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Trends in the development of the tourism and hospitality industry  
through the prism of the digital economy

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**Abstract.** The article discusses the development trends of the tourism and hospitality industry through the prism of the digital economy. It is noted that digital technologies are changing the landscape of the industry, and global digitalization dictates the need to adapt all business processes and adapt to it. In 2019 the volume of online sales of tourism services exceeded 1 trillion rubles. At the same time, it is noted that there is not only the flow of buyers from offline, but also the consumption of tourist services is growing. Given that already 74% of travelers in the world are planning their trip online, we can say that the tourism and hospitality industry in the mainstream digital economy. Today, artificial intelligence has a significant impact on the industry, and this influence will only increase. It's becoming a common practice for large companies to work with Big Data technology, this allows for more accurate customer segmentation, find ways to improve the level of service at different stages of interaction with tourists, and direct investments in critical areas. Also, the use of blockchain technology, with which you can keep baggage records, check in passengers, issue travel tickets, and take into account issued visas, will improve the conditions for planning and implementing travel. And this is not only an approach to the safe storage of information, technological solutions for tourists and for the entire tourism business much more. The task of the tourist industry in the emerging environment of the digital society remains the prompt provision of high-quality, efficient services and the most customized process of interaction with travelers.

**Keywords:** digitalization; digital technologies; tourism industry; hospitality; sharing economy; tourist services

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Тенденции развития индустрии туризма и гостеприимства  
сквозь призму цифровой экономики

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**Аннотация.** В статье рассмотрены тенденции развития индустрии туризма и гостеприимства через призму цифровой экономики. Отмечено, что цифровые технологии меняют ландшафт индустрии и глобальная цифровизация диктует необходимость приспособлять все бизнес-процессы и адаптироваться к ней. Учитывая, что уже 74% путешественников в мире планируют свое путешествие онлайн, можно говорить о том, что индустрия туризма и гостеприимства в мейн-стриме цифровой экономики. Уже сегодня искусственный интеллект оказывает значительное влияние на индустрию, и это влияние будет только усиливаться. Привычной практикой для крупных компаний становится работа с технологией больших данных, это позволяет проводить более точную сегментацию клиентов, находить способы повышения уровня сервиса на разных этапах взаимодействия с туристами, направлять инвестиции в критически важные сферы. Также, улучшить условия для планирования и осуществления путешествий позволит использование блокчейн, с помощью, которой можно вести учет багажа, регистрировать пассажиров, выписывать проездные билеты, учитывать выданные визы. И это не только подход к безопасному хранению информации, технологических решений и для туристов и для всего туристического бизнеса гораздо больше. Задачей турбизнеса в формирующейся среде цифрового общества остается оперативное предоставление качественных, эффективных услуг и максимально кастомизированный процесс взаимодействия с путешественниками.

**Ключевые слова:** цифровизация, цифровые технологии, индустрия туризма, гостеприимство, шеринг экономика, туристские услуги

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**Introduction.** The global trend that sets a new paradigm for the country's development is the digital economy and modern business is increasingly moving into its plane. The exponential speed of digital technology development is changing the essence of the business

itself, dematerializing and democratizing every industry.

The global travel industry, with a turnover of 7.8 trillion US dollars per year, it is imperative to constantly adapt business processes to changing conditions in order to pro-

vide relevant and timely services to their customers. No matter how old a traveler is and on what continent he lives, digital tools and content is no longer an auxiliary, but the main means of interacting with him from the moment he started the search to the moment he returns from the trip.

**The aim of the work.** The purpose of the study is to consider digitalization trends in tourism and hospitality, to study the need for companies to adapt all business processes and adapt to new economic conditions.

**Materials and Methods.** The main source for writing this article was statistics and research results from the Russian Electronic Communications Association (RAEC), research data from the International Data Corporation and the Global Business Travel Association (GBTA), and analytic indicators from Data Insight. The article uses the conceptual provisions of a systematic approach, as well as methods of deduction, logical analysis and synthesis, methods of comparative analysis, and graphical interpretation of data.

**Research results and discussion.** A study by International Data Corporation reflects the annual increase in global digitalization costs. The rating was headed by Great Britain, South Korea and China [Rostec State Corporation, 2016].

Among the cities in the field of the digital economy, Singapore is the leader, and distributed registry technologies and factory 4.0 production complexes are being actively introduced here. As for the capital of the Russian Federation, Moscow takes the fourth position in the ranking.

Given the importance of the development of domestic and inbound tourism for our country, the key criteria in deciding on the digitalization of the tourism and hospitality industry are orientation to the preferences of potential and actual tourists. The number of foreign tourists who have shown interest in Russia has increased after visiting the World Cup. So, in the first half of 2019, according to Amadeus, there was an increase in international arrivals in Russia by 19.5%, compared with the same period in 2017 [Internet portal,

2020]. The analysis was carried out on the basis of data on booking tickets through global GDS systems.

Despite the preservation of positive dynamics after the Championship, and in general the positive impact of the sports event on the attractiveness of our country for tourists, however, the Championship held exposed the main problems of digitalization of tourism in the Russian Federation. The main drawbacks, according to tourists, were the lack of electronic visas (although the experience of using them was already quite effective in the Far East and from January 1, 2019 in Kaliningrad), the lack of a single working tourist portal of the country and cities, and the low level of service, including for due to the lack of modern technology and infrastructure development outside of tourist centers (St. Petersburg, Moscow).

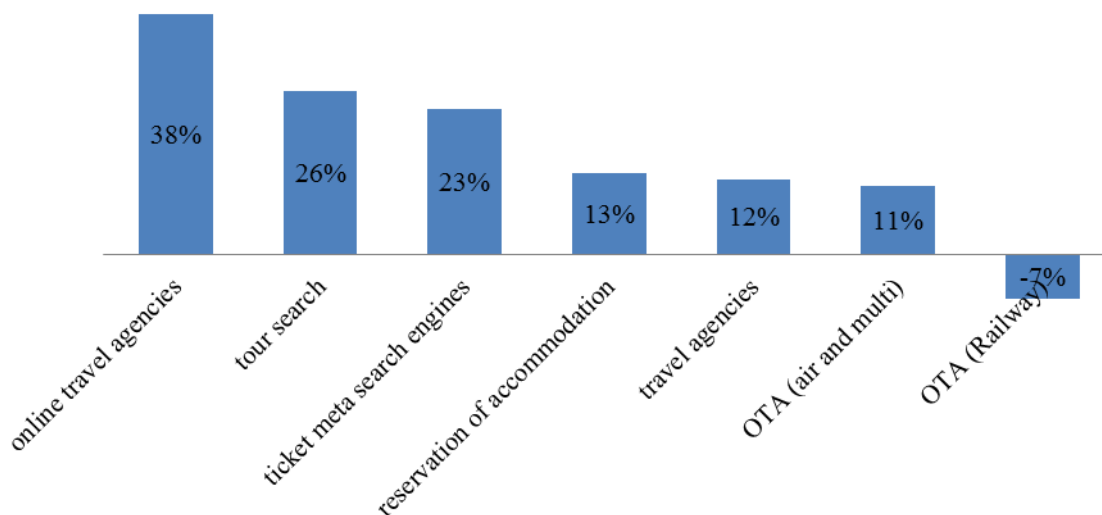
Currently, many countries are investing heavily in the digitalization of the tourism industry and some of them have already announced a course towards the development of the «Tourism 4.0» concept (for example, Turkey, Kazakhstan). The model of the digital platform «Tourism 4.0» for the industry is being developed in the Russian Federation. The basic principles laid down in «Tourism 4.0» are: ultimate automation of all links; maximum specific weight and significance of scientific research; all subsystems and links are managed by an autonomous system using the Internet of things; all stages of the tourist product life cycle are provided with functional units in the form of a single interconnected whole, regulated in the online mode by feedback flows [Bogomazova, Anoprieva, Klimova, 2019].

Given that already 74% of travelers in the world are planning their trip online, we can say that the tourism and hospitality industry in the mainstream digital economy. According to Google statistics, about 400 search queries are made during travel planning. All information is actively used by companies in order to influence the decision of the traveler. From the moment he was just thinking about the upcoming trip, started planning it, booked

services, went on a trip – at all stages, representatives of the tourism industry should provide a comprehensive set of personalized services.

According to the Data Insight study «eTravel in Russia – 2019. Statistics and Trends», in 2019 the volume of online sales of tourism services exceeded 1 trillion rubles

[eTravel in Russia, 2019]. At the same time, it is noted that there is not only the flow of buyers from offline, but also the consumption of tourist services is growing. According to the analysis of the top 50 sites, an increase in the total number of visitors in August-November 2019 was noted relative to the same period in 2018 (Fig. 1) [eTravel in Russia, 2019].



**Fig. 1. The growth in the total number of visitors in August-November 2019 compared to the same period in 2018, % (top 50 sites, excluding carriers)**

In the digital age, the ability to provide the necessary level of personalization will be determined by the level of use of mobile technologies, location technologies, Big Data technologies and artificial intelligence, the availability of cloud services, and the possibilities of using blockchain technologies. These technologies will enable tourism and hospitality companies to offer more than just a trip. In the evolution of the tourism business, this stage is called «Distribution 4.0» – the implementation of the principles of the Fourth Industrial Revolution.

Already today, artificial intelligence has a significant impact on the industry, and this influence will only increase. So, IBM refers to the «global airline», investing in the development of communication with tourists like Siri to create a personalized travel plan.

Amadeus creates model offers based on the profiles of travelers on social networks, and Hipmunk has an application with which you can talk like a living person.

A study by Booking.com shows that a third of tourists around the world prefer artificial intelligence to plan their trip, taking into account their previous requests, payment methods, expenses and other preferences. At the same time, for half of the respondents it does not matter who negotiates the trip – chat bots or people.

It's becoming a common practice for large companies to work with Big Data technology, this allows for more accurate customer segmentation, find ways to improve the level of service at different stages of interaction with tourists, and direct investments in critical areas. Also, the use of blockchain

technology, with which you can keep baggage records, check in passengers, issue travel tickets, and take into account issued visas, will improve the conditions for planning and implementing travel. And this is not only an approach to the safe storage of information, technological solutions for tourists and for the entire tourism business much more.

The distinctive features of the digital economy include the presence of personalized service models, as well as the development of a sharing economy. Based on existing points of view regarding the concept of a shared consumption economy, we can say that this is the relationship between end consumers, namely: individuals and legal entities on the use of temporarily free goods or services for a limited chronological period without transferring ownership.

The contours of a shared consumption economy are changing the familiar scientific and technological paradigm. Its feature is the interaction of subjects of economic relations based on business platforms. Platforms that allow people and companies to share their resources have already created a global market with more than \$15 billion and a growth prospect of up to \$335 billion by 2025. According to the results of 2019, the volume of transactions of online joint consumption services operating in Russia will amount to about 769.5 billion rubles, which is 50% higher than the level of the previous year. Among the main trends in the economy of joint consumption in Russia in 2019, the following were distinguished: growing an audience – developing user communities in the 40+ age group, as well as expanding geography – increasing the use of sharing services in the regions [eTravel in Russia, 2019].

One of the key principles of the sharing economy model is access to the use of resources, not to their ownership. In modern conditions it becomes economically more profitable to have access to good than to own it. And the sharing economy is also called the «trust economy», as it is based on horizontal connections, trust between strangers. Building

user trust in platforms comes to the fore and becomes an important trend.

Sharing allows you to significantly improve the quality of life of the consumer and optimize costs by offering temporary use of things whose permanent possession is unprofitable or impossible. The availability of goods and services is increasing. The concept's popularity is growing in the context of a globalized economy, increased mobility requirements, and also in the context of a fall in middle-class incomes. In addition, the new business model has been beneficial for the environment: sharing helps curb the overproduction of new products and reduce resource consumption.

A striking example that has changed the situation in the hotel services market is the Airbnb online platform, which has shown the product of disruptive work for the entire hotel business, and their growth over several years means that they know what travelers want. Service destroyed the long-established monopolies and changed the attitude towards brands. Now millions of travelers are receiving a whole new level of service worldwide, booking accommodation on Airbnb. Users have access to a huge selection for any budget constraint and for any expectations. In 2017, Airbnb entered the list of 50 most innovative companies in the world, ahead of Marriott, Expedia and IHG, taking 11th position [Klimova, Bogomazova, Anoprieva, 2019].

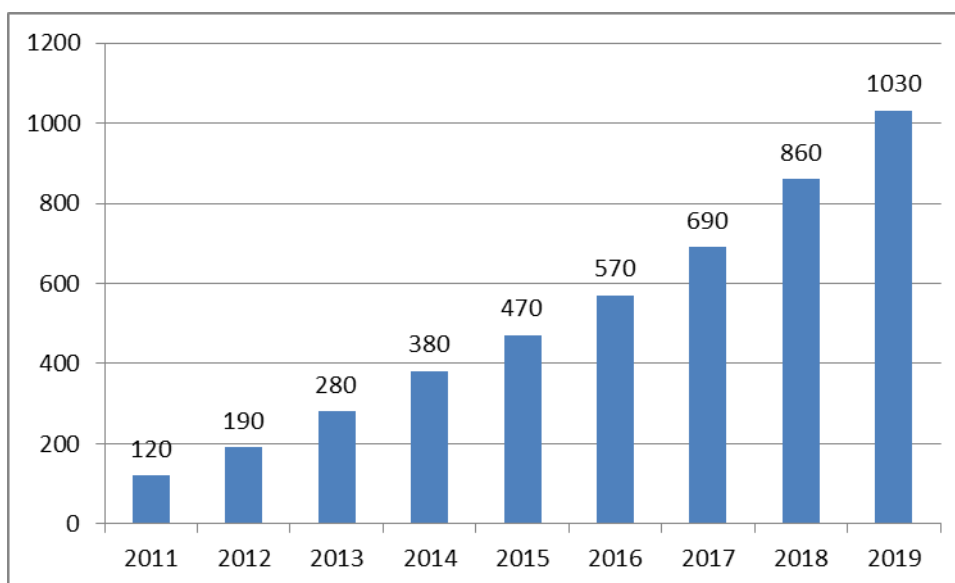
Thus, the sharing economy transforms the business into a global online platform where communities of people are created who is interested in using the resources they own. The growth in the number of users of sharing services is increasing annually, which means that the experience of joint consumption, within which the world is adapted to share, shows full readiness for a new market. And, despite a number of unresolved topical issues regarding regulation in the sharing economy, the world community is realizing the comprehensive benefits of the transition from the old way of «overconsumption» inherent in the twentieth century to joint consumption, backed up by the development of technology.

The global trend of digitalization of the travel industry indicates an imminent and global change in this market. Global digitalization dictates the need to adapt to it and adapt all business processes, so the players in the tourism services market will continue to fight for the client in the digital space. It is obvious that tour operators working in the offline office system are at risk. So far, the average Russian traveler gives work opportunities to companies that ignore the digitalization process. So, according to the Global Travelport survey, 51% of vacationers still buy tours from companies specializing in this type of service, regardless of the convenience of their digital platform [Digital tourism, 2020]. In Europe, the offices of tour operators companies are visited by no more than a third of travelers. Considering that global trends are projected and the situation of independent

booking with the help of online services will not be long in coming to the Russian market.

There are two ways to adapt the travel services market companies. The first is only available to large tour operators capable of owning hotel or airline assets in order to compete and at the same time reduce their own costs. The second way is not so large-scale and involves the transition to online and integration into global sales channels. The obvious advantage of this transition is the reduction in the dependence of tourism service providers on partners, as the online format allows direct interaction with the buyer and there is no need to share the profit.

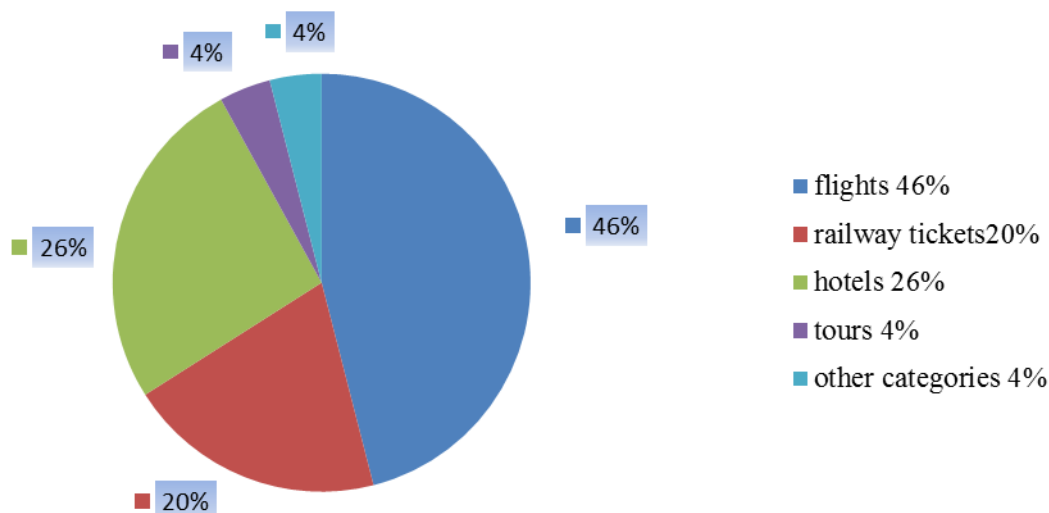
Online sales will grow in two planes: through independent tour planning and the purchase of tickets and hotels separately; by acquiring package tours online. The growth in online sales of tourism services annually is at least 20% [eTravel in Russia, 2019].



*Fig. 2. Online sales of tourist services to Russian customers, billion rubles*

The distribution of online sales by segments shows that almost half (46%) are online

airline sales, 26% were online hotel sales [eTravel in Russia, 2019].



**Fig. 3** Distribution of online sales by segments

It is worth noting that the trend of crowding out old-type companies with metasearch engines will continue, while the number of bookings from mobile devices will increase.

As a rule, everything new and progressive, along with positive trends and manifestations, is faced with certain negative consequences. Among the problems associated with the widespread development and mass adoption of digital technologies are the following:

1) a decrease in the level of security of personal data. The ideology of the digital economy is based on large amounts of information, given this fact, the system of reliable, long-term storage of information, as well as ensuring its security, comes to the fore;

2) a significant reduction in the number of jobs;

3) increasing the level of complexity of business models and interaction schemes;

4) competition in all areas of the economy;

5) a change in the behavior of producers and consumers.

**Conclusions.** Thus, the global trends and challenges of the digital economy are radically changing the landscape of the tourism and hospitality industry, radically transforming it, increasing the importance of the information component. The task of the tourist industry in the emerging environment of a digi-

tal society remains the prompt provision of high-quality, efficient services and the most customized process of interaction with travelers. In this regard, in order to ensure competitiveness in the tourism market, large companies will continue to invest in information technology projects that analyze the user's personal «portrait», his preferences in order to offer him the most personalized offer. In this context, the future of the business and the potential for its own development will be determined by the ability not only to diagnose the key changes that form the conditions of activity on the market, but also to adapt to them.

**Conflicts of Interest:** the authors have no conflict of interests to declare.

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