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**EXTENSION AND RISKS OF DEVELOPMENT OF SOCIAL AND  
TECHNICAL NETWORKS IN TOURISM**

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*Abstract*

The article focuses on the impact of the social and technical networks on tourism development in the Baikal region. The authors distinguish between the following accommodation booking systems: local, regional, national, international, and meta web search engines. The authors found differences in the extension of social and technical networks between the areas of intensive tourism development, resort tourism and developing tourism. The article studies social, economic and ecological risks caused by social and technical networks. These risks are difficult to predict due to a great number of intermediaries, but they should be taken into account. The research is based on materials of field studies (interviews, observation) in Khuzhir, Listvyanka, Kurumkan, Bolshoe Goloustnoe, Severobaikalsk, Goryachinsk, Arshan in 2016, 2017, and tourist websites. The following effects of social and technical networks development in a tourist region have been found: growing popularity of tourist attractions, unequal distribution of tourist flows in large, middle-size or small accommodation places, local differences when choosing booking systems depending on spatial distribution of information resources. Among the economic risks there are problems with refunds in case of dissatisfaction with the accommodation facilities on a side of tourists, and the cancellations of the booking on a side of the hostel owners. Social risks include exacerbation of any comments in the social networks that lead to development of xenophobic attitudes. Ecological risks include degradation of the most popular in social networks tourist destinations.)

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**Keywords:** Social and technical networks, risks, online booking systems, Baikal region, tourist websites.



## 1. Introduction

Development of information technologies and globalization processes complicate human communication. Research on the nature and density of human communication is interdisciplinary. Therefore, current tourism development is a research object of different disciplines.

According to Buhalis and Low (2008), information and communication technology is one of the most powerful factors of tourism development. The first online booking system was created in the 1970s. In the 1980s, the global distribution systems were developed. In the 1990s, online booking systems became a part and parcel of the tourism industry.

Information technologies contributed to a new type of tourists who choose destinations and form service packages on their own. Besides, they obtain information from tourist companies or other tourists (e.g., when reading tourist reviews and comments). According to M. McHugh, Instagram tourism is a part of global changes caused by social networks and applications. Yelp is helpful in finding places to eat (Urness, 2016), and Waze shows directions through streets to Uber and LYFT drivers (Novak, 2017).

The researchers note that social and technical networks have replaced human agents (Latour, 2005). For example, people can book hotel rooms online. Besides personal relations which are analyzed by supporters of the network approach, virtual communities are also important for analysis as tourists take into account opinions of friends and strangers who participate in rating formation for tourist attractions (Elzen, Enserink, & Smit, 1996).

## 2. Problem Statement

Studies on social and technical networks involve new elements which arrange social interaction and spatial relations (e.g., mobile communication) (Dneprovskaya, Shevtsova, Byaskalanova, & Lutoev 2016; Thompson & Cupples 2008).

Development of information systems and new types of communication influence tourism development in different parts of the world, and the Baikal region is no exception. While the studies of tourism development are usually focused on the positive and negative outcomes of the tourist industry in general, the impact of social and technical networks remains understudied. Meanwhile the Internet search and online booking systems significantly change the existing tourist flows.

A few studies elsewhere have attracted attention to the risks caused by the influence of the social and technical networks on the tourism development. In particular, **ecological risks** can be observed using the example of the Oneonta Gorge, Oregon, USA which is located near the Columbia river. This place became popular owing to Instagram and was at the top of many online tourist attractions lists. A view of the gorge attracted a large number of tourists from the USA which caused irremediable damage to riverside plants, water pollution and mass death of fish (Novak, 2017).

**Economic risks** are caused by consumers of tourist services and tourist companies.

**Social risks** are caused by a large number of agents who influence social and technical networks in an unpredictable way. It is believed that Internet can replace touristic agents: people can book rooms in hotel websites. Besides, tourists trust ratings and rely on opinions of their friends and strangers who write reviews of touristic attractions. For example, through the touristic website TripAdvisor W. Battler moved

a nonexistent restaurant to the first place in the London restaurant rating (according to TripAdvisor) by means of positive reviews written by Battler himself and his friends (Wiseman, 2017).

All these examples illustrate importance of the problem of understanding the multifaceted impact of the social and technical networks.

### **3. Research Questions**

Tourism is one of the promising areas of the Baikal regional economy. Rich recreation (Tulokhonov, 2009) and ethnorecreation (Evstropieva, 2013) resources contribute to its development. Poor transport availability, seasonality, a lack of qualified workers and hotels hinder tourism development in the region (Abalakov & Pankeeva, 2011).

The visa less regime introduced in 2014 contributed to tourism development in the Baikal region (Milova, Piskovets, Chernyshenko, 2017). In 2016, about two million tourists visited Baikal. In the first half of 2017, the number of foreign tourists was 39 thousand, including 23,5 thousand Chinese tourists (Bueva, 2017). In 2016, an agreement on Baikal tourist cluster development in partnership of Russian and Chinese companies was signed in Pekin. The agreement was signed by Grand Baikal, a large tourist operator of the Baikal region, and a Chinese company Chzhuntszinsin. They are going to develop a center of the world tourism in the Baikal region. Currently, the partners are dealing with technical and economic justification of the project. The plan involves development of touristic facilities and powerful infrastructure which could ensure comfort for foreign tourists.

The project also involves increase in the number of Chinese tourists up to 3-5 million people per year (Pale, 2017). In this context, two questions arise: how will the existing tourism infrastructure be transformed in the region? How will the existing ways of communication between tourists, tourism companies and local people change?

### **4. Purpose of the Study**

The research aims to study and analyze the extension of social and technical networks and the economic, social and ecological risks they carry for the development of the Baikal touristic region. In particular, the focus is on development of tourist attractions, distribution of tourist flows between large, middle-size or small accommodation places, local differences in choice of booking systems depending on spatial distribution of information resources.

### **5. Research Methods**

The research is based on a system approach, comparative analysis and synthesis, and sociological methods (interview, observation). Social and technical networks are actor networks. The nature of relations and their stability are important for the research. The role of social and technical networks in tourism development was analyzed by the examples of settlements with different levels of involvement in the tourism industry: most popular tourist destinations Khuzhir and Listvyanka; resorts Goryachinsk and Arshan; areas of developing tourism Bolshoe Goloustnoe and Severobaikalsk. The research is based on materials of field studies (interviews, observation) in Khuzhir, Listvyanka, Kurumkan, Bolshoe Goloustnoe, Severobaikalsk, Goryachinsk, Arshan in 2016, 2017, and tourist websites.

## 6. Findings

The authors distinguished the following information resources of the Baikal touristic region:

- Irkutsk oblast lacks an official tourist website. Information on tourist itineraries is presented in the tab “Tourism” in the official website of the region <http://irkobl.ru/region/turizm/routes.php>.
- The Republic of Buryatia has an official tourism information center <http://www.visitburiatia.ru/> which contains data on all touristic objects of the region and a catalogue of tourist attractions.

Online accommodation booking services available in the Baikal region can be divided into the following groups:

- meta web search engines comparing prices in international booking systems (trivago.ru, momondo.ru, roomguru.ru, etc.),
- -international booking systems (booking.com, expedia.com, ostrovok.ru, etc.),
- -Russian booking systems (101hotels.ru, hotels.ru),
- regional booking systems (fanatbaikala.ru, baikalterra.com, baikalvisa.ru, etc.),
- local booking systems (<http://www.privet-baikal.ru>, <http://v-arshane.ru>, etc.).

The article analyzes international and national scale areas with developed tourism infrastructure (Listvyanka and Khuzhir), regional scale resort areas (Goryachinsk and Arshan) and areas with underdeveloped tourism infrastructure (Bolshoe Goloustnoe, Severobaikalsk, Ust-Kut).

**Listvyanka and Khuzhir** are the most popular destinations for Russian and foreign tourists. Several hotels and hostels are registered in the international English language system Expedia.com where large accommodation facilities (hotels, hostels designed for more than 100 guests) are present in a variety of existing booking systems, have their own websites and use tourist agency services. According to the data of the municipal administration, there are 39 officially registered hotels and hostels in Listvyanka. According to the data of the municipal administration, in 2015, about 144 thousand people visited Listvyanka. In 2016, the number increased to 160 thousand people. The number of tourists is calculated by the number of hotels and hostels in the settlement (a number of tourists who can be accommodated). An administration representative said that the number of tourists (especially Chinese ones) increased both in summer and in winter which is not typical of Baikal. Local people come from Irkutsk for weekends, and tourists from other cities and foreign guests stay for about a week. The number of unregistered tourists is much larger. 57 Listvyanka hotels and hostels are registered in booking.com.

According to owners of large hostels and hotels, the total number of tourists increased by 20-30 %. A seasonality factor is not so significant. 30% of tourists buy package tours, 50% of tourists book rooms through booking.com, other 20% of tourists arrive on the recommendation of friends and acquaintances. In 2014, the share of tourists using services of booking.com was 15-20%. In Khuzhir, there are 47 officially registered hostels and hotels. According to the authors’ observation, the daily number of tourists in Olkhon is 2500, the number of tents is 500. According to the data of the municipal entity Elantsinskoye, 638 000 people visit Olkhon during the summer season.

Middle-size hostels and guesthouses (40-100 places of accommodation) are registered in booking.com and some regional booking systems (fanatbaikala.ru) have their own websites, use services of travel agencies. However, most tourists book rooms by phone. For example, *Usadba of Nikita Bencharov* is one of the most popular accommodation places. It has its own booking website, but it is not registered in

booking.com as many guests, especially foreign ones, choose the hostel on the recommendation of acquaintances.

Small hostels and guest houses do not use services of travel agencies. They have been using such systems as booking.com since recently. Many of them are going to register but booking.com requirements stop them from doing this. Accommodation facilities designed for less than 40 guests also use Russian and regional booking systems, but owners say that in hot seasons most tourists (old clients and their acquaintances) book rooms by phone. At the same time, owners say that the number of tourists booking rooms via booking.com is increasing.

In general, the number of clients of middle-size and small hostels is increasing (increasing hot season lasts from early spring to late autumn, increasing number of tourists in winter). The number of tourists who use booking.com services has increased from 15-20% in 2015 to 30-50% in 2016 and 2017. The number of foreign tourists, especially Chinese ones (language is not a barrier as foreigners use voice google translator services), has also increased.

In Khuzhir and Listvyanka, there are hotels for Chinese tourists where the staff consists of Chinese citizens. In July, about twelve 60-seat buses with Chinese tourists arrive in Listvyanka each day. From the interview with a Khuzhir hostel owner: *“The Chinese stay for maximum three days. They make photos in touristic places such as Khoboy and Burkhan, they are like the Eiffel tower in Paris, and go farther. A lot of young people who book hotel rooms through booking systems arrive”*.

For example, in winter 2016-2017, a lot of Chinese tourists moved to Olkhon island on foot not waiting for a khivus, a traditional transport means on an air cushion. Several hundreds of tourists are transported on air cushions each day. Transportation time is three minutes (Pobokova, 2017).

#### **- Resort areas**

According to a number of healing springs, the Baikal region plays an important role in Russia. A healing spring is called an “arshan” (sacred water). At present, there are about 70 thermal, 30 cold and hot carbon and 100 radon springs. Arshan and Goryachinsk are the most popular resorts located near mineral springs. They were founded in the Soviet period and have different resort facilities. People come here for weekends and holidays. In Arshan, there are a lot of houses and rooms to rent. There is a local booking website <http://v-arshane.ru>.

**In areas with underdeveloped infrastructure**, hotel and hostel rooms are booked through social networks. For example, the resort Ust-Kut has its own website, but it is not registered in online booking systems. The resort Kuchiger in Kurumkkan district of the Republic of Buryatia also has its own website, but it is not registered in booking.com.

- In areas with underdeveloped infrastructure (Bolshoe Goloustnoe), hostel owners argue that the number of tourists is increasing due to an asphalt road built in 2016. A representative of the municipal entity said that there are three officially registered hostels. According to street signs, there are 22 hostels. According to the local bodies, the number of tourists in 2016 was 20 thousand people which is by 15% more than in 2015. The number of tourists is calculated by the volume of collected garbage. In booking.com, 17 hostels are registered. According to the registration requirements, it is prohibited for hostels to charge

for booking. At the same time, many hostel owners say that the number of tourists who book rooms through booking.com is increasing.

Severobaikalsk is a distant area but it has rich recreation resources (hot springs, picturesque landscape and sandy beaches). According to the local bodies (Miroshnichenko, 2016), in 2016, 13 846 people visited the town which is by 2969 tourists more than in 2015. Among factors restricting tourism development are a lack of an asphalt or concrete road to Irkutsk oblast and high air fares. However, in summer, there are more than ten accommodation places (hostels, guest houses) which are coordinated in the local website <http://www.privet-baikal.ru>.

### **Economic risks**

Tourists who book rooms through electronic booking systems cannot refund their money in case they are not satisfied with accommodation conditions. Hostel owners also lose their money due to no-show of clients. A hostel owner in Bolshoe Goloustnoe says: *“Some people book through online booking systems and do not arrive. May be our competitors do it. They have overcrowded hostels”*. Some hostels do not want to use booking.com services because of severe requirements: if a client books a room and does not arrive, they should pay booking charges.

### **Social risks**

Easy online booking is one of the factors of tourism development in the region. On the one hand, local people have never dealt with cheat associated with booking systems. On the other hand, due to an increased number of tourists, people write negative comments in social networks. Confrontations of local people and Chinese tourists, arson of Chinese hotels and hostels are also an issue (Riabcev, 2017). Even ecological restrictions are interpreted as measures in favor of large Chinese businesses (Kryshkina, 2017). It raises xenophobic attitudes, interethnic conflicts which do not contribute to the tourism development.

### **Ecological risks**

Tour guides of Chinese tourists say that tourists want to make photos in those places when their acquaintances or participants of virtual communities did (the Chersky's stone in Listvyanka, the capes Khoboy and Burkhan in Olkhon). For example, in summer, the cape Khoboy is visited by 1,5 thousand tourists each day which causes its pollution (Latynina, 2017). The Direction of four federal natural parks “Reserved Pribaikalye” is developing a project of an ecological path restricting an access to the cape for tourists. Tour guides and hostel owners say that there are no toilets on the way to the cape which takes about 10 hours. There is an increasing number of negative reviews of certain touristic places which are in poor conditions.

## **7. Conclusion**

In general, an increasing number of tourists is closely related to the simplified visa regime for Chinese tourists and booking system development. Social and technical networks are a powerful factor of tourism development. Information technology and systems are widely used in popular tourist destinations, developed resort areas and in the areas with developing tourism infrastructures. In the areas with developed

tourism infrastructure, a number of relations through social and technical networks is larger than in developing tourism areas. It leads to aggravating uneven tourism development and attracting tourists in already popular areas to the disadvantage of less popular ones. Thus, the more the tourists arrive, the higher the probability of an increase in their number.

The development of social and technical networks carries significant ecological, social and economic risks. Among the economic risks there are problems with refunds in case of dissatisfaction with the accommodation facilities on a side of tourists, and the cancellations of the booking on a side of the hostel owners. Social risks include exacerbation of any comments in the social networks that lead to development of xenophobic attitudes. Ecological risks include degradation of the most popular in social networks tourist destinations. These risks are difficult to predict due to a great number of intermediaries, but they should be taken into account.

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## References

- Abalakov, A.D., Pankeeva, N.S. (2011). Peculiarities of tourism development in the global economic crisis. *Geography and natural resources*, 3, 111–117.
- Buhalis, D., Low, R. (2008). Progress in information technology and tourism management: 20 years on 10 years after the Internet-The state of e Tourism research. *Tourism management*, 29, 609-623. doi:10.1016/j.tourman.2008.01.005.
- Bueva, O. (2017, July 27). Over half a year more than 20 thousand tourists from China rested on Lake Baikal. Retrieved from <https://www.irk.kp.ru/daily/26710.4/3735115/>.
- Dneprovskaya, N., Shevtsova, I., Byaskalanova, T. & Lutoev, I (2016). Knowledge Management Methods in Online Course Development. Proceedings of the 15th European Conference on eLearning. *Academic Conferences and Publishing International Limited UK*, 156- 165.
- Elzen, B., Enserink, B., & Smit, W.A. (1996). Socio-Technical Networks: How a Technology Studies Approach May Help to Solve Problems Related to Technical Change. *Social Studies of Science*, 26, 95-141.
- Evstropyeva, O.V. (2013). Ethnorecreation potential of the Baikal region. *Geography and natural resources*, 1. 127–135. Retrieved from <http://www.izdatgeo.ru/pdf/gipr/2013-1/127.pdf>
- Kryshkina, L. (2017, December 11) Who destroys tourism on Lake Baikal? Open letter of tour operators. Retrieved from <http://babr24.com/baik/?IDE=168277>.
- Latynina, S. (2017, October 8). A fence from tourists will be put in Olkhon. Retrieved from <https://www.irk.ru/news/articles/20171008/trail/>.
- Latour, B. (2005). *Reassembling the social: an introduction to actor-network theory*. Oxford: Oxford University Press.
- Milova, Y.Y., Piskovets, E. L., Chernyshenko, M.S. (2017). Challenges and Opportunities for Regional Tourism Development. *Proceedings of the International Conference on Trends of Technologies and Innovations in Economic and Social Studies 2017 (on 28-30th of June)*. Part of series: AEBMR, 38, pp. 438-442. Tomsk, Tomsk Polytechnic University
- Miroshnichenko, A.A. (2016). Report of the head of the municipal entity Severobaikalsk on the results of his activities and activities of the municipal administration for 2016.
- Novak, T.A. (2017, October 15). How Instagram is destroying US nature. Retrieved from <https://apparat.cc/world/how-instagram-is-destroying-nature/>.

- Pale, S. (2017, January 20). Chinese tourism on Lake Baikal. Retrieved from <http://infozapad.ru/?p=8007>
- Pobokova, E. (2017, February 6). The Chinese seized Olkhon on Lake Baikal. Retrieved from <http://yakutia.com/tourism/1207/>.
- Riabcev, V. (2017, December 8). «Russian-Chinese conflict» on Lake Baikal. Retrieved from <http://activatica.org/blogs/view/id/4208/title/rossiysko-kitayskiy-konflikt-na-baykale>.
- Thompson L., Cupples J. (2008) Seen and not heard? Text messaging and digital sociality. *Social and Cultural Geography.*, 9, 95-108.
- Tulokhonov, A.K. (2009). *Baikal institute for rational nature management Baikal: nature and people*. Encyclopedic guide. UlanUde: BNC SD RAS.
- Urness, Z. (2016, November 6). Oregon's beauty brings record crowds ... again. Retrieved from <http://www.statesmanjournal.com/story/news/2016/11/04/oregon-crowds-loved-to-death-state-parks/93290976/>.
- Wiseman, E. (2017, December 17). The best restaurant in London? You literally can't get a table. Retrieved from <https://www.theguardian.com/lifeandstyle/2017/dec/17/the-shed-tripadvisors-best-london-restaurant-you-literally-couldnt-get-a-table>.