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DIGITAL TECHNOLOGIES AND SUSTAINABLE TOURISM IN KAZAKHSTAN: OPPORTUNITIES AND CHALLENGES

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Digital technologies and sustainable tourism in Kazakhstan: opportunities and challenges

Abstract. The tourism industry has undergone a remarkable transformation due to the advent of digital technologies. This has led to a complete revolution in tourism enterprises, products, and experiences, as well as the entire business ecosystem and destinations. Digitalization has also reshaped the conventional roles of both tourism producers and consumers, giving rise to new roles, relationships, business models, and skill sets. The emergence of digital platforms has significantly expanded the array and quantity of tourism offerings, services, and experiences. The on-demand functionality of these platforms has accelerated the pace of economic transactions, market awareness, and feedback mechanisms, further fueling the growth of the tourism sector. Kazakhstan, a vast and diverse nation, is increasingly positioning itself as a sustainable tourism destination. In this article, we delve into the opportunities and challenges presented by the integration of digital technologies in the context of sustainable tourism development in Kazakhstan. Referring to relevant studies and data, we draw attention to the fact that digital tools can increase government revenue, marketing and development methods.

Key words: online market, internet, digitalization, tourism, technology.

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Цифровые технологии и устойчивый туризм в Казахстане: возможности и вызовы

Аннотация. Индустрия туризма претерпела значительные преобразования в связи с появлением цифровых технологий. Это привело к полной революции в туристских предприятиях, продуктах, а также во всей бизнес-экосистеме и туристских дестинациях. Цифровизация также изменила традиционные роли как производителей, так и потребителей туристских услуг, породив новые роли, взаимоотношения, бизнес-модели и наборы навыков работы. Появление цифровых платформ значительно расширило спектр и количество туристских предложений, услуг и впечатлений. Функциональность этих платформ по запросу ускорила темпы экономических транзакций, повысила осведомленность о рынке и механизмах обратной связи, что еще больше способствовало росту туристского сектора. Казахстан, огромная и разнообразная страна, все больше позиционирует себя как устойчивое туристическое направление. В этой статье мы рассмотрим возможности и проблемы, связанные с интеграцией цифровых технологий в сферу туризма в контексте устойчивого развития в Казахстане. Ссылаясь на соответствующие исследования и данные, мы исследуем, как цифровые инструменты могут улучшить в целом доход государства, маркетинг, и методы устойчивого развития.

Ключевые слова: онлайн рынок, интернет, цифровизация, туризм, технологии

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Қазақстандағы цифрлық технологиялар және тұрақты туризм: мүмкіндіктер мен сын-тегеуріндер

Аңдатпа. Туризм индустриясы цифрлық технологиялардың пайда болуына байланысты айтарлықтай өзгерістерге ұшырады. Бұл туристік кәсіпорындарда, өнімдерде және тәжірибелерде, сондай-ақ бүкіл бизнес экосистемі мен бағыттарында толық революцияға әкелді. Цифрландыру сонымен қатар туристік қызметтерді өндірушілер мен тұтынушылардың дәстүрлі рөлдерін өзгертті, жаңа рөлдерді, қарым-қатынастарды, бизнес үлгілерін және дағдылар жиынтығын тудырды. Сандық платформалардың пайда болуы туристік ұсыныстардың, қызметтердің және тәжірибелердің ауқымы мен санын едәуір кеңейтті. Бұл платформалардың сұраныс бойынша функционалдығы экономикалық транзакциялардың қарқынын жеделдетті, нарық туралы хабардарлықты және кері байланыс механизмдерін арттырды, бұл туристік сектордың өсуіне одан әрі ықпал етті. Қазақстан, орасан зор және алуан түрлі ел, өзін тұрақты туристік бағыт ретінде көбірек танытуда. Бұл мақалада біз Қазақстандағы туризмнің тұрақты дамуы контекстінде цифрлық технологияларды интеграциялауға байланысты мүмкіндіктер мен проблемаларды қарастырамыз. Тиісті зерттеулер мен деректерге сілтеме жасай отырып, біз цифрлық құралдардың кірісті қалай жақсарту алатынын зерттейміз мемлекет, маркетинг және тұрақты даму әдістері.

Түйін сөздер: онлайн-нарық, интернет, цифрландыру, туризм, технологиялар.

Introduction. International tourism, one of the fastest growing sectors of foreign economic activity, is an important part of the global economy today, and its role continues to expand. Moreover, among various types of activities, tourism is already one of the largest economic sectors, accounting for 7.6 percent of global GDP (\$77.216 billion). International tourism is one of the three largest export industries after the oil and automotive industries.

According to date of the UNWTO more than 900 million tourists traveled around the world in 2022. The market for online travel intermediaries is valued \$333.34 billion by 2022 and 2.3 trillion in 2023. As more passengers choose online travel intermediaries over in-store travel agents, the internet travel market is predicted to increase at a CAGR of 10.3% the next 2 years [1].

According to the eQonaq information system, 195,149 foreign tourists arrived in Kazakhstan at the beginning of 2022. Kazakhstan took 82nd place in the ranking of the most prosperous countries in the world.

Based to the bureau of National Statistics, e-commerce in the nation achieved a record number 1.04 trillion tenge in 2021, which is 8.4% more compared to the previous year. The 33.6%, or 349.9 billion tenge generate by services. At the same time, online sales of services increased by 67.3% in 2022 [2].

Digitalization penetrates into all spheres of life, and tourism is no exception. It changes the way travel is planned and booked, the information interaction between tourists and industry representatives, as well as the perception and experience of travel itself. The advent of digital platforms has greatly expanded the range and quantity of travel offers, services and experiences. The on-demand functionality of these platforms has accelerated the pace of economic transactions, enhanced market awareness and feedback mechanisms, further fueling the growth of the tourism sector in many countries, and Kazakhstan is no exception.

Due to its unique natural heritage, rich history and culture, Kazakhstan has great potential for the development of the both type of tourism industry. In Kazakhstan, it is already possible to observe the introduction of digital technologies in the tourism industry, but their full potential has not yet been realized.

However, with the development of information technology and the digital age, tourism has begun to face new challenges and opportunities. The challenges and opportunities for digitalization in tourism

are aimed at developing new key initiatives such as digital competences and skills, changing thinking, creativity, and innovation, establishing new relationships between consumers and producers, implementing new good practices, new value chains, facilitating personalization of tourists' experiences, securing funding, contributing to new destination configurations, improving infrastructure, political support, and so on.

In this scientific article, we will focus on the analysis of the state of tourism in Kazakhstan. We will study the current trends in the digitalization of tourism and their impact on the satisfaction of tourists, competitiveness and economic efficiency of the tourism sector of Kazakhstan.

Methodology and research organization.

The article uses the following methods and approaches: empirical research, systematic, comparative and statistical analysis. Has been done literature review of existing studies, scientific articles and publications related to digitalization in tourism and the status of tourism in Kazakhstan have been conducted. This allowed us to get an extensive overview of the current state of the studied issues.

The primary sources were regulations related to the tourism industry, including documents from the Tourism Industry Committee of the Republic of Kazakhstan's Ministry of Culture and Sports, the National Company "KazakhTourism" information from the National Statistics Bureau, and documents from the World Tourism Organization on the topic of sustainable tourism development and tourism entrepreneurship.

Findings and discussion. The domain of electronic commerce (e-commerce) is characterized by vigorous expansion and progressive enhancement, leveraging the capabilities of the Internet to infuse novel technological paradigms into commercial transactions, thereby effectuating a process of economic modernization. Over the temporal span ranging from 2019 to 2021, a discernible upswing in proclivity towards online retail is observable across diverse sectors, encompassing realms like travel, accommodation, food and medical products. This trend engenders an appeal amongst recurring clientele, principally attributed to the confluence of convenience and a manifold array of propositions that digital marketplaces proffer. According the data provided by the Bureau of National Statistics of Kazakhstan regarding e-commerce, a categorization of volumes by type of service shown at following diagram (Figure 1).

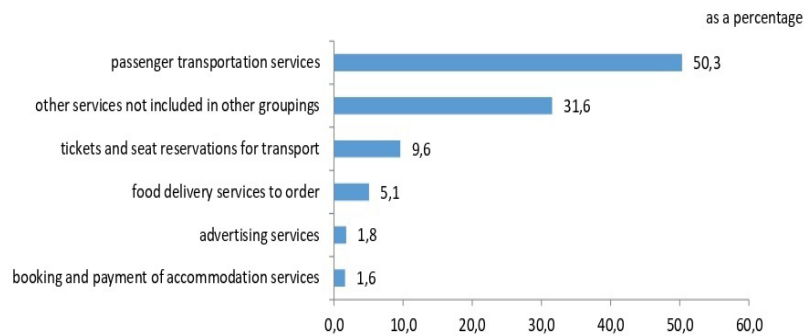


Figure 1 – The volume of services rendered through the marketplace by type in 2022

According to the diagram, in 2022 Kazakhstan, the predominant segment within the aggregate of services facilitated via digital marketplaces is represented by passenger transportation services, accounting for a substantial 50.3%. Following this, seat reservation services for transport constitute 9.6%, with food delivery services to order making up 5.1%, and booking and payment services for accommodations comprising 1.6% of the total volume [3].

Kazakhstan's tourist sector has been working on dynamic tour packaging since 2019. This is an innovative technology for the creation and implementation of tourist goods with direct access to airline and hotel resource systems. To better grasp what dynamic tour packages are, because two concepts that appear too many to be identical are currently actively used: dynamic pricing for tours and dynamic tour packaging. Dynamic pricing is more commonly employed in the sphere of traditional package trips, which tour operators are attempting to sell from offline to online. Dynamic tour packaging is the process of creating a tour package and setting its pricing when a booking request is made through the reservation system. After filling out the forms on the website for departure-arrival points and dates, a request is submitted to the air ticket and hotel booking system, the availability of seats and the cost are verified, and possibilities are shown to the user, beginning with the lowest price. By selecting the chosen option, the customer makes a reservation and receives supporting documentation immediately after payment: an electronic ticket receipt and a hotel lodging voucher.

Based on insights gained from tourism organizations in both European and Asian countries, it's clear that dynamic packaging is poised to become the cornerstone of a fresh digital strategy driving growth in the global tourism industry. In

the European travel services market, approximately half of the tourism product volume comprises dynamic packages crafted through the utilization of digital technologies. The advanced technology underpinning these tourism packages makes them exceptionally well-suited for online reservations. Significantly, the dynamic packages have played a pivotal role in cutting down production costs for services, resulting in a notable surge in online tour sales across Europe [4].

Kazakhstan's implementation of an Electronic Visa (E-visa) system marks a significant milestone in the country's efforts to boost tourism and facilitate international travel. This innovative approach to visa processing has streamlined the entry procedure for foreign visitors, making it easier and more convenient to explore the diverse landscapes, rich cultural heritage, and unique experiences that Kazakhstan has to offer. Starting from January 2023, Kazakhstan has commenced granting access to travelers hailing from 109 different countries via the utilization of its digital visa application platform [5].

One of the key advantages of the E-visa system is its efficiency. Travelers can now apply for a visa online, eliminating the need for time-consuming visits to embassies or consulates. This not only saves valuable time but also encourages more tourists to consider Kazakhstan as their destination of choice.

Furthermore, the E-visa system promotes transparency and security in the immigration process. It enables better tracking and management of visitor data, enhancing border security and reducing the risk of illegal immigration. This, in turn, contributes to the overall safety and stability of the country.

In addition to the practical benefits, the implementation of the E-visa system sends a strong message to the international community that Kazakhstan is open for business and tourism. It demonstrates the country's commitment to fostering cultural ex-

change, international cooperation, and economic development through tourism.

Overall, the introduction of the Electronic Visa system in Kazakhstan is a forward-looking initiative that aligns with the global trend toward simplifying travel procedures and promoting tourism. It not only benefits travelers but also positions Kazakhstan as an attractive and accessible destination on the world stage.

During the initial quarter of 2023, as reported in official publications, the tally of individuals arriving

in Kazakhstan stood at 7,680, while the number of departures from the country amounted to 2,664 individuals. Consequently, the net migration for this period was recorded at 5,016 people [6].

In comparison to the corresponding period in 2022, this data indicates a substantial surge in arrivals to Kazakhstan, amounting to an impressive 87.0% increase, while departures from Kazakhstan registered a notable decrease of 49.6% (Figure 2).

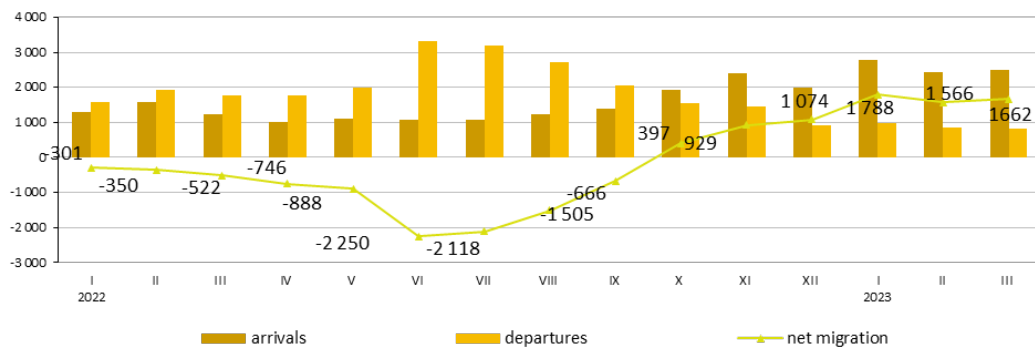


Figure 2 – International population migration [6]

JSC “National Company “Kazakh Tourism”, being a brand the country’s tourism manager and a subsidiary of the Ministry of Culture and Sports, ensures comprehensive and holistic positioning of the country both on the international and domestic markets. The company has developed a strategy for 2019-2028. An electronic hotel system has been developed, which allows not only to keep electronic records of tourists, but also to issue electronic invitations to foreign citizens, keep records of accommodation locations. Commencing from the onset of January 1, 2023, tourists is incurring a levy termed as a “bed tax,” which corresponds to 5% of the accommodation expenses.

In accordance with the data extracted from the eQonaq information system, it is observed that foreign nationals originating from the United States of America, the Federal Republic of Germany, the Republic of Korea, and the Republic of India, who embark on journeys to Kazakhstan for the purpose of tourism, typically allocate an average of four days for their stay within the country. As per the analytical assessment of this data, the Russian Federation has surpassed Uzbekistan and ascended to the foremost position as the primary source of tourists, accounting for a substantial share of 45.9%. Uzbekistan

secures the second position with a share of 40.9%, while China maintains its third place, contributing a proportion of 9.6%. Notably, the tenth position in the roster is occupied by Turkey (2.7%) and South Korea (2%) [7].

The inaugural quarter of 2023 serves as a testament to a noteworthy augmentation in the influx of foreign tourists visiting Kazakhstan. Over this period spanning from January to March, an impressive total of 227.7 thousand foreign tourists graced the country with their presence. This constitutes a remarkable surge of 2.3 times when juxtaposed with the corresponding phase in the preceding year, translating to an excess of 130 thousand individuals. These numerical representations bear witness to a conspicuous amplification in tourist engagement and a heightened curiosity in Kazakhstan among foreign sojourners [8].

Virtual tourism stands out among the arising, non-traditional forms of tourism. Virtual tourism is an individual’s activity that allows, through the use of modern computer technology and communication networks, to create and obtain the most realistic sensuous information about the desired destination from among those that actually exist without actually moving to it.

The benefit of virtual tourism is that it may be utilized by individuals of various socioeconomic backgrounds, including the disabled, those who do not have enough money to travel physically and in real time, and so on. It is sufficient to have computer hardware and software, as well as home Wi-Fi.

With the Covid-19 epidemic, virtual tourism has gained importance and quickly developed. The development of digital technologies, the tourism industry is experiencing a new era, offering tourists unique opportunities to travel without physical presence. One of the innovative solutions that bring a fresh wind to the world of tourism is 3D and Virtual reality tours.

In adherence to the governmental program formulated to foster the development of the tourism sector within the Republic of Kazakhstan during the 2007-2011 period, the year 2010 witnessed the establishment of the Republican tourism-oriented web platform, denominated as “Visitkazakhstan.kz.” The principal mission underlying this digital platform extends beyond the mere provision of comprehensive information pertaining to Kazakhstan’s touristic locales and attractions, serving both foreign visitors and indigenous residents. It also encompasses the facilitation of complimentary reservations for tour packages, hotel accommodations, and engagement in activities encompassed within the nation’s tourism portfolio. It merits acknowledgment that this web-based portal additionally offers virtual tours showcasing the primary tourist destinations within Kazakhstan, thereby affording users the opportunity for remote acquaintance with these sites. Significantly, this resource ranks among the pioneering initiatives of its kind, pioneering the realm of digital tourism exploration throughout the landscapes of Kazakhstan.

In 2018, the Kazakh Tourism National Company unveiled “Kazakhstan.travel,” a national tourism portal aimed at disseminating information regarding the tourism prospects within the republic. The portal serves as a platform for showcasing the latest developments in the tourism sector while actively promoting tourism in Kazakhstan. One notable feature is the inclusion of a 3D tours section, offering virtual excursions of key Kazakh cities, including Astana (featuring the National Museum, Nur Alem Museum, and Baiterek Tower) and Almaty (including the Central State Museum, the A. Kasteev Museum of Arts, the Ykylas Museum of Folk Musical Instruments, etc.) [9].

Additionally, the portal has undergone substantial enhancements, including region-specific web pages detailing various tourism types, the incorporation of new routes within the “Routes” sec-

tion (totaling 12 tour routes), the development of MICE modules, Photobank, and voice text reading services. Furthermore, the portal now encompasses detailed internal pages dedicated to tourist attractions, tour booking facilities, and region-specific information cards. Currently, “Kazakhstan.travel” provides comprehensive information in seven languages, namely Kazakh, Russian, English, French, German, Chinese, and Korean. It is equipped with supplementary modules and information directories, and it features a dedicated section for tourists, facilitating active route searches, tourist offers, and the accessibility of valuable information.

The Science Foundation Joint Stock Company presented a financial grant to develop digital platforms aimed at improving the tourism sector. As part of this initiative, an interactive travel portal is being created that provides travelers with the opportunity to receive complete and up-to-date information about places to visit. In addition, a mobile application “TourismKaz” is being developed, equipped with QR codes for quick access to information about tourist sites, which will improve and enrich the experience of travelers. The system also provides 3D panoramic tours and interactive maps that will make travel more interesting and informative.

The government of Kazakhstan has shown a steadfast commitment to fostering diversity and innovation in the development of its tourism sector. Through various programs and initiatives, Kazakhstan has sought to promote its rich cultural heritage, natural wonders, and historical sites, making them more accessible to both domestic and international travelers. These efforts underscore the country’s dedication to expanding its tourism industry, offering a wide range of experiences that cater to the diverse interests and preferences of visitors, and ultimately positioning Kazakhstan as an attractive and multifaceted destination on the global tourism map.

A primary source of financial support for the advancement of tourism development in the Republic of Kazakhstan is the allocation of funds facilitated through the auspices of the Tourism Industry Committee, an administrative body functioning under the purview of the Ministry of Culture and Sports within the country. These financial resources are specifically earmarked to provide assistance to the Joint Stock Company, formally known as the “National Company Kazakh Tourism” (JSC “NC Kazakh Tourism”), which routinely receives direct governmental funding. In accordance with the disclosed financial report submitted by JSC “NC Kazakh Tourism,” the quantum of funding has been delineated as follows: 162 million Kazakh tenge

in 2017, escalating to 1.8 billion Kazakh tenge in 2018, further increasing to 2.8 billion Kazakh tenge in 2019, and subsequently stabilizing at 1.5 billion Kazakh tenge in 2020, followed by 1.2 billion Kazakh tenge in 2021. It is noteworthy that these allocations of financial resources play a pivotal role in underpinning the sustainable development of the burgeoning tourism sector within Kazakhstan [9].

The contemporary landscape of digital platforms within the tourism sector of Kazakhstan comprises an array of notable instances, including:

1. The “e-Qonaq” information system (accessible at <https://eqonaq.kz/>) which serves as a significant repository for relevant hospitality information.

2. The popular national tourism portal “Kazakhstan.travel” (accessible at <https://kazakhstan.travel/>) functioning as a pivotal virtual hub for disseminating comprehensive insights pertaining to Kazakhstan’s tourism prospects.

3. The web-based platform “Tourism Online” (accessible at <https://tourisonline.kz/>) that occupies a prominent niche in facilitating various tourism-related endeavors.

4. The Automated Information Project Management System, denoted as “ViewProject,” which

interfaces seamlessly to streamline project management processes.

5. The “TURSTAT” information system (accessible at <https://tourstat.kz/>) which contributes to the comprehensive documentation and analysis of tourism-related statistics, accentuating its strategic importance.

This assemblage of digital platforms epitomizes Kazakhstan’s pursuit of enhanced technological engagement within its burgeoning tourism domain, embodying a concerted endeavor to augment accessibility, information dissemination, and operational efficiency.

Conclusions. International tourism stands as a vital and rapidly growing sector, contributing significantly to the global economy. Kazakhstan, acknowledging its potential, has embraced digitalization to enhance its tourism industry. The implementation of platforms like “Kazakhstan.travel” and the Electronic Visa system has boosted accessibility, safety, and efficiency for travelers. Government support, as exemplified by financial allocations, has been instrumental in fostering innovation and sustainable growth. This convergence of digital technology and tourism signifies a transformative force driving both economic development and visitor satisfaction in Kazakhstan.

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