanic, 2009, 29)".

Perhaps here, in order to counteract these inequalities, Malthus's theory (Malthus, 1978) holds that after a certain time of development, societies also necessarily need wars and large-scale natural disasters ?!

Economic cycles are inevitable, sometime after twenty-thirty and at most fifty years, as Kondratyev wrote (Michael, 2002). Particularly important here is Kondrat's fifth cycle, which began in the 1970s and was initiated by computer information technology. The industrial society has transformed into an information society, which has transformed the world into a global village. In this cycle, the information technology sector has become a major driver of economic growth. This cycle is said to have been completed at the beginning of the 21st Century.

Inequalities in favor of the minority at the expense of the majority diminish the travel opportunities of the majority. Inequalities as a result of corruption and crime, that is, the non-functioning of the state, are the antithesis to the overriding need and guidelines for the emergence of the state, as explained by Jean Jacques Rousseau (Rousseau, 2011) in the Social Contract! In discussing inequality, Rousseau discusses the causes that put a person in an unworthy position. In the aforementioned part, by analyzing all possible forms of government, he wants to affirm the model of society without inequality.

Controlling 85% of material wealth by 15% of the wealthy in the 1990s, the first decade of the twenty-first century changed that 10% of wealthy individuals controlled more than 85% of the wealth.

It is interesting that all of the above does not stop (but negatively affects the volume of tourist traffic) the further development of tourism, while the negatives are reflected through greater pressure on the natural environment.

Captive capital means capital excluded from creative - investment activities and consumption (factory in the hands of an incapacitated owner, money taken abroad, black population funds, time or unlimited money in various accounts, purchase of various expensive vessels without putting them into the commercial function, etc.).

3 APPLICATION OF INFORMATION TECHNOLOGY OR DIGITIZATION IN TOURISM

It has already been mentioned that the terms: digitalization, digital transformations, digital economy, digital tourism are increasingly being used in practice, which is unnecessary from the aspect of use and purpose of using information technologies.

"Tourism and Digital Transformation" was the theme of 2018 World Tourism Day celebrated on September 27 (http://wtd.unwto.org/content/world-tourism-day-2018).

The combination of digital platforms, user-generated content and feedback, social media integration, global positioning and use of big data and artificial intelligence has changed the way people perceive, consume and share information. *This is the result of successive advances in telecommunications, computers, databases, networks, the Internet, mobile and wireless technology, global positioning systems and smartphones, among others.*

Tourism, as one of the complex economic activities, is inevitably part and opposite of these changes. For tourism, public and private sector entities, ICTs provide - the necessary and very powerful tools for management, logistics, distribution, and marketing. This has led to a digital tourist who is autonomous, hyper-connected and increasingly demanding, expecting personalized customer service (https://www.iznajmljivači.hr/digitalni-turizam/, 10.03.2019).

Shifts in customer expectations and global trends are forcing the tourism sector to adapt business and operational models in the pursuit of increased customer satisfaction and operational performance. This creates opportunities for new entrants to the value chain of tourism, especially digital "hosts" such as internet travel aggregators. At the same time, private tourism platforms (the so-called sharing economy) are on the rise. In addition, the heterogeneous nature of the tourism sector extends its level of responsibility for the use of technological change and digitization to help create an economically and socially sustainable, inclusive and environmentally sound future.

(http://wtd.unwto.org/content/wtd-2018-tourism-digital-era).

All participants in the tourism market, especially employees of three groups of factors: supply factors, demand factors, and intermediary factors, obtain the necessary information through information and communication technologies using available electronic networks, primarily the Internet. Whether you want to book a hotel room in Macau, an apartment in Greece, or a campsite in the US, you will do so digitally, that is, through your computer or smartphone, and of course the internet. You will use an app or a popular website to book and pay for the tourist service you want. This is why digital tourism is actually everyday tourism, at least as far as the search, booking, and booking of tourist services is concerned (https://www.iznajmljivači.hr/digitalni-turizam/, 10.03.2019).

Personal contact between the users of the service (tourists) and the service provider during the realization or consumption of the service, as an exceptional peculiarity and specificity of the mechanisms of supply and demand in the tourist market, comes to the full in the application of information and communication technologies in tourism. "Consumption of tourist services is not digital, however. You will experience the hotel room or apartment in person, in immediate reality, and you will have such impressions accordingly. Perhaps staying in a destination will be extremely interesting, fun, relaxing, enchanting and more. You may not, and you will be disappointed with the hotel room facilities, the poor quality of the tourist offer, the lack of amenities, etc. In any case, it all depends on your subjective impression based on the experience of non-virtual reality" (https://www.iznajmljivači.hr/digitalni-tourism/10.03.2019).

In contrast to personal attendance at the realization of the service offered and personal (hedonism and epicureanism) experiences (spa pool, snow skiing, bed comfort), the experiences can be virtually based on digital technologies that allow users to experience certain services at home, in the place of residence.

There are also views in the literature that digital tourism is a segment of the tourist offer that enables interested users to digitally, remotely, without a physical presence, virtually experience

and feel artificially created values, especially values from the ancient past due to their cultural and historical interest ([https : //www.iznajmljivači.hr/digitalni-turizam/](https://www.iznajmljivači.hr/digitalni-turizam/)).

Due to the importance of information technologies and how they are applied in the business process, especially in decision-making, some authors, emphasizing the importance of business intelligence, emphasize that these business intelligence systems are "predominantly based on modern information technologies (IT) and do not depend on the field of work or level decision making" (Borovcanin, Cerovic, and Knezevic, 2017, 416).

Many tourism industry researchers place a system of information in the context of markets and communications (Macura, 2000), some emphasize a communication system, some a marketing information system (Rakic, 2003), while the essence of all of them is about the application of information technology and their importance as infrastructures providing data and information flow. Even complex systems such as the marketing system would not be able to function without the constant supply of the right information and enabled by information technology (Macura, 2000, 36).

The overall marketing system as a system of information flow between producers and consumers in order to satisfy their own desires and goals (Galogaza, 1998), is based on information and communication technologies.

Internationally renowned marketing researchers (Rakic, 2003) point out that information needs have contributed to the "development of impressive new information technologies such as computers, microfilm, cable television, photocopiers, fax machines, video recorders, CD-ROMs, the internet, etc." (Rakic, 2003, 104).

It is the definition of business intelligence that these authors distinguish as the most acceptable and comprehensive "business intelligence is: 1) system, concept, method, process and structure 2) continuous, defined and organized collection, storage, processing and access to data 3) about customers, products, financial indicators, business operations, etc. 4) for the purpose of obtaining accurate and timely information necessary for making accurate, timely, strategic,

operational and tactical decisions 5) with the aim of improving business performance" (Borovcanin et al., 2017, 417) can also be accepted as an explanation and definition of information technology.

Some authors, pointing to the importance of the dynamics of development and application of new information and communication technologies for the business of tourism industry entities, emphasize that they influence the forms of the organizational structure of large tour operators (multinational, vertically integrated companies, small specialist tour operators, etc.), (Djurasevic, 2008, 119).

The necessity of development and implementation in the tourism economy of new information technologies is confirmed by certain basic economic principles and rules: the necessity of creating new economic values, profit maximization, minimization of investments (costs), shortening of the work process, etc.

Analysis of the above concepts: application of information technology, digitalization, business systems, information systems, marketing information system, suggests that these are synonyms for the use of information and communication technologies in the business process.

Based on the analysis of the literature and the opinions of many authors on what a marketing information system is, especially its role and importance when it comes to tourism, citing only the definition of the well-known world expert Kotler "*Marketing information system is made up of people, tools and procedures that enable collection , sorting, analyzing, evaluating and distributing the necessary timely and accurate information to marketing decision-makers*" (Kotler, 2000, 169), it can be concluded that tourism digitalization is just another name for the marketing information system.

4 CONCLUSION

The role and importance of information, especially information and communication technologies for doing business in the tourism economy and developing tourism as an economic activity is direct and fundamental.

Indirectly, the importance of other new technologies is certainly important and contributes to the constant positive growth and development of tourism, however, the existing level of development, in addition to the human factor, has reached tourism thanks to information and communication technologies.

Based on the analysis of the role and importance of marketing information systems in companies, tourism, and society in general, it can be concluded that digitalization of tourism is just another name (wrong) for the application of marketing information systems in tourism.

WORKS CITED

- Adam, S. (1998). *Istraživanje prirode i uzroka bogatstva naroda*, Novi Sad: Global book.
- Beslač, M. (2013). *Međunarodna ekonomija*. Beograd: Visoka škola za poslovnu ekonomiju i preduzetništvo.
- Boc, K., Dvorak, Z., Čekerevac, Z. (2019). Security of information and communication technologies. *FBIM Transactions*, Vol. 7 No. 1 pp.29-37. DOI: 10.12709/fbim.07.07.01.04
- Chaffey, D. (2009). *E-Business and E-Commerce Management: Strategy, Implementation, and Practice*, 4th Edition, Chapter 8. Edinburgh: Pearson Education Limited.
- Dertouzos, M. (1997). *What Will Be: How the New World of information will change our lives*. San Francisco: Harper Edge.
- Dickson, G.W., DeSanctis, G. (2001). *Information technology and the future enterprise: New models for managers*. Upper Saddle River, N.J.: Prentice-Hall.
- Digital Transformation in Tourism: Evolving Travel with Technology. Preuzeto s <http://wtd.unwto.org/content/wtd-2018-tourism-digital-era> (16.09.2018).
- Digitlni turizam: povratak izgubljenih svetova. Preuzeto s <https://www.iznajmljivači.hr/digitalni-turizam/>, (10.03.2019).
- Galogaza, M. (1998). *Principi marketinga, knjiga prva*. Novi Sad: Autorsko izdanje.
- Gill, K.S. (ed.) (1996). *Information society*. London: Springer Publishing.
- Kotler, P. (2000). *Marketing management*, New Jersey: Prentice –Hall International Inc.
- Krippendorf, J. (1986). The new tourist - a turning point for leisure and travel, *Tourism Management*, 7(2), pp. 131-135.
- Law, R., Leung, R. & Buhalis, D. (2009). Information technology applications in hospitality and tourism: A review of publications from 2005 to 2007. *Journal of Travel & Tourism Marketing*, 26(5-6), pp. 599-623.
- Macura, P. (2000). *Sistem informacija promocije*. Banja Luka: Glas Srpski.
- Malthus, T.R. (1798). *An Essay on the Principle of Population*, Sixth Edition. London: Ward Lock.
- Mitić, Mirjana *Informaciono-komunikacione tehnologije*. Retrieved from <http://miticmirjana.weebly.com/> (06.09.2019).
- Michael, A. (2019). *The Kondratiev Cycle: A generational interpretation*. Dostupno na <https://www.amazon.com/dp/059521> (06.06.2019).
- Mihajlović, I. (2015). *Značaj informaciono-komunikacionih tehnologija u poslovanju turističkih i hotelijerskih preduzeća*, Beograd: Univerzitet Singidunum.
- Rakić, B. (2000). *Marketing*. Beograd: Megatrend univerzitet primenjenih nauka.
- Rousseau, J-J. (2011). *Društveni ugovor: o poreklu i osnovama nejednakosti među ljudima-rasprava o naukama i umetnosti*, Beograd: Filip Višnjić.
- Shanker, D. (2008). *ICT and Tourism: challenges and opportunities*. In *Conference of Tourism in India - Challenges Ahead* (Vol. 15, p.17).
- Stiglic, J., (10. novembar 2011). *Ideološka ostraćenost MMF-a*. *Politika*, str. 11.
- Tapscott, D., et al. (2000). *Digital capital*. Boston: Harvard Business School Press.

Tourism and the digital transformation. Retrieved from <http://wtd.unwto.org/content/wtd-2018-tourism-digital-era> (06.09.2019)

Turban, E., Meclean, E., i Wetherbe, J. (2003). *Informaciona tehnologija za menadžment-transformacija poslovanja u digitalnu ekonomiju*. Beograd: Zavod za udžbenike i nastavna sredstva.

Turizam i digitalna transformacija. Svjetski dan turizma, 27. septembra 2018. Retrieved from <http://wtd.unwto.org/content/world-tourism-day-2018>

UNWTO. 63 Sjednica Komisije za Evropu, Prag, 11-13. jun 2018. Retrieved from <http://www.mrt.gov.me/vijesti/185937/UNWTO-U-fokusu-digitalizacija-u-turizmu.html>, (20.12.2018)

UNWTO. U fokusu digitalizacija u turizmu. Retrieved from <http://www.mrt.gov.me/vijesti/185937/UNWTO-U-fokusu-digitalizacija-u-turizmu.html>, (02.10.2019).

Datum prve prijave: 09.09.2019.
Datum prijema korigovanog članka: 08.10.2019.
Datum prihvatanja članka: 11.10.2019.

Kako citirati ovaj rad? / How to cite this article?

Style – APA Sixth Edition:

Vujovic, S. M. (2019, 10 15). Digitalization or ICT in tourism. (Z. Čekerevac, Ed.) *FBIM Transactions*, 7(2), 146-153. doi:10.12709/fbim.07.07.02.16

Style – Chicago Sixteenth Edition:

Vujovic, Slavoljub M. 2019. "Digitalization or ICT in tourism." Edited by Zoran Čekerevac. *FBIM Transactions* (MESTE) 7 (2): 146-153. doi:10.12709/fbim.07.07.02.16.

Style – GOST Name Sort:

Vujovic Slavoljub M Digitalization or ICT in tourism [Journal] // *FBIM Transactions* / ed. Čekerevac Zoran. - Beograd : MESTE, 10 15, 2019. - 2 : Vol. 7. - pp. 146-153.

Style – Harvard Anglia:

Vujovic, S. M., 2019. Digitalization or ICT in tourism. *FBIM Transactions*, 15 10, 7(2), pp. 146-153.

Style – ISO 690 Numerical Reference:

Digitalization or ICT in tourism. **Vujovic, Slavoljub M.** [ed.] Zoran Čekerevac. 2, Beograd : MESTE, 10 15, 2019, *FBIM Transactions*, Vol. 7, pp. 146-153.