

# The Role of Digital Geography in the Development of Tourism and Tourist Activities

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**Abstract:** Geography and tourism are interconnected and mutually enriching areas. Tourism, as the most susceptible activity to innovations, responds to digital geography by increasing population flows, developing territories, organizing services and leads to an increase in the level of self-organization of activities. Digital technologies are actively penetrating the field of excursions and independent tourism. Mobile audio guides capture the infinite variety of urban space, help young people get involved in the process of developing audio guides, update knowledge of geography, history, culture and form the skill of digital presentation of the knowledge gained. Digital technologies contribute to the intensive development of independent tourism in places inside of the "Infrastructures oecumene". High rates of inbound tourism are registered in Iceland. Tourism in the form of a family trip by car is largely due to the arrival of digital services for accommodation and meals, car rental. In connection with the development of digital geography in the sphere of tourism, new areas of research are taking shape. The main aim of the study is to investigate the role of digital geography in the development of tourism and tourist activities and attempt to draw some practical and innovative conclusion since the tourism industry has been one of the most lucrative industries over the last decades. In this study, methods of analysis and synthesis of scientific literature, data from a review of audio tours of Perm on the izi.TRAVEL platform, and official tourism statistics from Iceland were utilized to fulfil the aim of the study.

**Keywords:** Digital geography, tourism, independent travel, excursion, mobile audio guide.

## INTRODUCTION

Geography and tourism are interconnected categories. The first concept is from the sphere of the area, education and informing, the second one is from the sphere of human practical activities, economy and entrepreneurship. The connectivity level of these concepts cannot be overvalued. Geography is the basis of tourism. Tourism is the expression of geography. In tourism the geographical knowledge is demanded, because tourism is inherently geographic and cartographic (Rubtzov, Rozhko, Gabdrakhmanov, Pratchenko and Trofimov 2015). In touristic product and touristic route, the geography is included in the core activities technology.

Geography provides tourism with information about countries and territories, resources and environmental conditions, as well as the necessary information for the development of touristic routes. Geographic analysis is a prerequisite for spatial tourism and recreational planning, determining the directions of development of places and regions (Gaisin & Biktimirov, 2014). Tourism and recreational enterprises and infrastructure are particularly geographically defined, fit into the

territory and certain landscapes. The value of enterprises and facilities is largely determined by the value of the geographical environment (Amin AND Trift 2017).

## METHODOLOGY

In this research, methods of analysis and synthesis of scientific literature, data from a review of audio tours of Perm on the izi.TRAVEL platform, created for the period 2016-2020, and official tourism statistics from Iceland were applied. General approaches have been tested during the study.

## LITERATURE VERIEW

Tourism is one of the areas of practical interest for people, where the importance of geography is taken into account. In this sense, tourism has always contributed to the growth of public interest in geographical information, the development of geographical sciences and the system of geographical education. At the present time, tourism has given an explosive boost to people's interest in geography together with information technologies (Prayitno, Matsushima, Jeong AND Kobayashi 2014); Kulu and Washbrook, 2014; Liu & Yamauchi, 2014). According to Y.N. Golubchikov (Golubchikov & Klimenko, 2015), a lot of people turned into geographers overnight,

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defining and videotaping their whereabouts, geolocation, and presenting the features of this site as a value. Mass daily use of geo-tools and geodata as a new process in society gets defined by the term "people's geography".

In fact, tourism has become one of the main reasons for the coming of "digital geography". What does "digital geography" mean? It is probably too early to define it. If "national geography" is a concept associated with the mass hobby of photography, then "digital geography" is a scientific concept that includes many topics. Now this should rather be taken as the motto of our sphere, indicating the coming of a new geography era, the deployment of its new capabilities. Let's try to understand the essence of the emerging and actualizing digital geography by looking at modern processes in tourism (Bunakov, Zaitseva, Larionova, Zhukov, VMorozova and Dmitrieva 2018).

Digital geography brings new things to our sphere, and tourism responds quickly to everything new. Since geography is included in the basics of tourism technologies, tourism quickly discovers and uses new geographical opportunities in methods and tools, acquires new knowledge, as well as develops skills and abilities. The tourism sector is one of the most susceptible to all kinds of innovations. All its components are the most changeable over time (Bunakov *et al.*, 2018; Zinovyeva *et al.*, 2018), so it can also be considered as a determinant, tuning fork, litmus test of a new scientific process under the conventional name "digital geography" (Shabalina, Rubtsov and Pratchenko 2014).

It seems that practical tourism should be particularly responsive to digital geography. Let's take a specific example of new relevant trends. They might be related to digital geography. The first example will be related to the introduction of digital technologies in the field of excursion tourism. The tour is one of the most traditional and popular tourist services (Zeinelhoxha and Zeinelhoxha 2020). While traveling, the tour performs a special mission quickly and meaningfully introduces guests to the region's features: its geography and history, natural and cultural monuments, the biography of notable people, and the traditions of native people. As a service, the tour responds primarily to the spiritual, cognitive and aesthetic needs of any person. It can rightly be called the "soul of tourism", because the tour helps to "voice" the landscape, and the guide acts as the "voice of the place". At the same time, we can see how digital

services in the shape of audio guides are actively being included in excursion tourism instead of a live guide (Zinovyeva, Bautista and Tregubova 2018).

Mobile audio guides are one of the ways to create a hospitable tourist environment (Safaryan and Firsova, 2018). An audio guide is a phonogram that is used for independent acquaintance with the Museum's exposition, exhibition, and local area, as well as a device for playing it: a device, an app, including a mobile one. As a rule, an audio guide consists of several audio fragments. The fragments are numbered and linked to the map of the area being examined or to the numbers of exhibits (Radygina and Okhrimenko 2020). If an audio guide offers a coherent and complete story from fragments, it is also called an audio tour. According to the type of technological basis, audio guides based on standard mobile devices, such as iPhone or Android smartphones and tablets, available for download in the App Store and Google Play—mobile audio guides are particularly in demand. Audio guides that use geolocation technologies, which automatically determine the position of the listener or the object they are interested in, and reproduce the necessary fragment, have a great perspective. Mobile audio guides allow people to travel independently and get the most detailed information that you can always read back, share in social networks, and leave feedback (Rubtsov, Rozhko, Gabdrakhmanov, Pratchenko and Trofimov 2015).

For developers, this product is not as commercial as advertising and is an image tool that positions the company as an expert in digital marketing of territories. For example, *izi.travel* it provides content for the user for free, but the global impact and popularity of the mobile app allows you to catch the advertisers' attention and create additional services. The other mobile app *Guide4Me* is free, but the content inside *Guide4Me* is for a fee and this is the key to competing audio tours between each other inside this app. The track that received the most downloads goes up in the ranking of many audio guides around the city. More tourists choose an interesting, well-developed guide, and the number of downloads raises it in the rating, makes it recognizable and one of the most sold. Let's look at these mobile GPS audio guides in more detail (Zyryanov 2018).

## RESULTS

*izi.TRAVEL* is a universal app for iPhone and iPad from the "travel" category. It was launched in 2011 in

the Netherlands and aims to give all travelers a new way to feel closer to the historical and cultural heritage of humanity by creating a global, open and free system for all the stories of the world. History refers to facts and stories that are necessary to understand the intent of a work or the meaning of an event. The call to create storytelling-style content is the core of the mobile app's editorial policy: "we believe that every piece of art or landmark hides untold stories" (<https://izi.travel/ru>).

Another task for developers is to create a service based on it izi.TRAVEL a platform that brings together creators of multimedia guides from all over the world and millions of travelers to remain a free platform, to improve technologically and to update. In this sense, they stimulate the development of "folk geography" in the form of independent travel and intellectual creativity. As a result, the authors-developers manage to attract professionals (guides, journalists, art historians) and the general public (students, schoolchildren) to create audio guides. Creating your own audio guide on the platform izi.TRAVEL is a clear and practical result of a local history project, course work or grant activity. The site has detailed step-by-step instructions on how to create a route. Today izi.TRAVEL is worldwide covering more than 2000 cities with audio tracks, including 7000 street tours and 2000 museum tours. More than 100 countries are represented on the platform, audio guides are available in 50 languages and the tour database is constantly updated. The site provides step-by-step instructions on how to create your own tour, choose a theme, determine the display objects, their position on the map, upload an audio track, photo, and text. For tourists the audio guide is also convenient: on the ground, it plots a route through a number of attractions, each of which is dedicated to an information module, a map application and a selection of photos. You can use the app online or download all the necessary routes before your trip. Another application that allows you to get a full interactive tour is Guide4Me, which was created by developers from Ukraine in 2012-2013. The main place in the app is the directory of guides. All guides are audio tracks downloaded to a smartphone and interactive content that sounds and is shown to the user as they walk around the city and get closer to specific objects of architecture and urban infrastructure. Content inside Guide4Me is paid, the cost of one audio guide is about \$ 2. The guide includes voice comments on the walk, a set of high-quality photos, content is linked to the location, the guide does not overtake the speed of your movement around the city and tells you what you are currently seeing in front of your eyes. The

app is open to all creators of their own walks, if you have good pictures of the city, have made a route and are able to tell us about it in an interesting way, you can master the technology. The created guide is pre-moderated. Joint moderation of the application with the participation of both platform administrators and ordinary users of Guide4Me allows you to quickly and inexpensively improve the quality of content. Obviously, to create a high-quality audio guide, the developer needs to have geographical skills and knowledge, including:

- skills to determine geolocation and work with the map when developing a route; the route should be ergonomic, built in accordance with the theme of the walk, take into account the value of the surrounding landscape and not include repeated and lengthy transitions from one attraction to another;
- the skill of describing a geographical object (rivers, mountains, forests, groves, cities and its layout);
- knowledge of the local names of geographical objects (microtoponics);
- the ability to notice the conditionality and orderliness of the location of geographical objects on the surface of the earth, to see causal relationships of various phenomena.

The key of storytelling is very important. It lies in the ability of not only to provide information, but also to evoke emotion, to present the most valuable information about objects, which in the mind of the listener will be "packed" into capacious and memorable images. It is necessary to do this in a simple way.

It is appropriate to use such rhetorical figures as an emotional beginning, aphorisms, a rhetorical question, understatement and an "open ending".

Geographic knowledge and storytelling skills will make the audio guide look informative, dynamic, dialogical, and will help to hold attention and form the image of the author as a "living guide". Probably these qualities become the most important when choosing an audio guide.

Mobile audio guides can be a tool to identify the boundaries of the historical and cultural core of the city, to determine dystopias and marginal places, which suddenly turned out to be a tourist attraction

They help to identify “faceless territories”, monotonous, depressive places, poorly included in socio-cultural processes. Why is it necessary to identify this? To manage the development of the “gold-bearing environment of the city”, that means the territory that attracts visitors and residents to develop potentially attractive territories or less touristic places (Leskova, 2010).

The modern-day city is a very complex formation, urban sprawl and urbanization of social life cancel the idea of cities as separate spatial entities or certain geocultural images (Amin & Trift, 2017). A mobile application with city audioguides captures information about the endless diversity of urban space. Audioguides broadcast the image of a city that has been formed in national culture, as many of them are based on literary works or movies. Audioguides can provide travel ideas for a travel journalist and a cultural geographer, a tour guide and a tour operator, and just an individual tourist. It is especially valuable that teenagers and youth become the creators of digital tour products by getting involved in this game with the urban space, create “their own route”, master and “appropriate” the city, and form a valuable attitude to their place of life.

Our theories are confirmed by a brief review of Perm's audio tours on the izi.TRAVEL platform, created during 2016-2020. In 2016, about 17 audio guides were presented here, and 11 of them were recorded by professional guides. There they generalized the practice of thematic historical and cultural excursions: “Perm Arbat”, “Diaghilev Theater Square”, “Famous Perm Germans”, “Osinskaya Street”, “The Artist and the City”, “Perm Lexicon”, “Pasternak in Perm”, “The Road to the Temple”, “Oh, Cinema! (Perm cinemas)”, “Mystical Perm”, “Architect Turchevich -Permian modernist style phenomenon” (Firsova, 2016). In April 2019, 108 audio guides were already available, 92 of them were classic, 16 were in the form of a quest. The creators of most tours are groups of high school students or individual school student and university students.

There are professional tracks recorded as part of the implementation of grant projects, they are distinguished by better content, include detailed photographs and music. In addition to traditional excursion topics (historical, architectural, art history, literary), the gastronomic field (6 audio guides) and the natural theme (7 audio guides) are well represented, 18 tours were created along the outskirts of the city. There

are excursions based on films and urban folklore, street art and public art objects, modern industrial companies and places related to repressions and even “criminal” places. As an example of a separate city, we see that the creation of a mobile audio guide is a modern way of interacting with the urban space, which is based on an interest in geography, culture and a desire to master information technology.

We will consider the changes in the tourism structure of the territory under the influence of digital geography using the example of Iceland, where there has been a sharp increase in visits to the country over the past few years. It is so fast that the schedule of international tourist arrivals is called the “Icelandic geyser”. Here are the official tourism statistics of Iceland, which is exemplarily organized (Tourism in Iceland in figures, 2018). The share of tourism in foreign exchange earnings from the export of goods and services from 2013 to 2017 increased from 26.4% to 42.0%. Tourism has become the most profitable export industry. The average annual growth rate of tourist arrivals since 2010 makes 24.3%. The total number of foreign visitors in 2017 was about 2.2 million. If we have a look to total expenses made by foreign tourists, one third go for housing and meals, 10% go for vehicle rental. This indirectly indicates predominant independent tourism in the country. The average time spent from July 2017 to June 2018 was 6.5 nights.

When respondents were asked to comment on what prompted them to think about coming to Iceland, the Icelandic nature was most often mentioned (92.4%), followed by the desire to try something new (81.9%). They also confirmed that Iceland was the place they have always wanted to visit (80.0%).

The motives, which are also important, are interest in the Northern region (74.1%), safe travel (63.8%), Icelanders and Icelandic culture (54.1%), recommendations to visit Iceland made by friends, relatives or colleagues (54.0%), coverage on the Internet, Icelandic media (53.3%), movies or television shows showing Icelandic landscapes (39.4%). Statistics (Tourism in Iceland in figures, 2018) indicate a relatively smooth schedule of tourist flow by the seasons of the year and a relatively even visits to all areas of the country, and within them zones provided by roads.

The Icelandic example is interesting because the country is located in the polar regions. It is not a

"beach" country and does not stand out for a large number of sunny days. It is quite remote from other countries; it stands out for its goods and services high prices. There are other limiting tourist factors. However, if we compare the number of foreign tourists with the population, Iceland is many times larger than most touristic Mediterranean countries. We see a strong interest in new territories, in places on the borders of the infrastructural oecumene, interest in the North, unusual natural phenomena and landscapes. It is easy to feel the growing popularity of independent car trips in all seasons of the year in nature-attractive, with well-established tourist information. Relatively short trips are preferred. It should be borne in mind that there are the best opportunities for organizing a full-fledged circular automobile route for independent travel in Iceland. The route on the Icelandic highway No. 1 is the most logical landscape "ring".

It turned out to be very suitable for self-organized tours by car and the sharply increased flow along this path reflects the reaction of tourism to the new digital possibilities of booking, navigation, communication, and information. This reaction of the international tourist movement was reflected in the rapid development of the relevant service: the growth of offers for accommodation, meals and car rental.

What changes might happen in the tourist sphere due to the digital geography? What opportunities may open up in tourism science and practice? The system of scientific knowledge about tourism can develop in the following areas. Research topics related to specific types of tourism, which are particularly responsive to digital opportunities: excursion tourism, independent tourism, family tourism, car tourism, event tourism, are becoming relevant (Zyryanov & Zyryanova, 2015).

The topics of travel motivation, minimizing the costs of organizing travel, combining recreational and labor activities reducing the duration of tours are being updated. The importance of topics related to safety in tourism is increasing. The relevance of the issues of the territorial organization of tourism, fractional zoning, marketing of a place and tourist information is growing (Zyryanov, 2018). With the era of digital geography, we can associate hopes for the areal development of tourism, for the realization of the tourism resource potential of peripheral and depressed territories, for the tourist development of rural and forest areas, mountain and northern territories. In a period of hesitations about the need of a geographical education for modern-day professions, the development of digital geography,

especially in a way that everyone can easily understand proving the universal need to improve geographical culture. On one hand, the use of maps in smartphones does not greatly improve, even in some way fetters a person's spatial thinking and does not develop his natural personal abilities for geographical analysis. On the other hand, mass applications such as Google Maps, Yandex Maps, Maps.me increases the interest of users in descriptions and comparisons of places through communication on the platform through reviews, photos and ratings of tourist sites.

## DISCUSSION

Digital geography is manifested in various practical fields and especially in tourism practice. It contributes to the development of society as a whole and creates other conditions for people's lives. Thanks to digital services, any user gets the opportunity to get used to the model of a geographical object, reproduce it on any scale and fill it with their content. Universal arming with digital cameras and navigation equipment also stimulates interest in tourism, terrain, landscape, population, regional studies. Digital geography and tourism involve the widest sections of the population in the cognitive process of the region. A comprehensive analysis of these processes, problems and prospects is needed.

## CONCLUSION

We should be aware of the changing attitude towards geographic map in modern tourism. The mass use turns to single-layered, generalized electronic maps to solve common tourist problems in determining the path of movement, the tourist position and service objects in relation to the route and user, etc. The electronic cartographic bases used for this, far departed from the traditional general geographic map, i.e. from that beautiful, romantic and scientific phenomenon, which was the source of spatial analysis and synthesis, giving inspiration to theorists and practitioners of geography. Road cartographic fundamentals permeated the mentality of developers of tourist offers. The utilitarianism of cartographic approaches in tourism leads to simplification, and even to a certain primitivization of the use of geographical information. Maps usually received by consumers at tourist information centers are road maps of the territory with photos of tourist sites.

Apparently, in modern tourism, the search is still necessary for incorporating into the everyday

cartographic use those valuable components of the traditional geographical map, which the consumer is largely deprived of. Nevertheless, open maps with constant self-development and updating of content motivate people to improve their geographical culture.

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