

DIRECTIONS FOR THE EFFECTIVE USE OF DIGITAL INNOVATIVE TECHNOLOGIES IN THE DEVELOPMENT OF TOURISM INFRASTRUCTURE

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Abstract: The digital economy is a virtual environment that complements real existence; economic production based on digital technologies; economy based on Internet technologies; new economy; web economy; economy based on the generation of new methods of information processing, storage and transmission, as well as digital computer technologies; it is not some other economy that needs to be created from scratch, but rather a transfer of the existing economy to a new system by creating new technologies, platforms and business models and introducing them into everyday life. In the article, the author analyzes the directions of effective use of digital innovative technologies in the development of tourism infrastructure.

Key words: tourism, infrastructure, economy, digital, innovation, technology, blockchain technology, cryptoasset, "National brand", web economy, computer, platform, investment, communication, tour operator, artificial intelligence, robotization, feedback.

Annotatsiya: Raqamli iqtisodiyot bu - real borliqni to'ldiruvchi virtual muhit; raqamli texnologiyalarga asoslangan iqtisodiy ishlab chiqarish; internet texnologiyalariga asoslangan iqtisodiyot; yangi iqtisodiyot; veb-iqtisodiyot; axborotlarni qayta ishlash, saqlash uzatish borasidagi yangi usullar generatsiyasiga hamda raqamli kompyuter texnologiyalariga asoslangan iqtisodiyot; noldan boshlab yaratilishi lozim bo'lgan qandaydir boshqacha iqtisodiyot emas, bu yangi texnologiyalar, platformalar va biznes modellarini yaratish va ularni kundalik hayotga joriy etish orqali mavjud iqtisodiyotni yangicha tizimga ko'chirish deganidir. Maqolada muallif Turizm infratuzilmasini rivojlantirishda raqamli innovatsion-texnologiyalardan samarali foydalanish yo'nalishlarini tahlil etgan.

Kalit so'zlar: turizm, infratuzilma, iqtisodiyot, raqamli, innovatsiya, texnologiya, blokcheyn texnologiya, kriptoaktiv, "Milliy brend", veb-iqtisodiyot, kompyuter, platforma, investitsiya, kommunikatsiya, turoperator, sun'iy aql, robotizatsiya, fidbek.

Аннотация: Цифровая экономика-это виртуальная среда, дополняющая реальный мир; экономически эффективное производство на основе цифровых технологий; экономика, основанная на интернет-технологиях; новая экономика; веб-экономика; экономика, основанная на создании новых методов обработки, хранения и передачи информации, а также цифровых компьютерных технологий; Речь идет не о создании какой-то другой экономики с нуля, а о преобразовании существующей экономики в новую систему путем создания новых технологий, платформ и бизнес-моделей и внедрения их в повседневную жизнь. В статье автор проанализировал направления эффективного использования цифровых инновационных технологий в развитии туристической инфраструктуры.

Ключевые слова: туризм, инфраструктура, экономика, цифровой, инновации, технологии, блокчейн-технологии, криптоактивы, «Национальный бренд», веб-

экономика, компьютер, платформа, инвестиции, коммуникация, туроператор, искусственный интеллект, роботизация, обратная связь.

Introduction. As a result of the reforms implemented in our republic in recent years, issues that require special attention are emerging. Similarly, in 1995, the American programmer Nicholas Negroponte introduced the term "Digital Economy". Currently, this term is used by politicians, economists, journalists, and businessmen around the world in their activities. In 2016, the World Bank presented a report on the state of the digital economy in the world to the world public and made a presentation entitled "Digital Dividends". While the term digital economy has several interpretations in the scientific literature to date, it has not yet been recorded as a single term in science. The main ones of these interpretations are:

Digital economy is a virtual environment that complements real existence; economic production based on digital technologies; economy based on Internet technologies; new economy; web economy; an economy based on the generation of new methods of information processing, storage and transmission, and digital computer technologies; it is not some other economy that needs to be created from scratch, but rather a transformation of the existing economy into a new system by creating new technologies, platforms and business models and introducing them into everyday life.

The main characteristics of the digital economy are a high level of automation, the availability of high-quality electronic document exchange, electronic integration of accounting, auditing and management systems, electronic databases, CRM (customer relationship management system), various types of corporate networks.

Its advantages include a reduction in costs for various payments (for example, travel expenses to the bank and other resources are saved), an expansion of the possibilities of bringing goods and services to the world market, having a lot of operational information about them.

In this regard, great work is being done in our republic to develop modern information and communication technologies, create an integrated system for providing electronic government services, and introduce new mechanisms for government bodies to communicate with the population. To achieve this goal, a document was adopted that provides for the implementation of the Decree of the President of the Republic of Uzbekistan "On measures to further improve the sphere of information technologies and communications" dated February 19, 2018, as well as for the development of the digital economy, the introduction of modern information technologies in the country, and ensuring information security.

As a consistent continuation of economic reforms, Resolution PQ-3832 "On measures to develop the digital economy in the Republic of Uzbekistan" and the Resolution of the Cabinet of Ministers "On additional measures to introduce and further develop the digital economy in the Republic of Uzbekistan" were adopted on August 31, 2018, which set out the goals and objectives of the digital economy. In accordance with the implementation of these resolutions and decrees, the following are indicated as the most important tasks for the further development of the digital economy:

→ to diversify investment and entrepreneurship by implementing activities in the field of crypto-asset circulation, including cryptocurrencies, smart contracts, consulting, issuance, exchange, storage, distribution, management, insurance, crowdfunding, as well as blockchain technologies;

- to train qualified personnel with practical skills in the field of production and use of blockchain technologies;
- ensure close cooperation between government agencies and business entities in the field of introducing innovative ideas, technologies and developments for the further development of the digital economy;
- comprehensive development of cooperation with international and foreign organizations in the field of crypto-assets and blockchain technologies and attraction of highly qualified foreign specialists working in the field of production;
- create a legal framework for the introduction of blockchain technologies, taking into account foreign experience.

In this regard, the appeal of the President of our country to the Senate and the Legislative Chamber of the Oliy Majlis is considered not only to the parliament, but also to citizens from all strata of our society, and the timely, high-quality and effective implementation of the tasks assigned to all sectors requires the members of our society to act as a whole.

The naming of 2020 as the “Year of Science, Enlightenment and the Development of the Digital Economy” is a timely event if we consider the beginning of the first revolutionary period in the history of Uzbekistan's development. Based on this, the tasks before us are to develop tourism and service provision and develop development directions, and to study what the main focus is on when introducing innovative technologies into tourism infrastructure. One of the main goals of our research is to identify areas that are considered important factors in achieving the competitiveness of our republic through the use of digital innovative technologies in tourism.

Analysis and results. In recent years, a number of scientific works have been carried out in our republic on the transition to a digital economy and the use of a digital economy, in which the introduction of a digital economy is interpreted and defined differently, but in each of them the focus on the consumer is central. We emphasize the appropriateness of building on these conclusions, analyze the opinions and opinions of some authors in this regard, summarize their results and briefly outline our considerations for improvement.

The formation and implementation of a digital economy in the service sector is a complex process that depends on many factors.

The digital economy is an economic activity that allows you to significantly increase the efficiency of various productions, technologies, equipment, storage, sale and delivery of goods and services based on the results of process analysis and processing of large amounts of data, and in which digital information is considered the main factor of production.

As a foreign experience in the development of platforms based on digital technologies, one can cite the Chinese company Alibaba, which has an electronic trading system. The practice of using it shows that in the process of collecting data, extremely competitive advantages are created for expansion into various sectors of the economy. Alibaba is not just a digital platform, but a modern management system consisting of an ecosystem of platforms.

From this it can be concluded that the digital economy is not a separate type of activity. In essence, it means entrepreneurship, business, industrial facilities, services. The term “digital” means the active use of innovative information technologies in all these areas. If in the traditional economy the basis of material goods is considered a resource, in the digital

economy it is information, data that is processed and transmitted. After their analysis, a solution for proper management is developed.

In Uzbekistan, the term “Digital Economy” has been used in our national legislation for recent years. How is the digital economy developing in our republic? According to the conclusions of separate researchers, Telegram bots are actively used in our country. Also, various online stores and electronic payment systems are actively developing. So, our citizens trust the implementation of electronic transactions. Only so far, users are making small transactions that do not require large expenses, and are not very ready to increase the average purchase volume. In the near future, it is necessary to support the development of large contracts and financial operations through digital technologies.

Work on this began 10-15 years ago in all developed countries, and it has already begun to be formed. We should not be left out of the process. Because we are among the countries that are rapidly entering globalization and integration with the world community.

From the above, we can conclude that the digital economy is a hybrid economy. It is possible to exist due to the development of information and communication and financial technologies, as well as the openness of the infrastructure that provides full interaction between all economic entities in the hybrid tourism and service sector - objects and subjects of the process of creation, distribution, exchange, consumption of goods and services.

The advantages of using the digital economy in the service sector are as follows:

1. The costs of purchasing tourist services are reduced (for example, booking a hotel in advance, air tickets).
2. More and faster information is obtained about tourist services (tour packages).
3. In the digital world, tourist services will have greater opportunities to enter the global market.
4. Tour routes and services will be rapidly improved due to rapid feedback (tourist opinions).
5. Service provision will be faster, better, and more convenient.

For example, a tourist, wanting to travel to a country he previously planned to visit, visits a tour operator's office. He meets with him face to face, gets acquainted with tour packages, and buys the tour package he likes for cash, which is a traditional economy. Choosing a tour package he likes through the tour operator's website, paying money to the tour operator's account through an electronic payment system, and receiving the tour package and tourist services is called a digital economy. This issue is explained by the simplest example. In fact, we will not be mistaken if we say that the digital economy in tourism began in the 1980s. The reason is that it was during these years that tour operators began to widely use systems for booking air tickets, hotels in advance and through money transfers. In fact, we are already in the digital economy, we use its conveniences, but we do not fully understand its essence.

Based on this, we believe that “The digital economy in service provision is not a process that needs to be newly developed or implemented, but rather a transformation of existing services in tourism by introducing innovative technologies into the daily lives of tourists.” An example of this is the current changes in the global tourism industry.

In this regard, it is appropriate to identify the following areas that should be given special attention, primarily in terms of continuing the work that has been started in recent years in the use of digital innovative technologies in the formation of tourism infrastructure:

A. Accelerating the use of innovative technologies in affordable accommodation facilities such as modern and branded hotels and hostels, family guest houses, as well as implementing mechanisms for providing apartments according to the AirB&B system;

B. To introduce modern technologies into transport logistics, develop a unified, safe and innovative transport logistics, taking into account complementary internal and external transport modes to increase and diversify the tourist flow;

C. To increase the efficiency of the activities of cultural heritage entities, museums, theaters, art galleries through practical information and reference books, creating a system for tourists, implementing smart tourism technologies, installing turnstiles and video surveillance systems;

D. To increase the "monetization" of tourism, primarily by establishing a flexible pricing policy for air transportation, accommodation services, organizing tourist meals, cultural and entertainment events and souvenir products;

E. It is necessary to create a republican group to study the issues of effective use of digital innovative technologies in tourism and develop draft regulatory legal acts that will allow specialists of local ministries and departments, together with experts and representatives of the tourism sector, to thoroughly study the situation and find solutions to problems that hinder the use of innovations in tourism during the year.

According to the information obtained as a result of our research, the "Tourism 2025" platform is being developed, which is considered a new direction in world tourism in terms of introducing digital innovative technologies into the economy. If the concepts of "Industry 4.0" or "Smart Factory" previously used in the industrial sector were the basis for the development of digitalization, now in many developed countries this approach is being applied to tourism, which is a service sector.

In countries with developed tourism, the "Tourism 2025" platform is already being gradually introduced into practice. Since 2018, some elements of the "Tourism 2025" platform have also been implemented in our neighboring Kazakhstan, and development directions have been determined. Turkish tourism is allocating significant funds to digital marketing, which is one of the elements of the "Tourism 2025" platform, in order to further strengthen its position in the world. The Russian Federation is also already conducting research on its "Tourism 2025" digital platform model, based on the "Industry 4.0" concept.

Based on the above, the fact that neighboring countries have begun work on creating a digital platform model "Tourism 2025" indicates that strong competition will arise in this area in the near future. We, too, need to summarize the experience of foreign countries, create elements of digitization of tourism and hospitality and our own digital platform model "Tourism 2025" in this area.

The digital platform model "Tourism 2025" operates based on elements and principles. If we dwell on the functioning of the platform, it is based on the following principles:

- maximum automation of the interaction of all departments of tourist companies, hotels and other service organizations with each other;
- maximum use of scientific research, recognizing the importance of its use for the development of the industry;
- implementation of an autonomous system for managing all subsystems and departments using the Internet;

- all stages of the product life cycle are provided with functional units in the form of a single, interconnected unit, regulated online through interaction flows.

The introduction and development of digital innovation technologies in small and medium-sized businesses in the tourism and hospitality industry depends on the financial and technological capabilities of each entity. In this regard, we can consider the following technological capabilities.

1. "Artificial intelligence" - provides the most customized result when planning a trip. The customer relationship management (CRM) system, based on information about customer preferences, offers solutions used by other travelers, significantly simplifies the organization of a vacation or trip and helps save money.

2. The main elements of the Internet service that ensure a "hassle-free" trip - flight, transfer, hotel, car booking - are widely used. By sharing information, tourists can reduce unexpected risks and time spent on various tasks, from finding parking spots to avoiding getting lost in an unfamiliar city.

3. Robotization - robots that are useful to people and can work with them are increasingly coming into life. Currently, cleaning robots have already become the most common element of household appliances. This method can significantly simplify the business of family hotels, reducing the need for staff.

4. The use of voice technology (the voice assistant "Alexa", which has begun to be used in US hotels) is effective, allows you to optimize services, minimize many processes. Thus, even small family hotels can provide customers with round-the-clock service and overcome language barriers.

5. Blockchain is a "trusted digital environment" that significantly increases the reliability of orders, reservations and payments, and can ensure the reliability and accuracy of information and services. Based on the above, it is necessary to introduce the "Tourism 2025" digital platform model in the tourism of our republic. The reason is that countries with developed tourism have already begun to develop their own models. If we do not adapt to these changes in time, we may lose out in the competition with countries in the region.

Launch of a single automated system uniting
tourism service providers

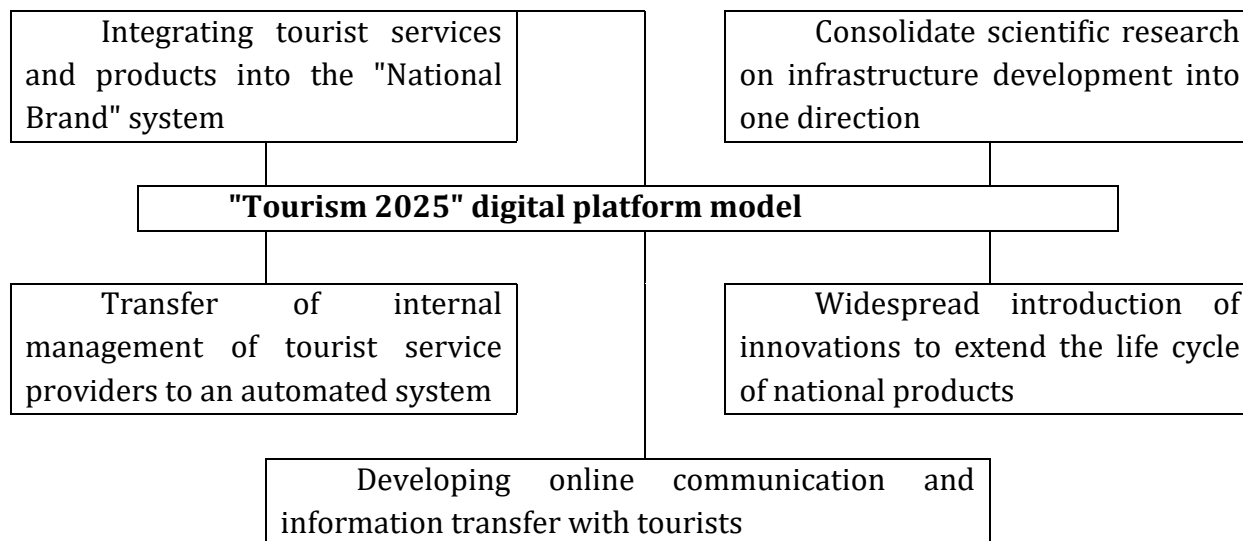


Figure 1. Elements and principles of the “Tourism 2025” digital platform model¹.

The “Tourism 2025” platform model we propose should include the following elements and principles:

- ✓ launching a single automated system uniting tourist companies, hotels (accommodation facilities), catering enterprises, transport (air, rail) service providers;
- ✓ implementing the transfer of information and advertising on the nomenclature of tourist services and tourist products through the Internet system under the “National Brand” (accelerating work on the National Brand);
- ✓ unifying the research of leading specialists in various fields in one direction in order to increase the importance of scientific research in the field (Tourism Institute);
- ✓ implementing an automated transformation of the internal management of all entities in the field, using the capabilities of information technologies;
- ✓ unifying the capabilities of service providers in terms of the widespread introduction of innovations to extend the life cycle of national tourist products;
- ✓ consists of constantly monitoring online communication with tourists and improving additional information transmission technologies.

Conclusion. It should not be overlooked that we can see a number of works being carried out in our republic in recent years. For example, the State Enterprise “National PR Center” under the State Committee for Tourism Development is developing the online-tourism.uz website. The site includes sections such as “For the Tourist”, “For Tourism Business Representatives”. The “For the Tourist” section is being integrated with the national tourist web portal “Uzbekistan Travel”. This site is an official tourist resource that contains information about the tourist potential of Uzbekistan, useful information, historical and cultural information, interesting facts and all materials on tourist destinations.

There is another section “Tourism for All”, which provides information about tourist destinations throughout the country. This information is constantly updated online. In the “Traveler” section, tourists can find all the information they need before arriving in Uzbekistan and during their trip. One of the main sections, the “Attractions” section, contains information about the tourist attractions of our country. provides the opportunity to conduct

virtual tours along the routes. Special attention is paid to the "Photo Gallery" section of the site, where you can view photos of Uzbekistan.

At the same time, for the portal to function more effectively, it is necessary to make wider use of the opportunities of the above-mentioned innovative technologies.

In general, achieving high results in tourism and determining the future of the industry today depends on using the opportunities of digital innovative technologies.

List of used literature:

1. Concepts, functions and goals of tourism. [Electronic resource]. – Access mode: // <https://studopedia.su>
2. Tunca Toskay, Turizm Olayina Genel Yaklasim, 3- Basim, Der Yayinlari; № 26, Istanbul, 1989. – P.20.
3. Tunca Toskay, Turizm Olayina Genel Yaklasim, 3- Basim, Der Yayinlari; № 26, Istanbul, 1989. – P.20.
4. Pardaev M.K. et al. Service provision, development of service and tourism sectors: problems and their solutions, Monograph, T.: Economics-Finance, 2008. – P. 58-59.
5. Safarov B.Sh. Improving the methodological and methodological foundations of the innovative development of the national tourist services market. Abstract of the DSc dissertation. - Sam., 2017. - 78 p.
6. Law of the Republic of Uzbekistan No. 830-I "On Tourism". August 20, 1999. [Electronic resource]. - Access: <https://lex.uz/docs/75355>
7. Law of the Republic of Uzbekistan "On Tourism" No. ORQ-549. July 18, 2019. [Electronic resource]. - Access: <https://lex.uz/docs/4428907>
8. Bogomazova I.V., Anoprieva E.V., Klimova T.B. Tsifrovaya ekonomika v industrii turizma i hostepriimstva: tendentsii i perspektivy // Servis v Rossii i za rubejom. 2019. T. 13. Vyp. 3. S. 34-47.
9. Data from the Statistics Agency under the President of the Republic of Uzbekistan and the Tourism Committee under the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan.
10. ILKHAMOVNA S. Z., NODIROVNA M. S., MUROD S. DIGITALIZATION OF SOCIAL TECHNOLOGIES IN IMPROVING THE EFFICIENCY OF THE SERVICE SECTOR // Gospodarka i Innowacje. – 2024. – T. 48. – C. 80-89.
11. ILKHAMOVNA S. Z., NODIROVNA M. S., FIRUZA A. ECOTOURISM AS A TOOL FOR SUSTAINABLE DEVELOPMENT AND POVERTY REDUCTION // International Conference on Adaptive Learning Technologies. – 2024. – T. 5. – C. 123-132.
12. ILKHAMOVNA S. Z., NODIROVNA M. S. SUBHONZODA SH THE EXPERIENCE OF OTHER COUNTRIES IN THE LEGAL REGULATION OF ECOTOURISM // BOSHQARUV VA ETIKA QOIDALARI ONLAYN ILMIY JURNALI. – 2024. – T. 4. – №. 5. – C. 122-131.
13. SAIDAKHMEDOVICH S. T., NODIROVNA M. S., TOLIBOVNA T. D. P. O. F. S. B. AS A FACTOR IN THE DEVELOPMENT OF THE COMPETITIVE ENVIRONMENT OF THE NATIONAL ECONOMY OF UZBEKISTAN // Excellencia: International Multi-disciplinary Journal of Education (2994-9521). – 2024. – T. 2. – №. 6. – C. 268-277.

- 14.ILKHAMOVNA S. Z., NODIROVNA M. S. OGLI TSI PROGRESSIVE DEVELOPMENT OF THE RETAIL SERVICES MARKET IN UZBEKISTAN //Web of Semantics: Journal of Interdisciplinary Science. – 2024. – T. 2. – №. 5. – C. 593-600.
- 15.EGAMBERDIEVICH P. M., NODIROVNA M. S., OGLI J. A. E. F. PROBLEMS OF SMALL BUSINESS DEVELOPMENT IN THE SERVICE SECTOR IN A MARKET ECONOMY //Web of Semantics: Journal of Interdisciplinary Science. – 2024. – T. 2. – №. 5. – C. 609-613.
- 16.ILKHAMOVNA S. Z., NODIROVNA M. S. RUSLANOVICH BA THE LATEST SOCIAL TECHNOLOGIES IN THE SERVICE SECTOR //Web of Semantics: Journal of Interdisciplinary Science. – 2024. – T. 2. – №. 5. – C. 585-592.
- 17.ILKHAMOVNA S. Z., NODIROVNA M. S. OGLI KDS THE ROLE OF FOREIGN INVESTMENT IN MODERNIZATION OF ECONOMY OF UZBEKISTAN //Web of Semantics: Journal of Interdisciplinary Science. – 2024. – T. 2. – №. 5. – C. 601-608.
- 18.NODIROVNA M. S. et al. DIGITALIZATION OF SOCIAL TECHNOLOGIES IN IMPROVING THE EFFICIENCY OF THE SERVICE SECTOR: PROS AND CONS //Excellencia: International Multi-disciplinary Journal of Education (2994-9521). – 2024. – T. 2. – №. 6. – C. 238-247.
- 19.EGAMBERDIEVICH P. M., NODIROVNA M. S. OGLI UAA WAYS TO INCREASE RESOURCE EFFICIENCY AT SERVICE ENTERPRISES //Excellencia: International Multidisciplinary Journal of Education (2994-9521). – 2024. – T. 2. – №. 6. – C. 290-295.
- 20.Sattarova Z., Mirzaeva S., Kuchkarov I. Digital Tourism in Central Asia and the Development of its Renewal (Using the Example of the Great Silk Road) //Excellencia: International Multi-disciplinary Journal of Education (2994-9521). – 2024. – T. 2. – C. 248-258.
- 21.SAIDAKHMEDOVICH S. T., NODIROVNA M. S. TOLIBOVNA TD THE REFORM OF PROFESSIONS IN THE DIGITAL ECONOMY, THE MOST IN DEMAND IN THE LABOR MARKET OF UZBEKISTAN //Excellencia: International Multi-disciplinary Journal of Education (2994-9521). – 2024. – T. 2. – №. 6. – C. 278-289.
- 22.NODIROVNA M. S. et al. INNOVATIVE TECHNOLOGIES IN THE SERVICE SECTOR //Web of Semantics: Journal of Interdisciplinary Science. – 2024. – T. 2. – №. 5. – C. 304-312.

