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**TOURISM
IN FUNCTION OF DEVELOPMENT
OF THE REPUBLIC OF SERBIA**

**Tourism product as a factor of competitiveness of
the Serbian economy and experiences of other countries**



**THEMATIC
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II**



**UNIVERSITY OF KRAGUJEVAC
FACULTY OF HOTEL MANAGEMENT
AND TOURISM IN VRNJAČKA BANJA**



DIGITAL ECONOMY AND TOURISM – A CHANCE FOR DEVELOPMENT AND RISK MANAGEMENT

Dragan Stojanović¹; Marko Krstić²;

Abstract

An increasing use of ICT has led to a development of a new area of economics i.e. new form of business activity known as digital economy. Besides the numerous areas of business where innovative technological solutions are used for communication with business partners and provision of services in completely new ways, ICT has found its way in tourism as well. When talking about tourism development, digital economy is a chance for success, as the introduction of different systems based on Web technology and ICT enhances the growth and development of macroeconomic indicators in many countries.

We need to point out the numerous advantages of ICT implementation in tourism such as easier exchange of information, simpler search and identification of adequate tour packages prepared in accordance with travelers' needs and demands, betterment of the very looks of a travel agency's web page, etc.

Still, since almost all organizations in the area of tourism operate in rather dynamic conditions, it is necessary to point out the numerous risks they face as well as ways and methods of risk management using IS and modern information technology.

Keywords: *Digital economy, tourism, risk management, information-communications technology, web technology*

JEL classification: *L86; L83; G32*

1 Dragan Stojanović, M.Sc., lecturer, Higher business school of professional studies, 8 Vlade Jovanovica Street, 16000 Leskovac, Srbija, +381 (16) 254-961, stojanovic.dragan@vpsle.edu.rs

2 Marko Krstić, M.Sc., teaching assistant, Higher business school of professional studies, 8 Vlade Jovanovica Street, 16000 Leskovac, Srbija, +381 (16) 254-961, krstic.marko@vpsle.edu.rs

Introduction

Digital economy in both developed and developing countries, through implementation of modern information-communication technology, transforms almost all areas of business operations and daily performance of numerous activities. It is exactly these changes that will bring about a different kind of availability of information, products and services to all people around the world (Kehal & Singh, 2005).

Furthermore, a dynamic business environment and a growing competition inevitably create a need to adopt and widely use modern ICT in the field of hospitality. Some of the basic advantages which entities in the field of tourism can obtain through implementation of innovation are those related to enhancement of business efficiency (reduction of costs, improvement of quality of services, increased tourist satisfaction, etc.) On the other hand, use of ICT in every day operations of tourism entities is becoming a step one must take if one is to secure a market position on the tourism market. For those tourism organizations which conduct their business operations on a global level, ICT play a vital role in determining their market position with the aim of effectively adjusting their need to the needs and requirements of potential tourists (Law et al., 2009).

Undoubtedly, use of ICT is of vital importance when it comes to further development of tourism as a branch of economy (Chulwon, 2004). With this in mind, in what follows, we will try to point out the role and benefits which the use of ICT offers to organizations in the area of tourism. We will also discuss the role of ICT for the development of tourism as well as its use for risk management as these are a frequent occurrence in the operations of tourism entities. Finally, the paper will present cases of implementation of ICT in the area of tourism in various countries.

Digital economy and the role of ICT in tourism

When it comes to the concept of digital economy which emerged in the last decade of XX century, we can say that there is no universally accepted definition and that this notion is often equated with notions such as information technology or e-commerce. However, if we direct our attention only to information technology, it is necessary to point out that this notion refers to information equipment, software and telecommunication equipment which enables constant information processing. In the case of e-commerce, we can say that this notion

includes selling of goods and provision of services over the Internet. With digital economy, we must make it clear that this notion is a combination of the two previously mentioned ones. Digital economy represents economy which is based on electronic merchandise and services produced or offered by an organization which conducts business electronically, thus enabling interaction with business partners and buyers while selling its products and services through e-commerce (Hojeghan & Esfangareh, 2011).

The role of ICT can be perceived through 5 stages (5 stages which a client goes through before deciding to buy a product or request a service). These five stages include: the need to recognize offer, information search, evaluation of alternatives, decision on buying and behavior of service providers or sellers upon completion of a sale (Law et al., 2009).

In addition, increased competition among business entities in the field of tourism and even more specific tourists' requests have led to an increased use of ICT in tourism. The role of this technology in tourism has changed over time – from the early stages of its implementation and its use for development of web pages with almost all tourism organizations (which enabled tourists to browse through online brochures) to late stages and its use for development of highly interactive systems which support reservations, search, virtual tours for a particular destination, etc. The second part of development and implementation of ICT in tourism is said to be a period of even bigger changes (innovations) where the most important thing is to enable the tourists to enjoy greater commodity as their travel arrangements get even more customized. This stage is also known for development of numerous applications which the tourists will use when travelling (Xiang et al., 2015).

How big of a role ICT will have in the area of tourism in developing countries depends on the provision of adequate environment (factors such as infrastructure, approach, education, legal framework, facilities, acceptance of new technology by the population, etc.) (Hojeghan & Esfangareh, 2011).

The role of ICT through its implementation in the field of tourism can be expressed through diversification of business activities and through the possibility of offering numerous services and information in innovative ways and via new channels, without intermediaries, even in the case of smallest of organizations. For example, local entrepreneurs in the area of

tourism can, through the implementation of ICT, secure their position on the market and with that the standard of the people working in such organizations (Rega & Inversini, 2016). Having said this, according to Stojanović, Krstić and Janjić Baduli (2016), “numerous positive development trends rank tourism as one of the most dynamic economic activities, so that tourism can be said to be an activity which, for a relatively short period of time, has become a global phenomenon and in terms of the number of participants, one of the biggest phenomena on a global scale” (p. 123).

Digital economy as a chance for development of tourism through a prism of benefits which it offers to tourism organizations

Since the number of Internet users increases every day, we first must point out the fact that web technology enables reduction of costs in relation to collecting of data on travel offers as well as the costs of bookings all the while the very communication between the provider of services in the field of tourism and the end users is significantly easier (Hojeghan & Esfangareh, 2011).

Implementation of new information technology such as Computer Reservation Systems (CRSs), Global Distribution Systems (GDSs) and Internet has led to a manifestation of numerous benefits when it comes to the work of tourism organizations but the downside is that with this implementation come numerous risks. From the aspect of tourism, we can say that the Internet is widely accepted as a new distribution channel, but also as a means of promotion and advertising. Direct approach to the tourism market enables, on one side, reduction of transaction costs and on the other side, increase of discounts for tourists. ICT provides travel agencies with a plentitude of apps which tourists can use when travelling (apps accessible on their smartphones). For example, one of the changes is the implementation of Web 2.0 technology, as well as the development of new business models for creation of client database. This enables faster and more efficient collection of data on tourist experience with certain locations they have already visited. ICT gives travel agencies an opportunity to create (on their web pages) forums where tourists can exchange feelings on their trips. Smartphones with certain apps on them enable users to control their own view of a particular service via non-stop communication with the provider of a particular service. They also enable GPS navigation, photo sharing on the Internet or posting of photos on a

travel agency's forum (the final result being increased tourist satisfaction) (Xiang et al., 2015).

Another example of ICT benefit is creation of geographic portal in Ararat which enables a more efficient linking of information and services based on Web technologies, a more effective promotion of local operations, tourism and regional events, etc. (Kehal & Singh 2005).

Examples of ICT implementation in tourism

„Smart“ tourism in China

Following the popularization of the concept of “Smart Planet” by the president of United States of America in 2009, Chinese experts suggested introduction of a concept called “Smart Tourism.” In July 2011, the director of China National Tourism Administration (CNTA), Qiwei Shao, officially launched the initiative to introduce the concept of “Smart Tourism.” Introducing a web page Beautiful China, 2014 – Year of Smart Tourism (by CNTA) in 2013, Chinese authorities laid a foundation for “Smart tourism”, turning it thus into one of the most important initiatives of Chinese tourism policy (Li et al., 2017).

“Smart” notion has been defined as a possibility of fast, flexible and precise understanding and solving of problems. This term can be equated with the term “Intelligent tourism” where the term intelligent refers to the possibility of change of state or action as a response to changes in different situations, different requests and previous experiences which means that intelligence can generate adequate result based on different needs, different states and different previous experiences. However, smart means to do the right things in different, complex circumstances. It is based on this that we can see the difference between terms “smart” and “intelligent”. The content of the term smart is broader and requires a greater amount of input data. Thus the term “intelligence” focuses on technical capacity offering a greater amount of more convenient and efficient services to the users. Besides this, intelligence can refer to experience or the result of experience. But, under such circumstances, human beings can find themselves in the state of passivity which would mean that different levels of intelligence can lead to different types of experience where users must remain intelligent to the extent which would enable them to access services via intelligent devices. On the other hand, the notion of smartness highlights the ease with which the users can

automatically receive certain and precise services by accumulating certain data using tech devices. This is why the entire process depends on the availability of technology with which it is possible to perform the integration of information i.e. data (Li et al., 2017).

There are a lot of definitions of the term “Smart tourism” where one of them points out that this notion refers to the use of the so called cloud computing, use of business networks and other technology with access to the Internet. This technology serves to obtain and collect data on tourism resources, activities in the area of tourism, etc. In that sense, tourists can get precise and reliable information in order to plan and adjust their itineraries (Li et al., 2017).

Digital economy as a chance for development of tourism in Nepal

Development of ICT in terms of use of Web 2.0 technology, smartphones and innovative applications, mobile systems, social networks and integration of business electronic systems using the Internet, has led to a drastic growth in the area of tourism. This is corroborated by numerous innovations which are implemented in this branch of economics, some of which being new ways of communication, booking of travel arrangements, booking of rooms in hotels as well as an overview of new destinations through virtual tours. Besides the numerous advantages that implementation and application of ICT brings to tourists, it is necessary to point out the numerous advantages which refer to the very tourism organizations, agencies and other business entities in the area of tourism, where they can be applied in the area of promotion, performance of business activities, reduction of costs, increase of business efficiency as well as reduction of time needed to update data and form numerous database necessary for business analysis (Shrestha & Ryul Jeong, 2016).

Whether and to what extent travel agencies use ICT will determine the quality of their media content, diversity of overviews of travel destinations, possibility of online reservations, overview of available capacity, the experience of other tourists which have already visited a particular location in a previous period. Previously mentioned will be of key importance for making the final decision on whether a potential tourist will decide to visit a particular tourist destination.

Based on a study of the case of Nepal, we can reach a conclusion that tourism as an industry has an upward trend and has enormous potential.

Still, there are numerous factors which lead to the slowing down of the development of this sector and to increase of risks where all the more attention has to be placed on their management with the aim of reducing and eliminating these risks via implementation and use of modern ICT (Shrestha & Ryul Jeong, 2016).

Some of the factors and potential risks which affect further expansion of tourism are: (Shrestha & Ryul Jeong, 2016):

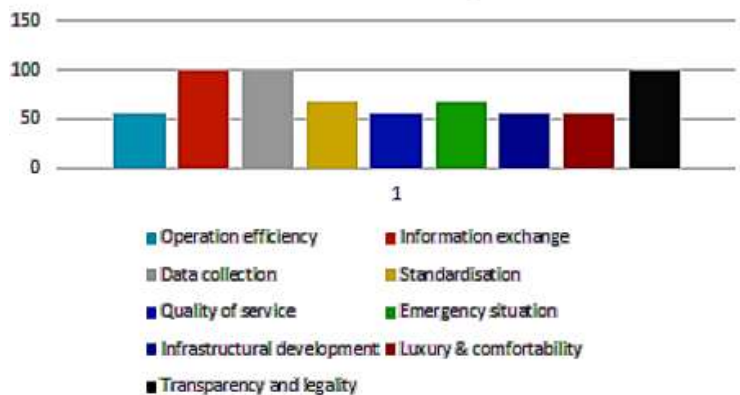
- Lack of qualified experts in the field of tourism;
- Lack of information on tourism attractions and ecological environment of Nepal;
- Inadequate quality of provided services by tourist workers;
- Lack of sufficient number of adequate travel brochures which will be presented online;
- Inadequate exchange of information between hotels, hospitality enterprises and other organizations in the field of tourism, etc.

After conducted research and in relation to the availability of information on tourist destinations, 63% of total number of respondents said that the information was not complete while 27% of them said that the available information were not clear (Shrestha & Ryul Jeong, 2016).

When it comes to the main aspect of further development of ICT in Nepal in the field of tourism, 40% of respondents have pointed out the insufficient availability of services which are provided with the help of modern ICT. Obtained data showed that the potential for their use is significantly higher for those tourism organizations which perform their operations in urban areas in contrast to those operating in rural and less developed parts of Nepal (Shrestha & Ryul Jeong, 2016).

The following figure shows the importance of implementation of ICT in the field of tourism as well as the benefits it offers within the field of digital economy:

Figure 1: *Percentage of agreement of tourists on importance of the benefits obtained with the implementation of ICT in tourism*



Source: Shrestha, D., Ryul Jeong, S., (2016). *An ICT Framework for Tourism Industry of Nepal: Prospect and Challenges*. *Journal of Internet Computing and Services (JICS)* 2016. Dec.: 17(6): 113-122., p. 117, Available at: http://www.jksii.or.kr/upload/1/1266_1.pdf, (14 April 2017).

The previous figure evidences the benefits and advantages which the implementation of ICT in the field of tourism brings. The increase in the quality of provided services and customer satisfaction, forming of database, a more efficient exchange of information between tourists, travel agencies and other tourism organizations, are only some of the examples of benefits of implementation of ICT in tourism. Figure 1 also shows that all of the respondents agreed that the implementation of ICT in the field of tourism will enable a more efficient collection of data, better communication and increase in the transparency and adherence to legal provisions in the field of tourism. About 65% of respondents agreed on the issue of the role of ICT in relation to improving the adoption and implementation of standards in connection with the provision of tourism services and in relation to the resolution of emergencies, while slightly over 50% of respondents were in accordance with the fact that ICT will lead to increased operational efficiency, higher quality of services to be provided, infrastructural development, commodities on travel booking which will ultimately result in sense of exclusivity of particular tourist destinations with tourists.

Based on the previous statements on the case of tourism in Nepal, we can say that digital economy will first and foremost, lead to improvements in marketing activities of tourism organizations via adequate innovative web

pages, overcoming insufficient exchange of information between all participants in the field of tourism and regular updating of all relevant information for tourists. It will also have a contribution to familiarization of potential tourists from other countries with tourism potential of Nepal. Based on all previously stated, it is safe to say that digital economy (through the use of ICT) in the field of tourism is a necessity for survival and further development of tourism in Nepal. (Shrestha & Ryul Jeong, 2016).

An example of implementation of ICT in the function of tourism development in Italy

With the aim of establishing links between organizations in the field of tourism in Italy with their cultural heritage, implementation of modern ICT led to a development of a system called Tourist kit. This system is a result of an initiative launched by the largest Italian organization which offers infrastructural services named Poste Italiane. Aware of ever demanding service market (result of the process of globalization), this company has developed its ICT infrastructure by expanding the scope of its services. For this reason, based on the innovative networked systems and numerous applications, company offers services related to financial transfers, travel insurance, etc. (Angeloni, 2015). Introduction of this system has enabled promotion of tourism in the city of Matera on the south of Italy. Considering the great tourism potential of this region, this system was introduced with the aim of promoting tourism destination with the final aim being that of increasing the number of foreign and domestic visitors. Benefits of implementation of tourist kit are: increased tourists' comfort during their stay (tourists are offered dynamic and personalized services through the use of numerous tools which enable the integration of various services without the need to go to a physical destination in order to pay for services, to make a reservation, perform transfers, etc.). Moreover, this system offers tourists an overview of total costs (once they select all the services they are interested in obtaining). This helps them plan their activities on their vacation in accordance with available funds. (Angeloni, 2015).

The following figure presents the very card with a chip and the benefits of its use in the Kit del Turista system.

Figure 2: Overview of system of the company Poste Italiane under the name Kit del Turista, and the benefits of its use



Source: Paybay. (2014). *Kit of tourist*. Available at: <http://www.paybay.it/wordpress/quigroup-in-partnership-with-poste-italiane-has-created-the-kit-of-tourist-2/>, (20 April 2017).

The very idea of system of Kit of tourist is envisioned so that a user first gets some materials which include a plastic card, educational material on tourism and cultural content and offered local services as well as a coupon which enables a tourist to obtain certain discounts. Reading his/her card on the entrance of a particular attraction, a tourist pays for the entrance and thus avoids paying for individual tickets which eventually results in saving money (up to 25% of price of the tickets). Moreover, the card called „Postepay NewGift Tourist Card“ is a prepaid card with microchip technology which is activated on a mobile device by sending the information on the number of the card and activation code to the operator in charge of its activation. After imputing his/her PIN when logging into the system, a tourist is able to obtain discounts in over 28000 retail objects in entire Italy, pay for his/her purchases in over 30 million shops worldwide (through electronic payment system), check balance on his/her account, withdraw cash from ATM machines (with the logo MasterCard), etc. Based on this example, we can summarize the

numerous benefits of implementation of ICT in the field of tourism which will enable further development of this sector in the following period (Angeloni, 2015).

Implementation of ICT and its role in risk management

In addition to the many benefits that the use of modern ICT provides, it is necessary to mention the numerous risks which almost all tourism organization face as well as the ways to manage such risks in the field of tourism. According to Stojanović, Krstić and Janjić Baduli (2016), “through successful implementation of the process of risk management a significant number of benefits is achieved where one of it is enhancement of the very results via making of quality decisions in relation to system management, etc” (p. 128).

When it comes to tourism areas, one of them where the use of modern ICT is an absolute must is the area of hospitality. Stojanović and Krstić (2016), mention one of such examples „the so called Smart hotel which integrates all system components, from hotel information system to central surveillance system and complete network communication“(p. 173).

Overview of room availability, booking of rooms for a particular period of time, collecting information on the frequency of guest visits and their specific requests, hotel income management and supplies management are only some of the benefits of using Computer Reservation Systems and Property Management System. In order to eliminate risks in the area of hospitality, a system of intelligent rooms is being introduced. This system manages services offered to guests through automatic regulation of air conditioning, locking of rooms and phone lines when a guest is not in his/her room, water and electricity consumption, signaling that electrical installations are faulty, setting off alarms in the case of unauthorized room entry, possibility of performing financial transactions with so called smart cards, etc. (Njeguš, 2010).

The implementation of ICT in tourism leads to a transformation of business activities of travel agencies so that they organize their operations on innovative web technologies and information systems which will enable them to successfully present their offer to interested tourists. Since tourists are offered an option of direct online reservation of tour packages, travel agencies offer additional options which mean that tourists get to

choose the type of transport they will use, accommodation, contents of their trip that a particular destination offers such as cruises, etc. (Pavlović & Spasić, 2008).

Implementation of modern ICT provides the possibility of survival on the market to even the smallest of travel agencies and an efficient management of risks which they face. Namely, agencies offer numerous online services to travelers who do not have the time or energy to visit the very agencies and there look for a package holiday. One of the examples is a small Italian travel agency which realized the importance of conducting its operations online thus enabling its costumers to make last minute online reservations. This agency bases its work on the use of Internet together with the use of Intranet system which offers additional benefits in relation to efficient communication between the employees so that they are able to answer any question online and solve all problems that their potential clients might have when browsing their web page or booking a trip (Pavlović & Spasić, 2008).

A research conducted on the outskirts of big cities in Brazil and rural areas of Malaysia inhabited by population with smaller incomes evidences the importance of digital economy in the field of tourism. Namely, small tourism organizations founded and operating in these areas have realized the importance of implementing web technology with the aim of promoting tourism and business management in relation to offering of services to the tourists. The importance of tourism development in these areas is reflected in the possibility of employing population with smaller incomes as well as the possibility to promote their natural resources. When it comes to the implementation of ICT in the field of tourism on the example of rural areas of Malaysia, it is necessary to mention some new (besides the above mentioned) benefits and chances for tourism development and certain risks that can occur and which could be overcome (in this particular case) with adequate training of employees in the field of tourism and with improvement of their language skills. Employees should go through certain training related to the use and management of reservation systems (Rega & Inversini, 2016). This is also corroborated with the suggestions that employees greatly contribute to the success of a tourism organization for which they work, so that it is very important that they possess adequate knowledge, skills and capabilities (Nieves & Segarra-Ciprés, 2015).

Besides the above mentioned possibilities that digital economy provides for the sustainable development of tourism, it is necessary to mention the role of social networks as a means of communication through which tourists can exchange experience on issues such as the quality of services, accommodation and perception of a particular tourist destination. One of the examples of organizations that have understood the importance of social networks and their role as a channel of promotion which will contribute to their further development are Marriott Hotels and Resorts, Hyatt Hotels and Resorts, etc. (International Labour Office, 2010).

With further advances in technology and introduction of new innovations in the field of e-business, we place our attention on connecting the Internet, computer hardware elements and software systems with different mobile apps which can be used on smart phones. This way, tourists will be able to book a flight, accommodation in a hotel, certain additional services using their smart phones. It is exactly these commodities that motivate all organization in the field of tourism to develop and modernize their approach on the market of tourism services by implementing modern systems of management which enable them to preserve their position on the market (this being one of the risk of doing business in the field of tourism) (Kearney et al., 2013).

Stojanović and Krstić say that (2016), „having in mind that there exist numerous risks in relation to e-business in almost all areas (tourism being no exception) and having in mind that risk cannot be avoided, every business entity should incorporate an efficient risk management system in its operation“, (p. 176).

Conclusion

Bearing in mind the numerous advantages of implementation of modern ICT in tourism organizations, it is necessary to say that in the last couple of decades, tourism has been known for continuous growth and development and digital economy has greatly contributed to this (this being the case not only in developed but in developing countries as well). Some of the advantages of implementation of ICT in the field of tourism are: reduction of costs of operations, adjusting the offer to the specific needs of the tourists, offering complete and precise information via innovative web technology and virtual overview of destinations, possibility of online reservations via apps on smart phones, etc.

Based on everything previously stated in this paper, we can conclude that when it comes to the role that the implementation of ICT has in further development of small tourism organizations, on one hand it is summed up in offering the possibility for individual and independent choice of certain content that a particular travel agency is offering (in relation to a particular destination chosen in accordance with individual preferences and financial status of a tourist) (Rega & Inversini, 2016). On the other hand, there appears a challenge and that is to develop new management systems which will, through adequate implementation of modern ICT provide competitive advantage to certain tourism organizations. Still, if one organization is to preserve this competitive advantage in the long run, it has to develop an adequate system of risk management in the field of tourism which will reduce or eliminate the risks, as presented on particular examples in this paper.

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