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DIGITAL EVOLUTION OF TOURISM: PERSONALIZATION OF SERVICES AS A COMPETITIVE FACTOR

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The introduction of digital technologies in the tourism sector is developing rapidly, representing a key driver in its development strategy, which, in turn, contributes to the development of the domestic online services market. The subject of the article is the study of the impact of the digital transformation of the tourism sector on the operational efficiency and quality of tourist customer service.

The purpose of the work is to study the role of digital technologies in improving the services provided and the quality of services in the tourism sector of the economy.

The features of the digital transformation of technological processes that unite the subjects of the tourist market are analyzed. The paper describes the use of digital tools that increase the efficiency of various processes in tourism. The article analyzes Kazakhstani and foreign scientific research on the issue of introducing digital technologies in the field of tourism and hospitality. The dominant innovative changes taking place in the business processes of enterprises of the tourism and hotel industry in connection with digitalization are revealed.

The proposed measures, such as the creation of a unified tourism platform and the use of intelligent technologies in transport, hospitality and leisure and catering, are aimed at improving the infrastructure of the industry and increasing overall tourist satisfaction. For the development of tourism in Kazakhstan at the regional level, it is necessary to develop tourism products for their implementation in a new digital environment, revealing the potential and capabilities of each destination.

Keywords: digital tourism ecosystem, tourism of Kazakhstan, digital platform, tourism business, innovative solutions, information system.

ТУРИЗМНІҢ ЦИФРЛЫҚ ЭВОЛЮЦИЯСЫ: ҚЫЗМЕТТЕРДІ ЖЕКЕЛЕНДІРУ - БӘСЕКЕГЕ ҚАБІЛЕТТІЛІК ФАКТОРЫ РЕТІНДЕ

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Туризм саласында цифрлық технологиялардың енгізілуі қарқынды дамып келеді және бұл саладағы даму стратегиясының негізгі қозғаушы күшіне айналуда. Бұл өз кезегінде отандық онлайн қызметтер нарығының дамуына ықпал етеді. Мақалада туризм секторының цифрлық трансформациясының операциялық тиімділік пен туристік қызмет көрсету сапасына әсері қарастырылады.

Жұмыстың мақсаты - экономикадағы туризм саласында көрсетілетін қызметтер мен олардың сапасын жақсартудағы цифрлық технологиялардың рөлін зерделеу.
Туристік нарық субъектілерін біріктіретін технологиялық үдерістердің цифрлық трансформациясының ерекшеліктері талданады. Туризмдегі түрлі үдерістердің тиімділігін арттыратын цифрлық құралдарды қолдану сипатталады. Мақалада туризм және қонақжайлылық саласына цифрлық технологияларды енгізу мәселесі бойынша қазақстандық және шетелдік ғылыми зерттеулер талданады. Цифрландыруға байланысты туризм және қонақ үй бизнесі кәсіпорындарындағы іскерлік үдерістерде орын алып жатқан негізгі инновациялық өзгерістер ашып көрсетіледі.

Біртұтас туристік платформаны құру, сондай-ақ көлік, қонақ үй, демалыс және қоғамдық тамақтану салаларында интеллектуалды технологияларды пайдалану сияқты ұсынылып отырған шаралар салалық инфрақұрылымды жақсартуға және туристердің жалпы қанағаттануын арттыруға бағытталған. Қазақстанда туризмді өңірлік деңгейде дамыту үшін әрбір дестинацияның әлеуеті мен мүмкіндіктерін ашатын жаңа цифрлық ортада іске асырылатын туристік өнімдерді әзірлеу қажет.

Түйін сөздер: цифрлық туризм экожүйесі, Қазақстан туризмі, цифрлық платформа, туризм бизнесі, инновациялық шешімдер, ақпараттық жүйе.

ЦИФРОВАЯ ЭВОЛЮЦИЯ ТУРИЗМА: ПЕРСОНАЛИЗАЦИЯ УСЛУГ КАК ФАКТОР КОНКУРЕНТОСПОСОБНОСТИ

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Внедрение цифровых технологий в туристическую сферу стремительно развивается и становится ключевым фактором стратегии её роста, способствуя развитию внутреннего рынка онлайн-услуг. Предметом статьи является исследование влияния цифровой трансформации туристического сектора на операционную эффективность и качество обслуживания туристов.

Цель работы – изучить роль цифровых технологий в повышении качества и уровня предоставляемых услуг в туристической отрасли. Проанализированы особенности цифровой трансформации технологических процессов, объединяющих участников туристического рынка. В работе рассмотрено применение цифровых инструментов, способствующих повышению эффективности различных процессов в туризме. Также проводится анализ казахстанских и зарубежных научных исследований по вопросам внедрения цифровых решений в туризме и индустрии гостеприимства. Выявлены ключевые инновационные изменения в бизнес-процессах предприятий туризма и гостиничного сектора, происходящие в условиях цифровизации.

Предложенные меры, такие как создание единой туристской платформы и использование интеллектуальных технологий в транспорте, сфере гостеприимства, досуга и общественного питания, направлены на совершенствование инфраструктуры и повышение уровня удовлетворенности туристов. Для развития туризма на региональном уровне в Казахстане необходимо разрабатывать туристские продукты, адаптированные к новым условиям цифровой среды, с учетом потенциала каждой дестинации.

Ключевые слова: цифровая экосистема туризма, туризм Казахстана, цифровая платформа, туристический бизнес, инновационные решения, информационная система.

Introduction. The impact of technology on the tourism industry is important in today's rapidly changing environment. As digitalization becomes more widespread, the number of traditional travel agencies is decreasing, and the number of online travel agencies (OTA) is increasing. This change not only affects economic relations within the industry, but also highlights the need to adapt to technological advances in order to remain competitive. In addition, the rapid development of technology, including mobile apps, websites and social media, is changing the way consumers interact with travel services and make travel decisions. It is extremely important for enterprises to actively implement information technology (IT) to improve the quality of service and meet the changing expectations of consumers.

The main types of digital transformation that are actively used today in the tourism market of the Republic of Kazakhstan:

1. Online booking;

2. Mobile applications;

3. Big Data Analytics;

4. Artificial intelligence and chatbots;

5. Customer Relationship Management (CRM) Systems;

6. Blockchain technologies;

7. Internet of Things (IoT);

8. Virtual and Augmented Reality (VR/AR).

Research aimed at understanding the impact of technology on the tourism industry and offering new solutions is needed to inform practice and bring positive changes to the sector. These changes not only affect economic relations within the industry, but also highlight the need to adapt to technological advances in order to remain competitive. In this study, our goal was to show how the integration of digital solutions into the management of travel services can significantly improve the quality and efficiency of services provided. It is aimed at understanding the impact of digital transformation on the tourism industry and offering new solutions necessary to inform practice and make positive changes in the tourism industry of Kazakhstan.

Literature review. In recent years, open sources have provided sufficient data on the results of targeted studies of digital transformation in the tourism industry by both foreign and Kazakhstani researchers.

The McKinsey report ”The Future of Tourism” (2024) outlines how the development of digital technologies has led to new ways to increase customer satisfaction and optimize travel services [1].

The Travelport Digital Traveler Survey (2019) highlights the role of mobile apps in travel. The study shows that travelers are increasingly relying on mobile apps to book, communicate and receive real-time updates, making them essential tools for improving the quality of service in the travel industry. This trend is especially noticeable in emerging markets such as Kazakhstan, where mobile applications have become an integral part for both tourists and businesses [2]. The data provided by Statista (2023) also reflects the growing trend in the use of mobile applications and digital platforms in the tourism sector. This digital shift in consumer behavior is also observed in Kazakhstan, where the number of downloaded travel and tourism applications has increased dramatically, which indicates the importance of mobile solutions in the tourism market [3].

The study by A. Abuev, analyst at Freedom Finance Global, on tourism in Kazakhstan contains a comprehensive analysis of the problems and opportunities of the industry (2024) [4]. In addition, the ”Concept for the development of the tourism sector of Kazakhstan for 2023-2029” emphasizes the government’ s commitment to stimulating innovation and improving the ecosystem of digital tourism [5].

In their works on the ecosystem of digital tourism in Kazakhstan, D.G.Mamraeva and L.V.Tashenova, Borbasova Z.N., Grebenyuk D.D. explore how innovative digital solutions increase business efficiency in the sector. This, in turn, gave them the opportunity, based on existing digital solutions in the tourism market of Kazakhstan, to present its unified digital ecosystem. The authors also provide examples of implemented ”smart technologies” in tourism in Kazakhstan [6].

It is shown how the introduction of digital tools, such as contactless payment systems and online booking platforms, transforms the operational side of travel services [7]. Their research points to the success of platforms such as eQonaq, which registered a significant number of tourists in 2023-2024, demonstrating a growing dependence on digital infrastructure to manage tourist flows [8].

Kazakhstan’ s civil aviation sector is also benefiting from the transition to digital technologies. Kalekeeva M. et al. (2024) based on data from the Civil Aviation Committee, they indicate an increase in passenger traffic at airports in the period from 2019 to 2023, which once again emphasizes the role of digital platforms in managing large flows of tourists and improving the quality of service at key transit points [9].

In conclusion, it should be noted that, judging by

the volume and intensity of publication in various sources, the integration of digital solutions into the management of tourist services has significantly improved the quality and efficiency of the services provided. The future of tourism in the digital economy, as noted in most of them, is likely to continue to be determined by these technological advances, which will further improve the quality of services provided and the economic growth of the industry.

Materials and Methods. The accepted research method consists of analyzing quantitative and qualitative market data, as well as observing the main actual trends in a comparative perspective.

The following methods were used in the course of the study: monographic, economic and statistical, analytical, comparative. The article uses general scientific methods, in particular the method of content analysis, which allowed analyzing an array of information from theoretical approaches to digitalization and digital technologies in tourism to digital platforms and specialized programs for the development of tourist routes, as well as the method of graphical interpretation. The article clearly presents examples and directions of the use of digital technologies in the tourism industry, in particular BigData, AR/VR, Blockchain, IoT, portals for the development of tourist routes, mobile applications. Further, it analyzes how the tourism sector has changed under the influence of digitalization, highlights the main trends, concludes about the difficulties and directions of digitalization, highlights promising digital technologies of the tourism business, and summarizes the main ideas of the study.

Results and Discussions. The tourism sector is, first of all, one of the fastest growing industries in the world. The development of technology encourages travel destinations and the hospitality industry to optimize business development decisions and improve the quality of travel services. It is so widespread that, according to a Google Travel study, 74% of vacationers plan their trips using the Internet, while only 13% still use travel services to organize them [6]. Thanks to the use of mobile applications, contactless payment systems and data-based analytical information, the tourism sector is better adapted to meet the changing needs of modern travelers, which is evident both from global trends and from the specifics of Kazakhstan. Technology has helped to reduce costs, improve operational efficiency, and improve customer offerings and understanding. Thanks to this, both travelers and businessmen can benefit from advanced communication, booking and visitor service systems.

The operational effectiveness of digitalization processes in tourism can be highlighted through several key aspects:

1. Automation of processes:

- cost reduction: automation of routine tasks such as booking and inventory management, etc.;

- fcceleration of processing: fast processing of requests and payments.

2. Supply chain optimization:

- system integration: using digital platforms to integrate various service providers (hotels, airlines, etc.);

- inventory management: optimal resource management.

3. Data analysis and business intelligence:

- informed decision-making: using analytics to assess consumer behavior and market trends;

- increased flexibility: quick access to data.

4. Personalization of services:

- increase customer loyalty;

- marketing optimization: improving the effectiveness of marketing campaigns.

5. Customer Relationship Management (CRM) systems:

- improved interaction: made it possible to effectively manage customer contacts and track their preferences;

- reduced staff turnover.

6. Mobile technologies:

- accessibility of information: Mobile applications provide information to customers (anytime, anywhere);

- increased sales: convenience of mobile booking.

7. Innovations and new technologies:

- adaptation to the market: introduction of new technologies (for example, artificial intelligence, blockchain);

- risk reduction: the use of technologies to monitor and manage risks (for example, related to data security).

The next technology is apps, especially mobile travel apps, which have made booking and other travel-related tasks much easier by changing the way people plan and receive their travel experiences. Tourists rely on mobile apps to address issues such as language barriers, cultural differences, and isolation while traveling. Considering that in 2019, more than one billion users of mobile travel applications, approximately 1.5 billion people traveled and about 65% of them used smartphones to book, the impact of these applications on tourism is undeniable [8].

More than 60% of users use mobile travel apps when planning their trips, which makes it easier and more convenient. Between 2023 and 2024, the most downloaded travel apps in the world, based on the cumulative number of downloads (in millions) on the part of Statista, they demonstrate the diverse needs of travelers around the world. So, Google Maps is in the lead with 113 million downloads, followed by Uber with 107, Booking.com With 80, Airbnb with 52 million downloads, followed by Google Earth and Where is My Train reaching 51 and 46 million downloads respectively. The figures reflect the widespread use of travel applications in various aspects of travel, from navigation to accommodation and transportation (Figure 1).

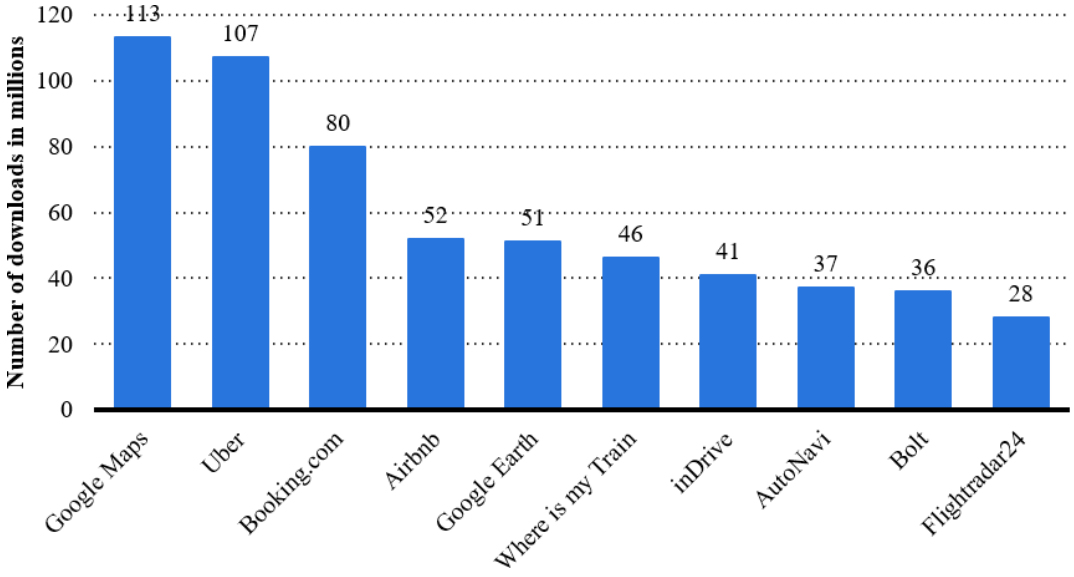


Fig.1 - The most downloaded travel apps in the world in 2023-2024, by total number of downloads (in millions)

Note: Complied by the authors based on the official website of the Statista [3]

In terms of market share in both the US and Europe, Uber retained a significant market share in 2023: 10% in the USA and 18% in Europe. Booking.com It dominates the US market with a market share of 7% and 14% in Europe, demonstrating its popularity as a housing booking platform. In addition, Airbnb has a significant market share in both regions: 6% in the United States and 7% in Europe. Other notable players include Vrbo and Expedia in the United States, as well as Bolt and Ryanair in Europe, each contributing to the comprehensive travel industry (Figure 2).

In the digital age, artificial intelligence (AI) has begun to have a huge impact on all industries, including, especially, tourism. AI has significantly changed the approaches to travel planning and organization around the world: from personalizing travel to improving the management of tourist destinations and optimizing customer service using advanced technologies such as chatbots and recommendation systems. Artificial intelligence algorithms allow you to analyze huge amounts of data - from Internet searches and social media interactions, taking into account previous travel options, to provide personalized recommendations on places, events, hotels and restaurants that match the interests and budget of the tourist.

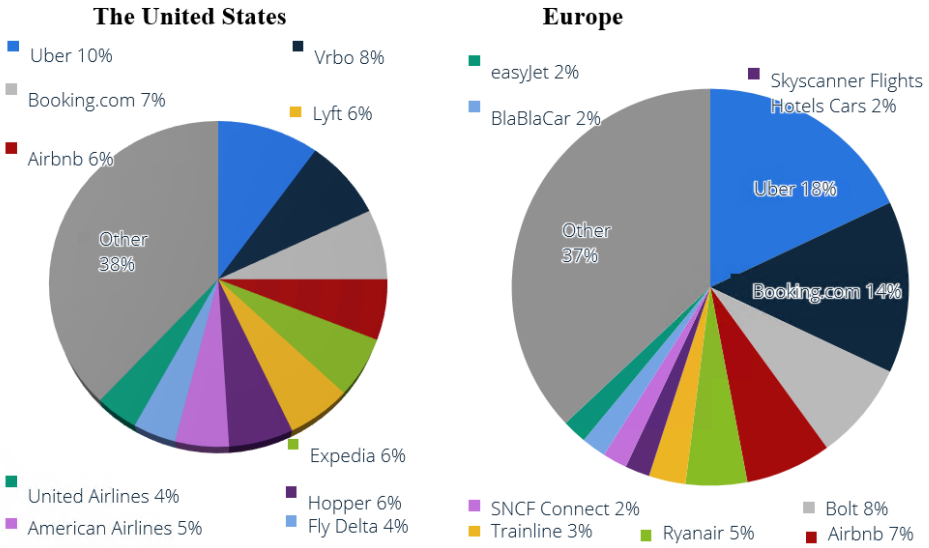


Fig.2 - Market share of the leading travel apps in the USA and Europe in 2023

Note: Complied by the authors based on the official website of the Statista [3]

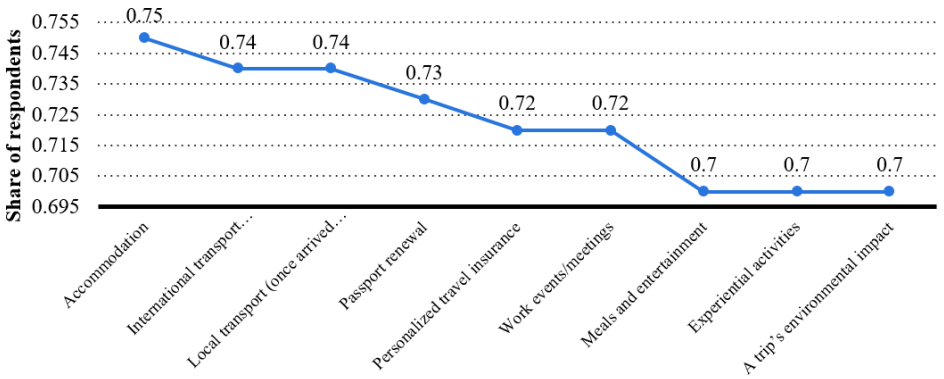


Fig.3 - Share of travelers that would trust using Artificial Intelligence (AI) to plan travel in 2033 worldwide as of 2022, by travel aspect

Note: Complied by the authors based on the official website of the Statista [3]

Data as of 2023 indicate a high level of confidence among travelers around the world in using AI for various aspects of travel planning in 2033. The first place in the list is occupied by the placement: 75% of travelers expressed confidence in AI in this aspect, followed by international transport agreements and local transport (74% each). Other aspects, as can be seen from Figure 4,

are also highly trusted by travelers (Figure 3).

As technology evolves, we can expect AI to play an increasingly important role in the growth and change of tourism around the world, changing how customers perceive and interact with the world while traveling.

Returning to the expectations of the future use of technology in the tourism industry, the following is an analysis of the data obtained from statista.com , regarding the proportion of travelers who plan to use selected travel planning tools in 2033 worldwide as of 2022. It is assumed that among these tools, applications that include all the necessary functions for travel planning will be most often used (52% of travelers express their intention to use them) (Figure 4).

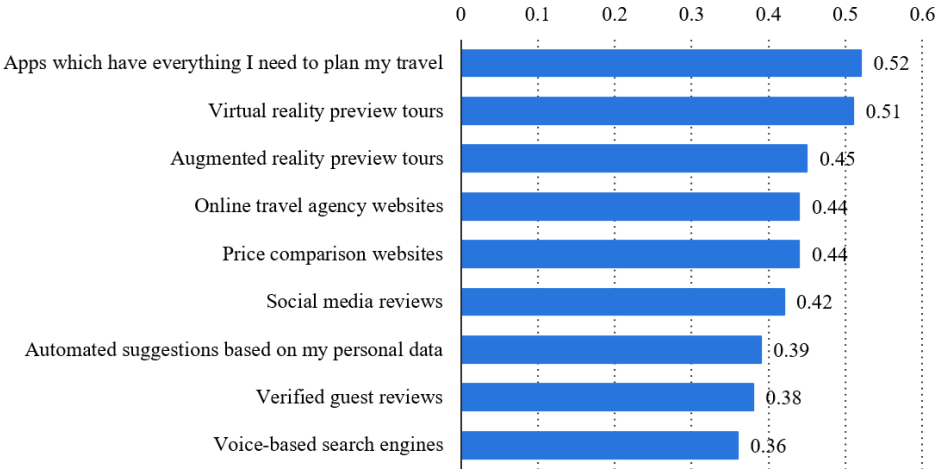


Fig.4 -The proportion of travelers planning to use selected travel planning tools in 2033 worldwide as of 2022

Note: Complied by the authors based on the official website of the Statista [3]

Figure 4 above shows that pre-virtual reality (VR) and augmented reality (AR) tours will also start to attract attention: 51% and 45% of travelers, respectively, expressed their desire to use their immersive trip planning technologies, giving them a realistic view of the trip and helping them make decisions.

Online travel agencies (OTA) and price comparison websites are expected to remain popular planning tools in 2033: 44% of tourists plan to use them to prepare for a trip. Social media reviews are expected to influence travel planning decisions: 42% of travelers expect to rely on them when planning a trip. To summarize, an analysis of the current use of technology in the tourism industry reveals a variety of planning tools and platforms that adapt to the changing needs and preferences of travelers. These technologies help to personalize travel experiences, optimize booking processes and provide valuable information and recommendations.

Facebook Instagramming the role of social media as another aspect of technological advances in the tourism industry in the Republic of Kazakhstan and their impact, various platforms such as Facebook, Instagram and YouTube have begun to play an important role in shaping the perception and choice of travelers. Blogs in both text and video formats are becoming increasingly interesting [8]. Significant problems have been identified that negatively affect the development of tourism. Such factors include: fraud, distortion of reality, the credibility of the opinion of media personalities, uneven coverage of age groups of tourists.

Personal impressions of tourists play a significant role in choosing a vacation destination: reviews, photos and other content generated on the Internet (Table 1). When preparing for a trip, most respondents pay attention to social networks

(53.8%) and reviews from relatives, friends and acquaintances (48.6%). Reviews on the Internet are viewed by 35.5% of respondents, and the websites of tour operators are viewed by 22.1% [10]. It is possible to highlight the high popularity of social networks among respondents aged 25 to 34 years (62.4%). Respondents over the age of 35 are much more likely than others to rely on feedback from relatives, friends and acquaintances (35-55 years old – 56.7%, over 55 years old – 70.8%). Young people mentioned the tourist portals of local authorities much more often than others (22.4%) (Table 1).

Table 1 - Factors that play a significant role in decision-making among travelers aged 18-55 years and older in the Republic of Kazakhstan

Factors influencing decision-making among travelers	Total	18-24 years old	25-34 years old	35-54 years old	55 years and more
Social networks (Instagram, Tik tok, Vkontakte, etc.)	53,8	46,6	62,4	51,1	56,3
Reviews from relatives, friends and acquaintances	48,6	29,3	39,7	56,7	70,8
Reviews on the Internet, including in specialized applications (for example, 2GIS)	35,5	33,6	29,4	38,8	39,6
Tour operator websites	22,1	14,7	20,6	25,4	20,8
Tourist portals of local authorities	14,7	22,4	16,5	12,3	6,3
Personal communication with travel agency managers	9,9	11,2	9,8	9,5	10,4
Specialized groups and channels in the messenger (WhatsApp, Telegram, Viber, etc.)	9,2	9,5	4,6	10,3	18,8
TV programs	6,4	7,8	5,2	7	4,2
Promotional products (banners, booklets, flyers)	5,4	11,2	5,2	3,9	4,2
Magazines, brochures	3,4	5,2	3,1	3,4	0
Bloggers	7,4	10,3	11,9	4,5	4,2
Other	0,4	0	1	0,3	0
Note: Compiled by the authors based on the source of Kalekeeva M. [9]					

The transition to the use of mobile applications and the analysis of popular types of travel applications in Kazakhstan provides valuable information about the role of technology in the development of tourism in the country [3]. In Kazakhstan, as in many other countries, these applications offer a wide range of functions, including booking tours and tickets, navigation, currency conversion and access to information about destinations in real time. Tourists can conveniently book flights, accommodation, transportation and events using a single application, eliminating the need to use multiple platforms or visit physical travel agencies, saving time and energy [Tashenova L.V. et al., 2022]. The transition to digitalization in the tourism sector also has significant environmental benefits, as it reduces dependence on paper processes and documentation.

The analysis of the most downloaded travel

applications in Kazakhstan provides important data on the preferences and practices of travelers in the country [3]. Applications such as Yandex Navigator, Aviata.kz and Booking.com They are among the most popular options for travelers, offering a wide range of services from navigation and booking tickets to booking accommodation. By adopting digital technologies and using the capabilities of mobile technologies, Kazakhstan can strengthen its position as a leading tourist destination and stimulate economic growth in the country (Table 2).

Table 2 - Most downloaded travel and tourism apps in the Republic of Kazakhstan

	Google Play Store	App Store
1	Yandex Navigator	Yandex Go: Taxi Food Delivery
2	Aviata.kz – cheap air tickets	inDrive. Save on city rides
3	Aviata – train tickets	ONAY!
4	GPS Offline Maps Navigation	Uber KZ – request taxis
5	Currency converter offline	Avtobys
6	Easy route map: Navigation Path	Skyscanner – travel deals
7	Google Earth	Booking.com: Hotels Travel
8	Ht.kz - tours and last minute tours	Aviasales – book cheap flights
9	Aviasales.kz – cheap air tickets	Uber – request a ride
10	Kaztour.kz – Tours and Travel	Aviata.kz – cheap air tickets
11	Booking.com – Hotels Travel	Currency converter offline
12	Skyscanner Flights Hotels Cars	Google Earth
13	TezTaxi: order your taxi	aiRalo: eSIM Travel Internet
14	RegionApp	Aviata – train tickets
15	Fly Arystan: buy flight tickets	Air Astana
Note: Complied by the authors based on data from Google Play, App Store, and SimilarWeb analytics (Kazakhstan, 2025) [11]		

It is noteworthy to emphasize the importance of e-commerce in Kazakhstan and its significant role in the country' s tourism sector. E-commerce, conducting business transactions electronically via the Internet, has changed the way travel services are accessed and provided.

Statistics show that a significant part of the services provided through the market in Kazakhstan, about 50.3%, relate to passenger transportation services. This indicates a strong dependence on online platforms for booking flights, trains and other modes of transport. With the advent of e-commerce, customers no longer need to visit physical offices or travel agents to make a reservation. Moreover, 9.6% of services include tickets and seat reservations on transport, which once again highlights the role of e-commerce in facilitating travel arrangements. E-commerce has also made it easier to book and pay for accommodation services, accounting for 1.6% of services provided through a trading platform in Kazakhstan. This means the importance of online platforms allowing travelers to book accommodation, from hotels to vacation rentals, with ease and convenience. By offering a convenient booking and payment process, e-

commerce has contributed to improving the overall quality of travel for tourists visiting Kazakhstan [12].

Initiatives aimed at improving the technological infrastructure of the tourism sector are growing in modern Kazakhstan. ”Tourism Online” includes a description of tourism projects implemented in Kazakhstan (urban tourism development, caravanning, information tours, etc.), as well as an interactive map of routes and attractions in the regions of the country. An interesting innovative solution within the framework of this module was the opening of the ”Online Academy of Domestic Tourism” [3].

The Golden Horde project, which includes information and a map about the main milestones and the territory of the Golden Horde, a calendar of events, as well as the ability to choose a guide in the region to receive high-quality sightseeing services.

The Photobank project: a Kazakhstani photo stock of the regions and attractions of Kazakhstan; photos are available for download, but with a mandatory link to the Kazakhstan Travel portal [4].

Digital technologies are being introduced into the hotel business with some lag, compared with industries such as finance and industry. However, interest in the use of digital technologies in the activities of hotel chains is very high, due to the initial customer orientation of hotel companies. Digital tools allow you to ”hear” the client, make him the center of activity of hotel chains [12].

Progress in the field of digital technologies provides companies with the opportunity to use new resources, sales channels and tools, without which the set goals will not be achieved. But the process of integrating digital technologies into the operations of hotel companies is becoming increasingly difficult, requiring significant financial resources and qualified specialists. Leading hotel TNCs are implementing an ambitious digital transformation aimed at bringing the customer back to the center of their strategy and operations.

The digital tourism ecosystem of Kazakhstan presented above, its modules and components are an innovative solution for the tourism business of the country, individual regions, tourist destinations and all market participants.

The intuitive interface of Google Maps makes it easier for guides to accurately determine the location of visitors. Guides keep travelers informed of their location, especially when they venture beyond the 500-meter border from them. This particular attribute serves to mitigate any potential ambiguity regarding the tour schedule.

Thus, the most downloaded mobile travel apps in the world reflect consumers’ preferences for uninterrupted on-demand services. The increased use of applications has contributed to the improvement of the quality and accessibility of services, which has further improved the user experience.

Conclusion. The creation of a developed tourism sector is of great importance as a key strategy for the structural transformation of the economy of the Republic of Kazakhstan. This paper examines the impact of technological improvements on the tourism business in Kazakhstan, analyzes both the consequences and the growing difficulties in this sector.

Strategic proposals for improvised technological use in the industry have highlighted the importance of fully integrating digital technologies into all elements of tourism and hospitality. Kazakhstan should give priority to the rapid introduction of innovative products and technologies in order to ensure a strong presence in the global tourism business in a highly competitive environment. It is strongly recommended to introduce new types of logistics using IT technologies into the tourism industry. This includes the introduction of computer technologies into hotel and airline reservation systems, the use of innovative technologies to ensure tourist routes, ensure mobility and safety of transport services. Technology has come to enhance the traveler’ s experience and facilitate many steps that in previous years could have become difficult or tedious. This also makes the tourism industry a promising option with high growth expectations, which makes it attractive to investors who have noticed the interesting evolution of this industry.

The digital transformation of the tourism sector includes various types of technologies and approaches that affect operational efficiency and customer service quality. They cover a variety of processes that significantly change the way we interact with customers and manage resources in the tourism sector:

1. Online booking and sale of services - Convenience for customers:

- online platforms allow users to quickly find and book hotels, flights and excursions;

- automation of processes helps to reduce manual work in processing bookings, reduces the likelihood of errors and speeds up the process;

- consumers can easily compare offers, the ability to compare prices increases competition and improves the quality of services.

2. Marketing and advertising:

- social networks allow you to actively promote relevant information through them, which attracts an audience and builds brand loyalty;

- targeted advertising makes it possible to use user data to create personalized offers. Mobile applications provide users with information about available services, routes and offers in real time;

- marketing optimization and targeted advertising based on big data analysis increases the likelihood of conversion and reduces marketing costs.

3. Customer Relationship Management (CRM):

- data analysis suggests improved customer interaction. CRM systems help to collect and analyze customer information, which allows you to offer more personalized services. The ability to offer customized services based on customer preferences increases the operational efficiency of the company;

- increasing loyalty - leads to effective management of contacts and feedback, which helps strengthen relationships with customers and increases their loyalty.

4. Payment processing:

- digital payments offer a high level of security and convenience;

- the use of blockchain technology for payment processing provides a high degree of security and transparency, which is especially important for customers. International transactions simplify the payment process for customers from different countries;

- blockchain technology can not only simplify, but also automate the booking and insurance processes, reducing costs and increasing customer trust.

5. Inventory management:

- automation of the inventory management system allows you to effectively control the availability of services and minimize costs;

- improved analytics and use of data for demand forecasting;

- big data analytics serves as the basis for demand forecasting and price optimization. Analyzing consumer behavior data helps predict seasonal fluctuations and adapt supply, improving operational efficiency.

6. Feedback and customer feedback:

- creating a feedback system on the platform to collect and analyze them helps to improve the quality of services;

- improvement of reputation management. Online reputation management becomes more effective by monitoring reviews.

7. Digital guides and mobile applications:

- the interactivity of the Application with information about tourist routes, restaurants and attractions increases the interest in travel;

- artificial intelligence and chatbots automate customer support. They can quickly respond to customer requests 24/7, which improves the quality of service and reduces the burden on staff;

- aI algorithms can analyze customer preferences and offer them personalized recommendations and related services, increasing the likelihood of purchases;

- localization: the ability to receive information in your native language and at a convenient time.

8. Analytics and reporting:

- business analytics: collecting and analyzing data about the market, trends and customer behavior allows you to make informed decisions;

- process optimization: identify bottlenecks and areas for improvement based on data.

9. Travel planning:

- creates the possibility of combining and integrating various services in one platform;

- virtual and augmented reality (VR/AR technologies) allow users to ”view” places and services in advance, i.e. conduct interactive tours, which may affect their booking decision. These technologies can enhance the ”customer experience” of users and improve their engagement, creating unique experiences, and become a tool for creating individualized routes based on customer preferences.

Digitalization of the tourism sector not only improves the customer experience, but also contributes to business efficiency, reducing costs and increasing profits. The integration of technology into the tourism business of the republic can significantly stimulate growth and promote innovation. The results highlight the importance of continuous technological improvement in order to keep up with global trends and meet the growing expectations of modern visitors. Considering that digital transformation includes various types of technologies and approaches that affect operational efficiency and customer service quality, an attempt has been made to present in an orderly manner those processes that have significantly changed the way customers interact and manage resources in the tourism sector.

Kazakhstan can use digital transformation to ensure a sustainable future for its tourism industry by implementing strategic planning and continuous adaptation. These activities are expected to enhance the quality of service, operational efficiency and overall customer satisfaction, which will ultimately contribute to the sustainable growth of the tourism industry. This, in turn, will increase the competitiveness and attractiveness of Kazakhstan as a global tourist destination.

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