Digital tourism as a key factor in the development of the economy

Abstract. This article examines the impact of digital development on the tourism industry. It also considers the advantages of information technology in the promotion of e-tourism. The development of e-tourism is connected with the fact that today’s world community cannot be imagined without a variety of portable technical means. The possibilities of the Internet are attractive to potential tourists by the fact that they can, quite independently, become acquainted with the country they intend to visit, learn about sights and hotels, as well gain an impression of local living conditions. Gradually, travellers have begun to increasingly please their trust in such innovations as electronic visa and e-tickets, and indeed use them, which makes it possible to talk about the rapid development of e-tourism.

The international tourism multiplier for Kazakhstan has also been calculated ($k = 1.15$). It shows the degree of increase in the incomes of local residents with an increase in the expenditure of foreign tourists per unit.

Keywords: Tourism Industry; Digital Tourism; Information and Communication Technologies; E-Tourism

JEL Classification: L83; L86; C20

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Introduction

Technological progress and tourism have long gone hand in hand. In recent years, the use of mobile devices, such as smart phones and tablet computers, has increased notably. In an ever-changing global society, the evolution of information and communication technologies over time is a key factor in economic development. This evolution has radically transformed the global tourism industry, offering new prospects for development, especially in terms of increasing the competitiveness of the organisation. In particular, for the hospitality industry, the Internet makes a significant contribution to maximising the dissemination of information about the products and services offered. According to a Google report, in 2013, the Internet constituted the main source of information for tourists (around 80%) when planning holidays, and online sources also represented the source in which they had the highest degree of confidence. This preference is due to the fact that the Internet greatly facilitates the information process. Thus, when tourists turn to an online travel agency, 43% of them already know exactly where they will travel and what services they will choose [1, 10-13].

ICT has generated a new paradigm shift, a restructuring of the tourism industry and the development of a range of opportunities and threats; it is a powerful tool that strengthens the tourism industry’s strategy and operations being a driving force behind the tourism industry.

Theoretical framework

2.1. The relationship between tourism and ICT

Due to the World Travel and Tourism Board, tourism remains the main source of foreign exchange and a core industry for many countries [2]. Development of ICT and social media over the last decades has dramatically affected the tourist and hotel sectors as far as the accelerated connection of technologies and tourism in the recent years has led to necessary changes in the understanding of the nature of tourism and its economic output.

Efficient and high-speed ICT infrastructure and software applications in the tourism and hospitality industry are crucial to the development of tourism. ICT allows one to combine the relationship between the client and the management and supply chain into a single source that facilitates various operations: product selection, order execution, tracking, payment and reporting, which must be performed by one easy-to-use tool [3, 11-15]. ICT ultimately reduces costs, allowing the provider to be in direct contact with the consumer, and also affects employment as a consequence of the necessary maintenance of ICT equipment. Management in tourism companies uses ICT to solve a number of tasks that increase the effectiveness of employees in the workplace, in particular online reservation.

The development of ICT has also led to changes in demand and supply. The higher demand for flexible, individual options and the quality of information has introduced a personalized character to recreation and tourism as a consequence of the increased use of ICT. Thanks to new technologies and social and economic ratings (for example, social media platforms such as Facebook, Twitter, blogs), customers can share information and research assessments by purpose, quality of service in hotels and restaurants, and environmental and social conditions. The number of hotels (for example, Marriott Hotels and Resorts, Ritz Carlton Hotels, Hyatt Hotels and Resorts) has strengthened the image of its brand and communicates directly with its customers by posting links to a press release or promoting a new package via Twitter [4, 149-169]. There is no doubt that connection between tourism and ICT cannot be formed without new management methods. In recent decades, the development of ICT, and especially social networks, has been re-invented, as the tourism and hospitality industry produces, sells and delivers its proposals, and communicates both domestically and abroad [5, 3-22].

Lee and Wicks, Buhalis and Law, and Munar consider that ICT has become an invaluable business tool widely employed in the travel and tourism sector [6, 102-114; 7, 609-623; 8, 101-120; 9, 409-421].

2.2. E-tourism in the world

E-commerce is defined as the activity of selling and marketing products and services through an electronic system, such as, for example, the Internet. It includes electronic data transmission, distribution management, electronic marketing (online marketing), online transactions, electronic data changes; automatic inventory of the management systems used and automated data collection. Electronic tourism (e-tourism) is part of e-commerce and combines one of the fastest development technologies, such as telecommunications and information technology, the hospitality industry and management / marketing / strategic planning.

Specific activities in e-tourism necessitate tour operators, travel agencies and other organisations that have an interest in the field of tourism in the virtual space through a specialised portal. The phenomenon itself has consequences for tourists as well as for tour operators and travel agents.

Electronic tourism for the consumer includes the following aspects: electronic information, e-bookings (hotels, transport, etc.) and electronic payment.

E-tourism is primarily based on the dissemination of information, but the main goal is direct selling, and the elimination of physical and temporary barriers to e-commerce technologies. For example, in the hotel business, we can talk about...
booking methods using functional booking systems, as well as about real-time reservation systems. The potential of direct selling is huge, as based on a number of advantages for tourism providers such as automation, elimination of travel agency commissions, reduction of booking costs through online booking to traditional methods, whilst at the same time increasing reservation volume due to new methods of internet access (PDA, mobile phones, etc.) (Figure 1).

Whilst there are many advantages of e-tourism, there are several disadvantages, such as the tension between the growing demand for personalized services, individual needs and interests, and the lack of willingness of consumers to produce such information on the Internet; the choice of many clients to perform complex transactions in a «face to face» environment (for example, large agencies located in commercial areas); possibility of dismissal of travel agent.

3. The Kazakhstan tourism industry: An overview

In the annual Addresses of the Head of the State, in particular, «Kazakhstan's way - 2050: common aim, common interests, common future» (Address of the President of the Republic of Kazakhstan N. Nazarbayev to the nation, 2014), «Nyrly Zhol - The Path to the Future» (Address of the President of the Republic of Kazakhstan N. Nazarbayev to the nation, Nyrly Zhol - The Path to the Future, 2014) and the State program of industrial innovative development for 2015-2019 (State program of industrial innovative development of the Republic of Kazakhstan, 2014), as a part of the concept of the development of the national economy, the development of the tourism industry is seen as a priority. Without effective use of tourist-recreation and other potentials in the different regions of Kazakhstan, it will be impossible to turn tourism into a profitable branch of the economy [11; 12; 13].

According to the Tourism and Travel Competitiveness Report of the World Economic Forum in the rating of 2015, Kazakhstan is ranked 85th out of 141 countries, and has advanced by only three positions since 2013 [14, 38]. Spain, France and Germany are currently in leading positions in this ranking; the top ten also include the United States, Great Britain, Switzerland, Austria, Italy, Japan and Canada. According to WEF data, the BRICS countries are also in the upper half of the rating; China ranks 17th, Brazil is 28th, Russia is 45th, South Africa is 50th and India is 52nd.

Let us designate the main indicators of tourism development in Kazakhstan for the period 2009-2014; in 2012, the GDP generated in the sector made up KZT 3.047 million, and the gross added value created directly in tourism was KZT 415.1 billion, or 1.4% of Kazakhstan’s GDP, which is quite a low indicator. For comparison, the contribution from the tourism sector to Turkey’s GDP reached 10.9%, compared to 14.3% for the UAE, for instance. In 2012, about 886,500 people (10% of the employed population of Kazakhstan) were employed in tourism industries in the Republic of Kazakhstan [15].

The issue of the need to create a tourism industry in Kazakhstan was raised a long time ago. However, unlike the highly developed countries of the West, tourism in Kazakhstan, as well as in Russia and other CIS countries, is still not perceived as a fully-fledged branch of the sphere of serving social and cultural needs and this is currently the subject of scientific analysis. In general, the concept of «tourism» here is still associated with sports and health, and not with the economy that generates significant revenue, and primarily in hard currency. In fact, tourism in the republic exists more de facto than de jure. Of course, one can refer to the shortage, above all, of the necessary means, and hence proper information, about the tourist-recreational opportunities for Kazakhstan abroad. However, the main reason here is the absence of real, not «on paper», government support for tourism [16, 129-137].

It is sufficient to consider the dynamics in terms of the number of inbound and outbound tourists (Table 1). Based on Table 1, it can be concluded that the main proportion of tourism is outbound tourism, where the CIS countries, both in terms of entry and exit tourism, occupy a leading position - 91% in 2016. According to the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan in 2016, the majority of tourists were outbound, at 60%, whilst the share of inbound tourism amounted to 40% (Figure 2). The CIS countries most visited by Kazakhstani tourists in 2013 were as follows:

| Tab. 1: Number of tourists for outbound and inbound tourism, million people |
|---------------------------------|--------|--------|--------|
|                                 | 2014   | 2015   | 2016   |
| Total number of tourists        | 16 782 | 17 731 | 16 263 |
| Outbound tourism, among them:   | 10 459 | 11 301 | 9 755  |
| - CIS countries                 | 9 375  | 10 395 | 8 959  |
| - %                             | 89.7   | 91.6   | 91.8   |
| - Outside the CIS               | 1 075  | 946    | 796    |
| Inbound tourism, among them:    | 6 333  | 6 430  | 6 508  |
| - CIS countries                 | 5 655  | 5 835  | 5 935  |
| - %                             | 89.3   | 90.7   | 91.2   |
| - Outside the CIS               | 677    | 595    | 573    |
| - %                             | 10.7   | 9.3    | 8.8    |

Source: Compiled by the authors based on [15]

![Fig. 1: Advantages of e-tourism](source)

| Advantages of e-tourism: |
|-------------------------|
| - this is the most effective way to communicate with target markets and disseminate information; |
| - represents a quick and easy way for consumers to purchase tourist packages; |
| - provides an opportunity to improve services for consumers; |
| - enhances preservation of individual consumer feedback in terms of promoting tourism products; |
| - reduces costs and improves the efficiency of internal functionality and purchase; |
| - encourages cooperation between traditional competitors by providing hypertext links. |

| Advantages for tourists: |
|-------------------------|
| - access to various tourism products without restrictions on location; |
| - the ability to easily buy various tourist products and obtain their prices; |
| - the opportunity to purchase personalized travel products; |
| - the ability to easily communicate with travel service providers. |

| Advantages of e-tourism for e-tour operators: |
|-------------------------|
| - reducing costs; |
| - distribution (low cost); |
| - promotion (printed materials, brochures); |
| - connection and reservation; |
| - billing; |
| - contact with potential customers at any time and anywhere in the world; |
| - better understanding and knowledge of customer needs; |
| - more competitive business environment; |
| - higher profit. |
Kyrgyzstan - 28.8%;
The Russian Federation - 47.3%;
Uzbekistan - 14.7%;
other countries - 9.2%.

The countries outside the CIS most visited by Kazakhstani tourists in 2013 were as follows:
• China - 27.3%;
• Turkey and Iran - 26.5%;
• Developed countries - 16.8%;
• other countries - 29.4%, etc.

Since 2008, Kazakhstans have shown increasing interest in the following countries: Thailand, the Netherlands, Austria, Malaysia, South Korea, the Czech Republic, India, and others. A downward trend has been observed in tourism in Egypt, Israel, the USA, Tunisia, Greece, Latvia, etc.

According to the statistics by the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan, Kazakhstan, which has a rich tourist potential, accounts for less than 1% of the world tourist arrivals.

At present, the republic is a donor of the world tourist market. For example, Kazakhstans spend USD 1.8 billion, including tourist, business and other trips; that is, they export abroad, and buy imported tourist products.

The experience of foreign countries shows that it is possible to achieve competitiveness in the global tourism market by developing new forms of economic integration between the state, the tourist business and the population of the country [17, 589-597]. Therefore, the formation and creation of favourable conditions for the effective operation of tourist clusters is one of the priorities of the state tourism policy of Kazakhstan.

In 2016, the total contribution of the tourism industry to GDP in Kazakhstan was 6.2%. In this indicator, Kazakhstan ranks 129th among the countries of the world (Figure 3):

For three years, the amount of revenue generated by tourism decreased by 22.21%, and by the end of 2016, the direct contribution of the tourism industry to the GDP of Kazakhstan had declined to USD 7.9 billion (Figure 4).

Analysis of incoming tourist flows to Kazakhstan shows that the republic remains insufficiently attractive to foreign tourists. Kazakhstan ranks 101st in the world in export of tourism services (Figure 5).

Proceeding from the above, the main problems hampering the development of the tourism industry in Kazakhstan include:
• the disunity of participants in the tourism market;
• insufficiently developed regulatory and legal frameworks;
• unacceptably high prices for accommodation with a fairly low level of development of the tourist infrastructure;
• the continuing fears of potential tourists for their own safety;
• weak development in the tourist centres in terms of the leisure and entertainment infrastructure;
• poor awareness of potential tourists;
• the lack of a unified policy of the representatives of the tourist industry and the republic authorities to promote the regional tourist product;
• a shortage of highly qualified personnel, both at the tourism industry enterprises, and in the regional system of public management of the tourism industry.

ICT has allowed for the creation of business links between regions, cultures and various business sectors. However, in many parts of the world, there is no access to these technologies; it is especially true in the least developed countries. Inequality arising from such issues is called the digital divide. This reflects the economic and social inequalities between two regions or two groups, etc. Therefore, it is becoming increasingly important for developing countries with a digital divide to integrate and participate effectively in the new information society. If this fails, it could leave them on the periphery in e-tourism, which can exclude them from numerous opportunities, innovations and opportunities. National and regional e-tourism strategies should be developed in developing countries with adequate research, taking into account the broad framework of ICT development.
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strategies. The practice of e-tourism strategies varies from country to country, and the exchange of ideas can help developing countries adopt new strategies. It can offer new solutions to overcoming the challenges and barriers to the introduction of ICT to the industry at various levels, such as business and business levels for consumers, etc.

4. Methodological framework

As established earlier, the income derived from foreign tourists act as incomes of national producers of goods and services. However, part of the money from such visitors can be spent on purchasing imported goods and thus will be lost to the national economy (Figure 6). Therefore, in order to determine the net economic effect of foreign visitors, it is necessary to deduct the amount of imports from the payment for goods and services consumed by foreign tourists, and the amount of imported products purchased by local enterprises for subsequent sale to newcomers.

\[
\text{Multiplier of international tourism} = \frac{\text{increase in incomes of local residents}}{\text{initial expenses of foreign tourists per unit}}. \quad (1)
\]

To measure the final effect, the following notation must be known:

\[
\Delta \ln E = \frac{E(1 - P_{\text{im}})}{1 - P_n} \quad \text{for an infinitely decreasing geometric progression},
\]

\[
k = \frac{1}{1 - P_n} = \frac{1}{P_{\text{im}}},
\]

where \(\Delta \ln E\) is the anticipated income, \(k\) is the multiplier of international tourism, \(P_{\text{im}}\) is the propensity to purchase domestic products, \(P_n\) is the number of cycles of multiplicative expansion, and \(E\) is the initial expenses of foreign tourists in the country of temporary stay.

The multiplier of international tourism takes the form:

\[
\Delta \ln E = E + \frac{E}{P_n} + \frac{E}{P_n^2} + \frac{E}{P_n^3} + \ldots + \frac{E}{P_n^n}.
\]

In the third cycle, the balance of funds circulating within the national economy will decrease in the same way and amount to: \(2 P_n E\); in the fourth - \(3 P_n E\), etc. The total increase in the income of local residents as a result of expenditures made by foreign tourists will give the anticipated income.

5. Empirical results

The application of this method in practice demonstrates the wide possibilities for its use in investment design, especially in conditions of uncertainty and increased risk. This method is convenient for practical application in that it successfully correlates with other economic-statistical methods, as well as with game theory. In addition, it gives more optimistic estimates in comparison with other methods.
First, the basic statistical indicators of the Republic of Kazakhstan should be determined (Table 2).

As indicated in Table 2, import in KZT:

\[ \text{Income in the state budget of the Republic of Kazakhstan (KZT million)} = 18,030.7 \times 320 = 5,769,824.0 \text{ KZT million (2015)}; \]
\[ \text{Import (USD million)} = 18,030.7 \times 22.566 = 255,666 \text{ KZT million (2016)}; \]

The multiplier of international tourism, \( P_m \), should be found:

\[ P_m = \frac{M}{\Delta Y}, \tag{6} \]

where \( P_m \) is the ultimate propensity to import, \( \Delta M \) is the change in the volume of imports, and \( \Delta Y \) is the change in the volume of national income in the previous period.

The multiplier of international tourism is thus:

\[ \kappa = \frac{1}{1.451 488.0 / 1.673 600.3} = 1.15. \tag{7} \]

Some authors define this indicator as a multiplier of costs or revenues when the economic variable is the aggregate regional product or income, which is determined by the gross expenditure of travellers on the acquisition of goods and services [19, 130].

6. Conclusion

International tourism is an extremely dynamically growing phenomenon in modern practice. Active movements of people within the framework of tourist flows have differences in terms of their direction and impact on the receiving regions. The economic system is inherently cyclical, where the flow of expenditure and income are usually repeated.

Accordingly, the multiplier should demonstrate how the incomes of local residents will change as a result of expenditure by foreign tourists in the country of their temporary stay. The initial increase in the amount of expenditure by the tourist causes a chain reaction, which, passing to each subsequent cycle, ultimately fades out, but as a result stimulates a multiple change in income in the period. The proposed multiplier of international tourism shows the degree of increase in the incomes of local residents with an increase in the expenditure of foreign tourists per unit.

If the digital divide is overcome, many developing countries would be able to distribute their products, increase their client base and form trade partnerships. E-tourism would allow interested parties in the field of tourism worldwide to access information. This can increase sales and revenues in local economies. The imbalance between competing destinations in global markets can also fall within the framework of tourism. Developing countries should be more aggressive in understanding the implications of ICT developments in the tourism industry. Policy makers should participate in this process so that planning and implementation become more effective and strategic in nature. It is believed that, at present, development strategies should be an integral part of all policy planning, which also includes policy planning related to the tourism industry.

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