Actor-network relations between consumer and provider in tourism on Lake Baikal

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Abstract. The authors consider actor-network relations in the interaction of providers and consumers of tourist services in the Baikal region, where tourism is integral to environmental management and sustainable development of the territory. The paper emphasizes the need for environmental management with a due regard to all stakeholder of the consumer-provider interaction system. The research method involves application of an actor-network approach. Using this approach allows us to identify not only “live” social networkers, but also other intermediaries who are not people. Currently, consumers of tourist services do not particularly need live intermediaries; their role is performed by non human intermediaries – wires and computers. The paper examines the role of information and communication technologies, tourist databases, transport, electronic booking systems, communication tools, and social networking in this relationship. The authors highlight that the development of tourism supports the local economy, which contributes to the sustainable development of the territory, but the linkage formation between the consumer and provider of tourist services is complicated by a large number of intermediaries. Thus, it is surmised that the development of information infrastructure should be accompanied, or rather preceded, by the development of all other infrastructure elements (water supply, waste disposal and transport development). It was revealed that, the more connections and their diversity between a tourist camp and a potential tourist, the higher its stability and competitiveness, which can contribute to the sustainable development of the tourism industry in the Baikal region.

1. Introduction

Connections between people in different parts of the world are more complicated as the processes of globalization develop. Therefore, investigating the character, density and nature of these connections requires interdisciplinary research that combines social, economic and technological approaches. And the modern development of tourism is the subject of research in a number of disciplines.

Analyzing modern trends in the development of tourism D. Buhalis and R. Law emphasize in [1] that tourism is now the largest provider of employment on the planet. Infocomm technologies are one of the most powerful factors in tourism development. Computer Reservation System appeared abroad in the 1970s, Global Distribution System was formed in the 1980s, and in the 1990s the Internet...
became an integral part of the tourism business. Information technology has contributed to the formation of a new kind of tourists who choose their destinations on their own and form the package of services they would like to receive [2]. They can also receive information not only from travel companies, but also from other tourists.

2. Actor-network approach

In accordance with the actor-network approach, due to information, material and other flows [3] the existence and functioning of the network at large distances is achieved [4]. Points of intersection and redistribution of flows are called nodes, “hubs” or actants. According to B. Latour, such can be equivalently people (human) and “non-humans”, including animals, machines, wires, cables, and the natural environment [5].

Development of infrastructure as a complex of actants, that provide a connection between the tourist and destination, is given increased emphasis in the actor-network approach [6].

Increased requirements for seismicity and thermal insulation of buildings lead, for example, to the fact that building a hotel on the shores of Lake Baikal can be much more expensive than building a hotel of the same class in Turkey. The peculiarities of the environmental legislation in the Baikal territory [7], the consequences of the so-called “legal anomaly”, which affects all stages from construction to operation of facilities, also lead to increase in the cost of work.

The main feature of the approach is the shift of the research focus from previously known social and ethnic groups and regions to the study and “tracing” the formation of associations based on the construction of networks as a result of the connections formed between actants [5].

In contrast to the network approach, already rooted in social and economic research, the actor-network approach allows taking into account not only the “live” social networkers, but also the other intermediaries [8]. With the advent of the Internet, tourists do not need live intermediaries, as their role is played by non-human intermediaries - wires and computers. Thus, people can book rooms on the websites of the hotels themselves. In addition to personal connections between people, which are usually operated by supporters of the network approach, the analysis also includes participants in virtual communities, where tourists take into account the opinions of not only friends, but also other, unfamiliar persons participating in the ranking the certain destinations and writing reviews about [9].

In the network approach only the number of connections for each actor is taken into account when studying a social network [10]. In the actor-network approach the wide array of connections between the consumer and the service provider matters, or, to use the words of B. Latour, intermediary services (including wired or Wi-Fi Internet access, various sites for searching, comparing, booking, travel agencies, telephone wires, regulatory organizations, standards and regulations, etc. – as service providers). The very nature of the connections and their stability are important in this approach.

Consider the two examples:

1. Consumer (C) – mobile application – service provider (SP) – C – application online - social networks and web portals - another potential C.

2. C – Internet – search and metasearch engines – travel agency online – intermediaries’ website – intermediaries’ office – telephone/personal communication – SP – Internet – social networks and web portals – Internet – other potential C.

From the consumer’s point of view, the first case is much shorter, but in fact, the number of intermediary actants can be no less than in the second case, when the given service provider is a camp site without Internet access and not presented in mobile applications. In the first case, the actants are mostly “non-humans”, the operation of which is backed by the activities of app developers living somewhere in California, telephone companies which have installed the cell phone towers in the area, web developers of sites, which can be accessed by online apps; as well as a large amount of positive feedback left by previous tourists, which allows this particular camp site to be in the top in the search. Thus, a social and technological network with participation of people and technologies and physical objects (cell phone towers, fiber-optic cables, and powerful computer servers) has been formed.
The experts working in tourism management must have knowledge of the external environment, i.e. understand the market, main trends, competitive environment, consumers, suppliers, etc. On the other hand, it is necessary to understand the internal environment of an organization, its strengths and weaknesses associated with marketing, facility management, technology and equipment available. Their involvement in the creation of social media is reflected in the use of metaphors. It is no coincidence that a destination manager should “trace”, whether a tourist is satisfied. The tracing practice varies depending on the resources available. In the same settlement, different camp sites can be involved in the tourism industry networks to varying degrees.

Tourist attraction also depends on many subjective factors that can surpass objective ones. Travelers can be relegated to poor conditions for a unique experience. Mongolia, for example, which is experiencing a tourist boom now, has an even less developed infrastructure than the Baikal region. Tourists arriving there highly appreciate the historical and cultural attractiveness of the region, hospitality, accommodation in yurts and local cuisine, despite the fact that they are not satisfied with transport, sanitary requirements, night entertainment and safety.

3. Accommodation
The area around Lake Baikal lacks budget accommodation, while investments are mainly focused on the construction of business-class hotels. For tourists wishing to relax on Lake Baikal, basic amenities (warm flush toilets and hot showers) matter. Many camp sites and guest houses do not have amenities, as it is quite expensive and not always possible.

Tourist camps are, as a rule, small businesses that can offer only a limited number of accommodation places. Travel agencies prefer not to work with them, as tour operators can provide larger groups of tourists.

4. Transport accessibility
Information about bus and water tourist routes around Lake Baikal is poorly presented on the Internet. Using your own transport is also difficult. The world's most famous map portals (GoogleMaps, MapQuest, Yahoo!Maps, MultiMap, etc.) hold insufficient information about the region. Search engines display mostly large cities, and other settlements are presented without details. Due to lack of information, the car rental system is practically not developed in the region, although in western countries this is one of the main ways to travel.

The main source of information is tourist forums, where visitors independently post GPS tracks of routes in the best case, or just verbal descriptions with an assembly of photos. Hiking trails are not marked, except for the Great Baikal trail. Therefore, the role of “live” guides remains traditionally high.

However, in the last decade, after the adoption in 2011 of the Concept of Development of the System of Specially Protected Natural Territories (SPNT) of Federal Significance to 2020, educational tourism in the territories of reserves and national parks of the Baikal region has been actively developing. Appropriate infrastructure (visitor centers, ecological trails, camping areas, etc.) is being developed. And, what is especially important, the Internet sites of Baikal SPNT with the information of tourist routes, accommodation, transport and information services, etc. run parallel. Overall, this significantly increases the attractiveness of the territory, especially for tourists from other regions and countries, with the growing demand for eco-tourism on a global scale.

5. Electronic booking systems and communication tools
In recent years, electronic booking systems actively developed, e.g. in such systems as booking.com there are both large and small camp sites. Regional and interregional booking systems mainly offer booking of tourist services (booking tours and accommodation) in a specific region, for example, Lake Baikal, Altai, Krasnodar krai, etc.

Many camp sites and guest houses do not have wired Internet and Wi-Fi, but the development of the cellular network erases this problem. However, cellular communication may not be available
between settlements that are located at a distance of tens of kilometers from each other. Although cellular communication develops in the region, the coverage areas of different providers differ. Therefore, tourists who get accustomed to use the 4G communication system will not be able to use their online applications.

6. Social networks

The role of social media in establishing links between the tourist and the service provider can hardly be overestimated. According to [1], tourists now trust the same consumers of services as they are, rather than marketing services or travel agencies. Due to the increasing risk of fraud on the Internet, some buyers are afraid to use the services of electronic booking systems.

More attention is paid to the availability of medical and police assistance, and the traditions of hospitality in the destination. There are more settlements on Lake Baikal, focused on other types of activity, not tourism: fishing, agricultural activities and maintenance of the railway. Rare tourists staying in these villages are associated with noise and garbage. Before the introduction of environmental restrictions on economic activities, many settlements of the Irkutsk district of Irkutsk oblast, the Pribaikalskii, Barguzinskii and Severobaikalskii districts of the Republic of Buryatia were employed in the timber industry, the settlements of the Olkhonskii district of Irkutsk oblast and the Kabanski district of the Republic of Buryatia - in the agricultural and fishing industries. The city of Baikalsk, which until 2012 specialized in pulp and paper production, is also experiencing a reorientation towards the development of tourism. Therefore, many of them face a lack of experience in the field of tourism services and experience various kinds of barriers to more successful involvement in the industry. The development of tourism in these settlements requires additional contributions to change the image of tourists and the tourism industry in general.

7. Conclusions

Thus, it can be concluded that tourism is one way to develop the local economy, however, the connections between the consumer and the representative of tourism services is complicated by the presence of many intermediaries. Currently, the development of information infrastructure is also assumed, which should be accompanied, and better preceded by the development of other infrastructure elements (water supply, waste disposal and transport development). The more connections and their diversity between a tourist camp and a potential tourist, the higher its stability and competitiveness. The more intermediaries, the lower the sustainability and competitiveness.

Creation of an effective network that enables potential tourists to interact with local communities online through booking and travel planning is the most cost-effective way to increase tourist flow and local employment. And thereby this contributes to the sustainability of the development of the Baikal territory.

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References

[1] Buhalis D and Law 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(4) pp 609-23

[2] Kuklina V V, Kuklina M V, Galtaeva A L and Starkov R F 2017 Impact of social and technical networks on the tourism development (on example of the Baikal region) Bulletin of the Trans-Baikal State University 12 pp 13-22
[3] Anderson T and Dragićević S 2020 Representing Complex Evolving Spatial Networks: Geographic Network Automata ISPRS International Journal of Geo-Information 9(4) 270 doi:10.3390/ijgi9040270

[4] Smith R 2003 World city actor-networks Progress in Human Geography 27(1) pp 25-44

[5] Latour B 2005 Reassembling the Social: An Introduction to Actor-Network Theory (Oxford: Oxford University Press)

[6] Kuklina M et al 2020 Network Platform for Tourism Sector: Transformation and Interpretation of Multifaceted Data Sustainability 12 6314 doi: https://doi.org/10.3390/su12166314

[7] Bardakhanova T B 2013 Ecological and legal aspects of creation of tourist zones in the basin of Lake Baikal Economic revival of Russia 3(37) pp 125-32

[8] Curtin K M 2007 Network Analysis in Geographic Information Science: Review, Assessment, and Projections Cartography and Geographic Information Science 34(2) pp 103-11 doi:10.1559/152304007781002163

[9] Galtaeva A L, Kuklina M V, Trufanov A I and Trapeznikova D P 2018 Components of network structures of tourist activity in the Baikal region Bulletin of the Altai Academy of Economics and Law 8 pp 62-7

[10] Urazova N G, Kotelnikov N V, Kuklina M V, Kaymonova O O and Trufanov A I 2019 Application of the theory of complex networks in the analysis of tourism infrastructure Proc. Int. Conf. on Humanities and Social Sciences: Novations, Problems, Prospects pp 720-4 doi:10.2991/hssnpp-19.2019.137

[11] Yu L and Goulden M 2006 A comparative analysis of international tourists’ satisfaction in Mongolia Tourism Management 27 pp 1331-42

[12] Kuklina M V and Kuklina V V 2014 Actor-network approach to tourism industry research (on example of Lake Baikal) Fundamental Research 8(12) pp 1682-7

[13] Yaskova N Yu 2018 Construction in the context of new views on the goals of economic development. Proceedings of Universities. Investment. Construction. Real estate 8 pp 133-142 DOI: 10.21285/2227-2917-2018-1-133-142

[14] Urazova N G, Galtaeva A L, Kuklina M V and Bogdanov V N 2019 Possibilities of using complex networks in remote regions of Siberia Bulletin of the Altai Academy of Economics and Law 7(1) pp 60-5

[15] Baikal Biosphere Reserve 2020 Income accessed online on 22th October 2020 Available at: https: http://baikalzapovednik.ru/

[16] Federal State Budgetary Institution "Zapovednoe Podlemorye" 2020 Income accessed online on 22th October 2020 Available at: https://http://zapovednoe-podlemorye.ru/

[17] Kudryavtseva V A, Zaslavsky A M and Larina O P 2018 Multicriterial comparison at the inclusion of investment projects of manufacture of building materials into the state program of the region (at the example of Irkutsk region) Proceedings of Universities. Investment. Construction. Real estate 8 pp 60–72 DOI: 10.21285/2227-2917-2018-1-60-72