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## **THE USE OF DIGITAL TECHNOLOGIES IN THE ENTERPRISES OF THE TOURISM AND HOSPITALITY INDUSTRY**

### **Abstract**

Digital technologies in the economy are technical innovations and innovations that make it possible to ensure optimal operation of e-business structures in the modern economy. Digital technologies are also an integral part of the modern economy, because... companies that introduce innovation into their production have a serious advantage over their competitors. Therefore, the article provides examples of the use of digital technologies currently used in tourism and hospitality, including various platforms, artificial intelligence and others. Key innovative changes occurring in the business processes of enterprises in the tourism and hotel industry in connection with digitalization have been identified, a new digital paradigm for the development of tourism and hotel activities and features of their information and communication support have been formulated.

**Keywords:** digitalization, digital technologies, innovation, hotel business, artificial intelligence, tourism, blockchain.

Digitalization is one of the most important changes in our rapidly developing world. Digital technologies are the engines of development and demonstrate their influence everywhere, especially in the field of production, information and communication technologies and other services. Given the fact that tourism is based on cooperation between a wide range of services and products, the advantages of digital innovations and technological innovations in this sector are quite obvious.

Our living environment is a combination of online and offline spaces that coexist together, defining our everyday living environment. In tourism, the special use of spaces has always been a unique feature of the industry, and today the spaces of the digital world have become part of it. The rapid development of the digital world brings new and innovative solutions in the field of digital tourism every day. Decentralized communication is extremely important in the technological environment of tourism.

This type of communication, along with the spread of smart devices, revolutionized planning, administration and finance, and also opened new horizons for the introduction of innovative sales and marketing technologies throughout the tourism industry. As a result of the digital revolution, international tourism trends have opened the way for new solutions, such as cloud-based booking sites or the exchange of information and experience through digital platforms.

In previous decades, the results of digital development have opened the door to the real implementation of general economic theories. In 2009, Chris Anderson presented his pricing theory in the field of digitalization, mainly offering to distribute products for free based on the principle of shared goods and resources[1]. Although at the time Anderson's theory was seen as a technological solution, the principle of digital exchange also caused major social changes. One of the most important positive signals of the overall economy is the maximum use of resource capacities for social well-being. Social well-being is also a key priority in tourism, because a well-managed tourism industry brings profit not only to business operators, but also to local communities.

In the sharing economy model, stakeholders who are also consumers offer their excess opportunities for collective use in order to maximize the exploitation of their goods and resources.

These economic processes consist of so-called hybrid transactions with maximum capacity utilization for both commercial and social purposes. An important incentive in the evolution of the theory of shared consumption was the realization that the use or possession of the same consumer goods can lead to different advantages. The main element of the model is that sellers offer their excess capacity, while needy consumers use it in exchange for payment. In the sharing economy (based on the above basic idea), more and more industrial, commercial and service providers are offering innovative solutions.

The principle of exchange is not a new idea in the tourism industry. In the case of some accommodation services, seasonal price reductions have always been a practice. Hostels and youth hotels have always been popular - these rooms are often used as dormitories throughout the academic year and rent out their rooms to tourists during the summer season when students are absent. This general operation can best be defined as a postmodern business model. Although it is rather difficult to describe the complex idea of postmodernism, its main characteristics - the joint participation and subjective passion of each participant - can bring the understanding of the phenomenon closer. It is clear that postmodernism will change some processes of classical market laws in the near future. Although "exchange of experience" has become a key marketing term for the sale of goods and services, specialized offers inevitably lead to market fragmentation, which also leads to fragmentation of users.

In a disintegrated market, consumers will behave differently in a fragmented time and space, paving the way for personalized services and customized solutions. At the same time, individualism has become a key characteristic of the younger generation; a phenomenon that must be taken into account when creating business strategies. Due to the emergence of individualism, more and more young people are trying to create something unique that can benefit the community in the long run. Their desire to create enterprises based on their own ideas and experience explains the growing popularity of start-up companies. These aspects of uniqueness, social thinking and an experience-oriented approach provide huge opportunities for the future of the tourism and hospitality industry. Our future is AI, VR/AR, Blockchain. Looking through their photos, tourists usually have a positive experience, remembering their travels, impressions and the destination they visited. Several specialized digital technologies can offer this positive experience in a searchable and changeable form. As for real objects, their connections and relationships, only a limited amount of information is available in a format accessible to computers. The main problem is that computers need sufficient coding solutions created by artificial intelligence to be able to store, process and systematize information.

According to forecasts of product development strategies in various industries, almost all of our everyday items and equipment will be available via the Internet in the future. As a result, all devices that are capable of two-way communication will belong to the IoT (Internet of Things). The devices of the future, unlike the devices of today, will exchange data in two directions, where strong secure data processing, individual differentiation and sufficient decision-making management will be part of the user experience. As a result of continuous data collection during the use of these devices, all relevant information will eventually end up in the final centralized system at the top of the dataset.

The early development of information and communication technologies led not only to better utilization of airline capacity, but also to price compatibility; and soon the advent of discount airlines led to industry-wide innovation and supplanted efficiency in all segments. New websites with recommendations for travelers (Expedia, Orbitz, Kayak, etc.) were created in order to facilitate decision-making by travelers; however, at the same time, many travel service providers who could not cope with new problems were forced out of the market. Although new trends, such as travel packages (including car rental) or taking into account the reviews of previous travelers (Lonely Planet), were in many ways the opposite of previous business models, the rapidly growing popularity of online offers required fast and convenient tourism product development from the industry.

With the advent of Google, which was able to evaluate the appearance of sites in Internet

search, fierce competition began between blogs, sites with travel recommendations and OTA systems comparing prices. Bidirectional communication began with the use of cookies 2.0; since then, consumers have become an integral part of business models, because businesses that strive to be successful in the long term need to know the requirements of their customers in detail. The development of digital services requires user identification, information about their individual preferences and calibration based on solutions (AI).

The latest technological developments and innovations in the use of residential premises are all connected with alternative payment options that can also be used in tourism. The emergence of bitcoin and other cryptocurrencies has led to the creation of a new payment system. The Blockchain payment system is a shared database that records an ever-growing list of data blocks, preventing any forgeries or data changes. One block consists of a list of transactions and the results of calculations performed by stored programs. For example, if a customer buys some cryptocurrency or any other currency and then transfers it anywhere in the world to another partner who instantly exchanges it, both partners can avoid losses caused by exchange rate fluctuations; moreover, the entire transaction takes only a few minutes instead of the usual couple of business days. This decision could mean a revolutionary innovative payment method for everyone in the tourism industry.

The applicability of the blockchain system does not depend on the exchange rates. In the case of cryptocurrencies, the exchange rate does not matter, and the true value of the currency lies in the security of blockchain technology and in a genuine, transparent, immutable and decentralized recording system. This payment system offers a new level of encryption security and operation without interference, and the data processed in the system cannot be changed in any way. Another huge advantage of the system is that transactions are carried out without any intermediary agents, which eliminates any additional transaction costs. It is assumed that by the time of the "maturity" of payment solutions using the block chain, large intermediaries in the service sector, such as Airbnb, Booking.com Agora and others will lose some market positions as consumers and service providers are likely to deal with their transactions directly.

For innovative enterprises, the effectiveness of interactivity is key to the success of their business. The rapid development of information and communication technology solutions has led to huge changes in the tourism industry. Previously, the decision-making of consumers was mainly influenced by the production environment. The era of digital tourism spaces, which was preceded by theme parks and theme destinations, began with the emergence of information sites; however, this targeted information flow was unidirectional with a narrow choice. In the modern digital era, a new generation of commercial action takes place in VR or AR spaces, and instant analysis of customer reactions and behavior helps to increase their customer readiness. Traditional decision-making processes are gradually being replaced by personalized offers, which further increases the importance of artificial intelligence.

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### **Түйін**

Экономикадағы цифрлық технологиялар – заманауи экономикада электрондық бизнес құрылымдарының оңтайлы жұмысын қамтамасыз етуге мүмкіндік беретін техникалық жаңалықтар мен инновациялар. Цифрлық технологиялар да заманауи экономиканың құрамдас бөлігі болып табылады, өйткені... өндірісіне инновацияны енгізетін компаниялар бәсекелестерінен айтарлықтай артықшылықтарға ие. Сондықтан мақалада қазіргі уақытта туризм мен қонақжайлылық саласында қолданылатын сандық технологияларды, соның ішінде әртүрлі платформаларды, жасанды интеллектті және т.б. пайдалану мысалдары келтірілген. Цифрландыруға байланысты туризм және қонақ үй индустриясы кәсіпорындарының бизнес-үдерістерінде болып жатқан негізгі инновациялық өзгерістер анықталды, туристік және қонақ үй қызметін дамытудың жаңа цифрлық парадигмасы және оларды ақпараттық-коммуникациялық қамтамасыз ету ерекшеліктері тұжырымдалды.

### **Аннотация**

Цифровые технологии в экономике — это технические новшества и инновации, которые позволяют обеспечить оптимальную работу структур электронного бизнеса в условиях современной экономики. Цифровые технологии также являются неотъемлемой частью современной экономики, т.к. компании, которые внедряют в своё производство инновации, имеют серьезное преимущество перед своими конкурентами. Поэтому в статье приведены примеры использования цифровых технологий, используемых в настоящее время в туризме и гостеприимстве, в том числе различные платформы, искусственный интеллект и другие. Выявлены ключевые инновационные изменения, происходящие в бизнес-процессах предприятий туристской и гостиничной индустрии в связи с цифровизацией, сформулирована новая цифровая парадигма развития туристской и гостиничной деятельности и особенности их информационно-коммуникационного сопровождения.