

Introduction of Digital Technologies into the Management of Tourism Companies: Problems and Development Opportunities

Introdução de tecnologias digitais na gestão de empresas turísticas: problemas e oportunidades de desenvolvimento

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Resumo

No contexto da globalização e do rápido desenvolvimento digital, a indústria do turismo está passando por profundas transformações em seus modelos de negócios e em suas interações com os clientes. A digitalização tornou-se um fator-chave para a competitividade e a eficiência, processo acelerado pela pandemia da COVID-19. Este estudo examina o impacto das tecnologias digitais no turismo, com foco nas abordagens contemporâneas de transformação digital no setor. A metodologia inclui a análise da literatura acadêmica, de dados estatísticos e de casos práticos de adoção digital. Os resultados indicam que ferramentas como plataformas de reservas online, aplicativos móveis, mídias sociais e sistemas de personalização aumentam a produtividade e a experiência do cliente, ampliam a oferta de serviços e fortalecem a fidelização. No entanto, desafios persistem, incluindo sobrecarga de informações, escassez de mão de obra qualificada, aumento de custos, acirramento da concorrência e riscos à segurança cibernética.

Palavras-chave: plataformas online, personalização de serviços, tecnologias digitais, transformação digital no turismo, integração de tecnologia no turismo

Abstract

In the context of globalization and rapid digital development, the tourism industry is experiencing profound transformations in business models and customer interactions. Digitalization has become a key driver of competitiveness and efficiency, a process accelerated by the COVID-19 pandemic. This study examines the impact of digital technologies on tourism, focusing on contemporary approaches to digital transformation in the sector. The methodology includes analysis of academic literature, statistical data, and practical cases of digital adoption. The results indicate that tools such as online booking platforms, mobile applications, social media, and personalization systems enhance productivity and customer experience, expand service offerings, and strengthen customer loyalty. Nevertheless, challenges remain, including information overload, skills shortages, rising costs, intensified competition, and cybersecurity risks.

Keywords: online platforms, personalization of services, digital technologies, digital transformation in tourism, technology integration in tourism

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Introduction

Digital transformation is increasingly covering various aspects of social life, and the tourism industry is no exception. From online check-in at the airport and virtual tours to mobile payments during vacations, digital technologies have become integral to every stage of the travel process. Digitalization also plays a critically important role in the administration of the tourism sector, since it significantly enhances operational efficiency and the quality of customer service. The implementation of digital technologies enables the automation of bookings, the management of tourist data, and internal processes, leading to cost reductions and more informed decision-making through big-data analysis. Ultimately, this facilitates the personalization of tourism offerings and increases the sector's competitiveness in the global market.

Online booking platforms have already significantly replaced traditional travel agencies, becoming the primary tool for organizing travel. For example, most German tourists prefer online services for booking hotels, airline tickets, and other services (Statista, 2024). In addition, tourist destinations themselves are actively using digital opportunities, such as websites and social media, to increase their appeal and attract more visitors. Online platforms have become the primary source of inspiration for travelers today, which confirms the importance of a digital presence for all representatives of the tourism sector (Statista, n.d.). Mobile devices, especially smartphones, have become an indispensable part of modern travel. More than 90% of German tourists take them with them on vacation, most often using public Wi-Fi networks. Today, the functionality of smartphones has expanded significantly, serving not only as a source of information but also as a tool for storing digital tickets, making cashless payments, navigation and communication. In particular, in 2023, Google Maps became the most popular travel app. Moreover, Uber, as an alternative to traditional taxis, took second place (Graefe, 2025a).

The modern travel industry is influenced by several dynamic trends, among which digitalization, artificial intelligence, and sustainable development play a significant role. These factors, along with the growing popularity of ecotourism and solo travel, will shape the industry's development until 2030. Alongside technological changes, there has been a significant evolution in travelers' behavior. Whereas in the past mass travel, such as beach vacations or cruises, prevailed, today German tourists are increasingly opting for individual travel.

The article analyzes the impact of digitalization on tourism enterprises' activities, as well as the key challenges and strategies for adaptation amid rapid technological development.

The significance of the study lies in the global trends toward the transition of tourism to digital platforms, which require enterprises to rethink their approaches to work, taking into account changes in tourist behavior and new market realities. The scientific value of the work lies in the classification of data on digital transformations in the tourism sector and in the application of international experience to develop new theoretical approaches to management processes in tourism enterprises. From a theoretical point of view, the study contributes to the development of conceptual models of tourism digitalization that encompass economic, social, and technological

aspects. The practical significance lies in the possibility of developing recommendations for travel companies on the practical implementation of digital tools to increase their competitiveness and improve customer interactions through online resources.

Literature review

Current literature shows that digital technologies are radically changing the tourism industry. They allow companies to analyze large amounts of data, forecast demand with high accuracy, and offer personalized services, improving customer experience. In the online environment, an overabundance of information forces businesses to constantly monitor their reputation and manage content effectively, ensuring a positive image and the proper administration of all processes (Marchi et al., 2023; Wilson et al., 2024).

A large volume of information in online spaces necessitates the implementation of reputation-monitoring and content-management systems to maintain a positive company image (Lesmana et al., 2023). Digital transformation places new demands on the workforce. Employees need skills in data analysis, digital marketing (SEO, SEM, SMM), and online channel management, which increase the company's overall competitiveness (Bindawas, 2025; Stacey, 2015). However, this also imposes additional financial costs for staff training and recruitment, which requires adaptation of the HR policy (Bondarenko et al., 2025).

Competition from global online agencies is increasing in the international market. Studies show that offering differentiation, strong brand identity, and personalized service are becoming the main drivers of customer loyalty and long-term business development (Murphy, 2024; Qiao et al., 2024). The example of platforms such as Booking.com or Visit Ukraine shows that the introduction of technological innovations not only optimizes internal processes but also modernizes customer interactions, promoting transparency and convenience, which will be discussed in more detail in the study results.

Special attention in scientific research focuses on the financial and technical challenges of implementing CRM systems, ERP platforms, and mobile applications, which require significant investment and ongoing updates due to rapid technological development (Dogru et al., 2019). The issue of cybersecurity and data protection is also critical. The use of encryption methods, multi-level authentication, and compliance with international standards such as the GDPR significantly improve consumer confidence and ensure the security of their information (GDPR Text, n.d.; Lesmana et al., 2023).

The study aims to identify the main challenges and prospects of digitalization in the tourism sector. Particular attention is paid to adapting business models, raising employees' professional level, and creating a personalized customer experience. In addition, the effectiveness of digital tools is analyzed to optimize operational processes and strengthen companies' competitiveness.

Materials and methods

The analysis of scientific literature and official UN documents helped identify current trends in digitalization, innovation, and sustainable tourism development and formed the theoretical basis of the study. A content analysis of digital platforms and corporate resources of travel companies allowed us to assess the effectiveness of digital solutions in marketing, booking, and customer experience management. The statistical analysis of international and regional tourism indicators aimed to study industry dynamics, assess the volume of tourist flows, and forecast the impact of digital technologies.

Synthesis of the data and its interpretation ensured the integration of information from various sources and the identification of key barriers and prospects for digitalization. An integrated approach to the study enabled us to understand better the processes of digital transformation in the tourism industry and to identify effective strategies to improve enterprises' competitiveness.

Results

Tourism development plays an important role in improving living standards, promoting a deeper understanding of cultural diversity, and strengthening cultural identity. In addition, it is a powerful incentive for creating new consumer demand and supporting the sustainable economic development of countries and regions. For the sector to function effectively, the efficient administration of all aspects and components of the industry is essential. Back in 1934, the International Union of Official Tourism Organizations (further – IUOTO) was founded. Its successor was the World Tourism Organization (further – WTO), established in 1975 in Madrid, which, since 2003, has been a specialized UN agency for responsible, sustainable, and accessible tourism. The organization unites 160 member states, six associate members, and more than 500 affiliate members. The organization makes efforts to position tourism as a key factor in economic growth and inclusive development, with special attention to environmental factors (UNWTO, n.d.a).

The organization actively promotes the integration of tourism into national and global strategies, focusing on its role in reducing poverty, creating new jobs, stimulating innovation, and implementing the 17 Sustainable Development Goals (SDGs) (Tourism for SDGs, n.d.). Its approved vision governance is focused on strengthening knowledge, expanding partnerships, and ensuring greater contribution for both current and future generations.

The analysis of UN program documents on tourism identifies five main strategic priorities that serve as guidelines for ensuring the industry's sustainable development at the global level. For convenience, the authors propose providing the relevant information in Table 1.

Table 1

Strategic priorities and areas of implementation of the UN in the field of tourism

Strategic priority	How to achieve (areas of implementation)
Innovation and digital transformation	Active implementation of modern technological solutions to improve management processes, optimize marketing strategies and effectively establish customer relations.
Increasing competitiveness	Stimulating investment, developing entrepreneurship and formulating integrated strategies to strengthen the industry's position in the domestic and international markets
Human capital development	Expanding employment opportunities, providing access to quality education and professional development at different stages of the career.
Sustainability and security	Focus on long-term development, taking into account environmental and social factors, creating comfortable and safe conditions for travelers.
Preservation of heritage	Active support of cultural and natural heritage, with the involvement of local communities in the preservation and development of unique heritage.

Source: compiled from UNWTO (n.d.b), UNWTO (2024)

The strategic priorities demonstrate the UN's holistic approach to tourism development, combining economic, social, environmental, and cultural aspects and administrative management. In particular, the emphasis on innovation and digital transformation reflects the global trend towards intelligent management systems, including the use of big data, analysis of tourist behavior, and the introduction of digital platforms for marketing and service. This allows for a quick response to changes in demand and increases the competitiveness of tourist destinations (Marchi et al., 2023).

The priority of strengthening competitiveness is to attract investment and to develop infrastructure, which directly affects the quality of tourism services and creates conditions for stable economic growth in the regions. In this context, cooperation between the public and private sectors is crucial. One of the key advantages of strategic planning for tourism companies is the ability to clearly define priority areas of activity and the best methods to achieve their goals. This approach helps organizations not only outline their competitive advantages but also effectively manage resources and capitalize on available opportunities to ensure sustainable development in the long term. In addition, strategic planning serves as a powerful mechanism for establishing links with the external environment. By integrating strategic plans with the dynamics of change in these areas, tourism companies not only adapt to new conditions but also actively influence them to achieve their goals successfully (Sereda et al., 2024).

Human capital development emphasizes the central role of staff in the tourism industry's success. Training highly qualified personnel, acquiring soft skills, and creating opportunities for professional growth form the basis for an innovative labor market (Bindawas, 2025; Stacey, 2015). Focusing on sustainability and security is a response to the current challenges posed by global crises, climate change, and tourist safety issues. This requires developing adaptive risk management mechanisms and implementing high safety standards in tourism infrastructure. In particular, the impact of climate change on the tourism industry is currently a key challenge (Dogru et al., 2019). The preservation of cultural and natural heritage is viewed not only as an element of cultural identity but also as an important economic resource that can create unique

tourism offers and support the development of local communities. Involving the population in the protection and promotion of such sites contributes to the creation of a sustainable tourism ecosystem (Gaonkar & Sitaram, 2025).

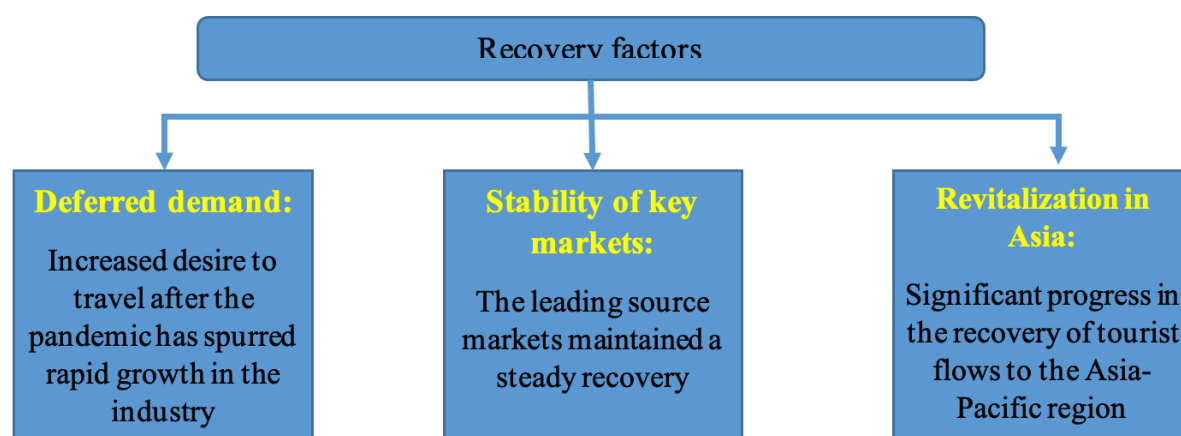
In general, the UN strategy for tourism aims to achieve a harmonious balance among economic efficiency, social responsibility, and environmental sustainability, in line with the global goals of sustainable development.

The modern travel industry is being influenced by several dynamic trends, with digitalization, artificial intelligence, and sustainable development playing a key role. These factors, together with the growing popularity of ecotourism and solo travel, will shape the industry's direction until 2030. Alongside technological changes, there has been a significant evolution in travelers' behavior. Whereas in the past mass travel, such as beach vacations or cruises, prevailed, today the number of tourists choosing individual tourism is growing (Włodarczyk & Cudny, 2022). People seek to escape their daily routine, everyday life, and social contacts, looking for a way to disconnect/switch off, and to enjoy simplicity and minimalism. In addition, there is a growing interest in traveling alone, which is perceived not only as an opportunity to gain independence but also as a personal challenge and a chance to meet new people (Graefe, 2025b).

International tourism has almost fully recovered from the pandemic, reaching 99% of its 2019 level in 2024. The year was a turning point for the industry, which in four years managed to overcome the most significant crisis in its history. The total number of international tourists in 2024 reached 1.4 billion, up 11% from 2023. The main factors of recovery include (Figure 1).

Figure 1.

Drivers of the tourism industry recovery



Source: UNWTO (2025)

Looking at the situation across the regions, the Middle East emerged as the absolute leader, exceeding the pre-crisis level by 32%. Europe and Africa also showed positive dynamics, with tourist arrivals increasing by 1% and 7%, respectively, compared to the pre-pandemic period. The Americas have recovered 97% of their previous levels, while Asia-Pacific countries have reached 87%. Among the sub-

regions, the fastest growth was observed in North Africa (+22%) and Central America (+17%).

The economic indicators are as follows:

- In 2024, international tourism revenues amounted to USD 1.6 trillion, which is 4% higher than in 2019;
- total export income from tourism, including passenger transportation, reached a record \$ 1.9 trillion, exceeding the pre-pandemic period by 3%.

As for development prospects, the number of international tourists is expected to grow by another 35% in 2025. The UN Tourism Confidence Index confirms high expectations for the industry. However, there are still significant risks posed by economic and geopolitical challenges that may hinder the sector's further progress (UNWTO, 2025).

In the current digital era, tourism remains one of the most successful sectors of the economy, spanning both domestic and international routes worldwide. The potential of artificial intelligence in the development of the global economy is projected to range from 15.7 to 19.9 trillion USD by 2030. 42% of travelers are already using artificial intelligence in their travel planning or are interested in trying its potential. Artificial intelligence and modern technologies account for about 30% of the UN Travel Startup Network, indicating active growth in their role in this area (UNWTO, n.d.a).

This review will present successful cases that demonstrate how various tourism market players are using digital technologies to increase efficiency and competitiveness, as well as to improve administration. The strategies of such leading players as the network of travel agencies "Poyedeli s nami", the global Booking platform, and the innovative project Visit Ukraine will be considered. Their experience clearly shows different approaches to digital transformation - from improving internal business processes to creating a new image of the country at the international level.

The use of online platforms and the integration of AI allow tourism companies to quickly adapt to changes in customer behavior and the transformation of their requests for leisure, travel, and related services. Digital solutions also enable the optimization of internal processes and the development of a positive international brand image, drawing on local cultural flavor while accounting for the specifics of intercultural communication, differences, and diversity. In addition, such solutions contribute to the development of personalized services, individual customer focus, and improved service quality. This directly affects the economic and financial performance of tourism companies and creates a favorable psycho-emotional climate among employees in the sector.

The network of travel agencies "Let us go with us"

The network has been in the travel services market for over 20 years. In April 2018, the company sent its first millionth client on vacation. The network of travel agencies "Let us go with us" offers: tour selection, last-minute tours, hotels in different countries around the world, various types of vacations (beach, family vacations, bus

tours, premium vacations, tours of Europe). It is also possible to order tours in installments, online insurance, gift certificates, etc. The company also recruits and trains staff to work in its branches. Information about the company's activities is available on social media (Facebook, Instagram, Viber, Telegram, TikTok) and on the YouTube channel (Come with us!, n.d.). The company's website offers a full range of travel services, from choosing a tour based on preferences and budget to support with insurance and logistics (Come with us!, n.d.).

The example of "Let's go with us!" illustrates a successful hybrid model that combines a vast network of physical offices with advanced digital tools. Thanks to digitalization, the company was able not only to expand its scale and attract new customers, but also to significantly diversify its service offerings, improve internal processes, and ensure effective engagement with the audience through online channels.

Global Booking platform

The development of online hotel booking began with the emergence of services such as Expedia.com, launched by Microsoft in 1996. This step was an important milestone in digital transformation, giving tourists the ability to book accommodation online, thereby minimizing the need for phone calls. However, the first platforms had significant drawbacks: they offered only basic information without photos, detailed room descriptions, or reviews, which complicated the selection process. In the current hotel business development environment, there is a clear trend: successful businesses require rapid adaptation to changes in the information technology market. Electronic booking and reservation systems are becoming a key channel for selling tourism products. Currently, most of the hotel quota (approximately 60-70%) is controlled by companies that implement centralized reservation systems. Every year, the number of tourists who prefer online channels to organize their travels is growing (Flint, 2022).

The situation changed fundamentally with the emergence of Booking.com. The idea for this platform originated in the late 1990s from one of its founders, Geert-Jan Bruinsma, who encountered difficulties booking a hotel. This personal experience demonstrated the need for more transparency and access to detailed information. Booking.com responded to these challenges by offering users not only detailed descriptions and photos, but also a key innovative element – customer reviews. This approach was a game-changer: it not only gave consumers more confidence in their choices but also set new standards for the entire industry. Initially, the platform developed rather slowly, offering information on only about a dozen hotels in 1997. Moreover, at that time, most people preferred traditional phone calls to make reservations and used the Internet infrequently. A change in advertising strategy, namely, informing about their services not in newspapers or on television, but on the Internet, helped Booking.com to become popular in the Netherlands at first. Subsequently, it expanded to Germany, Spain, and the Nordic countries. The main marketing techniques used by the platform owners are the scarcity effect, reviews and ratings, a variety of choices, rapid adaptability, and the active use of emotional videos and social media. For example, in 2018, Booking launched a hashtag designed to bring people together through shared travel experiences. An important component of a comfortable stay is the caring hotel staff, who are always ready to help solve any problem. The service invited travelers to share stories about the staff whose support made their

trip unforgettable. Later, the team selected the most interesting stories and created a video based on them. Another interesting example is #AmericansForEveryone. The campaign included two Facebook posts, two Instagram posts, and 13 tweets, resulting in a 1.7% engagement rate. This is considered a good indicator for Booking's social media. The main idea was to unite Americans with representatives of the cultures that live near them. Booking offered ten little-known routes in the United States, allowing for a better understanding of local traditions. The idea was to allow everyone to dive deeper into the unique atmosphere of their own region without having to move far from home. The campaign received highly positive feedback, with calls for similar initiatives outside of America. Today, Booking is a leader among travel rental platforms due to its ability to adapt to change, offer a wide range of options across different customer segments, and skillfully convey the emotions travelers experience. Although the marketing team pays little attention to active social media, they are confident in their audience's loyalty, which can easily find all the necessary information directly on the official website. At the start of their business, the company's owners were guided by their own needs, improving the platform accordingly. This approach continues to this day, with all team members serving as brand ambassadors (Raksha, 2022).

Thus, the launch of Booking.com has become a vivid example of how digital innovations can be not just a technological breakthrough but also a successful response to consumers' current needs to improve the quality and reliability of services.

The Booking.com case clearly demonstrates that successful digital transformation in the tourism sector requires not only technical innovation, but also a strategic approach to customer interaction. It also proved important not to be afraid of change and to be the first in an entirely new field. In particular, the introduction of detailed descriptions, photos, and a review system increased consumer confidence and set new service standards, becoming a key factor in the platform's competitiveness. Previously, only text descriptions or uninformative photos were used, which did not give potential customers a complete picture of the offer. An analysis of marketing strategies shows that adaptability, flexibility, personalization, and emotional engagement with the audience on social networks help you strengthen your brand and maintain customer loyalty even without active promotion in mass media. After all, in today's world, even in its virtual dimension, empathy and immersion are important aspects of interaction, especially with people separated by physical borders and language barriers. At the same time, the experience of Booking.com confirms the importance of a flexible business model and a focus on users' real needs, enabling a quick response to market changes and technological innovations. Thus, the Booking.com case illustrates the effective combination of digital technologies, data analytics, and strategic marketing as the basis for the sustainable development of modern tourism companies, which is entirely in line with the Sustainable Development Goals, where tourism plays an important role.

Visit Ukraine's innovative project

As stated on the website, Visit Ukraine is a 24/7 service portal about Ukraine that provides information on insurance, legal services, entry rules, mini-hull insurance, and the necessary details for hotels, tours, and tickets. One can also buy merchandise and read relevant tourism-related content on the blog, as well as political news, wartime

logistics, international reviews, etc. In particular, in the Merch section, authors see an immediate reaction to current events in Ukraine: there is an option to buy a T-shirt with a picture of Oleksandr Usyk and his phrase “Do not push the horses”. It is noteworthy that the T-shirts also feature an image of a strong horse wearing boxing gloves (Visit Ukraine, n.d.). In our opinion, this is also a demonstration of the incredible sense of humor inherent in Ukrainians, even in the most challenging circumstances (Visit Ukraine, n.d.).

An analysis of the Visit Ukraine platform’s content shows that digital technologies play a crucial role in modernizing Ukraine’s tourism sector. They contribute to effective industry management, improve marketing strategies, and increase the industry’s competitiveness in the market. The Visit Ukraine online service exemplifies the successful implementation of an integrated approach to digital transformation (Hryshyna, 2024). Visit Ukraine acts as a multifunctional digital aggregator, integrating a wide variety of travel services into a single online environment. The platform offers hundreds of options for routes and tours: from press tours and outdoor activities to historical tours, city walks, and relaxation programs. This format greatly simplifies the selection process for customers, giving them access to a wide range of unique offers. The service creates a coherent tourist image of Ukraine by centralizing data on the most important locations, cultural attractions, natural resources, and related infrastructure elements (hotels, restaurants, and transportation). This raises awareness of tourists and encourages them to travel. Visit Ukraine demonstrates a wide range of functionality, in particular through the integration of related services, such as online booking of insurance, tickets, and accommodation, in a single interface. This optimizes travel organization, improves customer convenience, and increases the average check. In addition, the platform takes into account the specifics of martial law, providing up-to-date information on curfews and conduct rules during air alerts (Visit Ukraine, 2025).

Digital solutions serve not only as a channel for service delivery but also as an effective mechanism for quality management. Visit Ukraine’s research confirms that digital transformation should be comprehensive and multifaceted. It includes integrating multimodal services, centralizing information, and using the platform to improve customer experience and quality management. This approach helps to create significant competitive advantages and contributes to the overall development of the tourism industry.

Based on the Visit Ukraine platform’s experience, we recommend that tourism companies implement integrated digital services. It will be highly relevant and practical if these services combine booking, information provision, and additional services in a single interface. It is also essential to promptly update content to reflect current events and tourist needs, particularly in emergencies or during martial law. The example of Ukraine shows how important it is to provide timely information, such as border crossing conditions or tourist destination information. Travel companies should also actively use social media and multimedia content to increase customer engagement and build a positive brand image. In addition, using different social networks allows you to expand your customer base. For example, consider how different age groups use Facebook or TikTok. Personalizing offers based on user behavior analysis allows you

to increase the average check and customer loyalty. In addition, digital platforms should serve as tools for managing service quality and reputation. After all, even one negative comment can ruin a reputation built over many years. Therefore, it is important to monitor bot and hater activity. The integration of multimodal services and data centralization ensures effective planning of tourist routes and stimulates the development of national tourism.

These examples demonstrate how technology can not only improve processes and expand the range of services but also significantly change the format of customer interaction, making it more transparent, comfortable, and customized. At the same time, despite the apparent benefits, the complete digital transformation of travel companies faces several serious challenges that require a comprehensive approach to address them effectively. Below, the authors will focus on the challenges that stand in the way of the digital development of travel companies:

1. Consumer information overload. In today's digital age, travel companies face a large volume of information from reviews, blogs, and social media. This information flow makes it difficult for customers to make choices and increases their risk of exposure to negative messages. Given the growing trust in online ratings, even one unfavorable comment can significantly damage a brand's reputation. In this regard, digital management is becoming a key element of the effective operation of the travel business. It involves the use of reputation-monitoring and content-management systems that enable a quick response to potential risks and ensure a positive presence in the digital environment.

2. Digital transformation creates new standards for staff qualifications in the tourism sector. A modern employee needs to master the skills of data analysis, digital channel management, search engine optimization (SEO/SEM), and social media management (further – SMM). It is important not only to be technically proficient but also to think strategically and create a positive image of the company online. In response to these challenges, companies are increasingly hiring IT specialists and digital marketers, which contributes to their competitiveness. However, such changes increase operating costs, encouraging businesses to reconsider their HR policies.

3. High competition. Digital transformation has significantly changed the rules of the game in the travel business, intensifying competition between local companies and international online agencies. To stay relevant in the market, businesses must constantly improve their online services and develop effective customer interaction. An important success factor is the differentiation of the offer, which means creating unique value for the audience. In this process, strong branding and personalized marketing play a special role, helping to build trust and increase customer loyalty.

4. Financial costs and risks of rapid technology obsolescence. Digitalization of the travel business requires significant financial investments. Integration of complex IT solutions, such as CRM, ERP, and booking platforms, requires significant resources in both finance and technical support (Bondarenko et al., 2025). In addition to development and maintenance costs, companies face the challenge of rapid technological obsolescence. As a result, regular infrastructure modernization is becoming integral to strategic planning and budgeting.

5. Cybersecurity and data protection. The digital transformation of travel companies has significantly increased the relevance of cybersecurity issues. Online booking and electronic payment systems pose risks of unauthorized access and leakage of personal data. To minimize these threats, businesses need to implement modern security measures, such as information encryption and multi-level authentication (Lesmana et al., 2023). In addition, compliance with legal requirements, such as the GDPR, remains not only a necessity but also a mandatory condition (GDPR Text, n.d.). A well-designed cybersecurity strategy not only helps fulfill legal obligations but also gives companies a competitive advantage by building customer trust.

6. Personalization and management of customer expectations. In today's digital environment, travel companies need to adapt to change and provide services tailored to each customer's specific needs. Modern consumers expect offers to be tailored to their personal preferences and travel style (Murphy, 2024). To this end, businesses are actively implementing algorithms that analyze demographic data and user behavior to create targeted recommendations. The success of such personalization largely depends on the quality of the information received, so companies should invest in effective systems for collecting, storing, and processing data, while strictly adhering to ethical standards and legal requirements (Wilson et al., 2024). Well-implemented personalization not only increases customer satisfaction but also helps to build long-term brand loyalty.

Therefore, the digitalization of tourism management is accompanied by several challenges, including customer information overload, insufficient digital skills, increased competition, financial barriers, cybersecurity threats, and the need for a personalized approach. To overcome them, businesses need a strategy that combines investments in modern technologies, employee training, data analysis, and active brand development in the online space (Qiao et al., 2024). Such an approach will not only reduce risks but also maximize the potential of digitalization to scale and increase competitiveness.

Effective administration of tourism businesses is an important factor in successful and dynamic digital transformation. Coordination of business processes, optimization of resource use, personnel management, control over service quality, advertising, coordination of interaction and cooperation with related industries and state and international institutions—all this requires appropriate administration. A systematic, well-thought-out approach to administration enables prompt responses to changes in the tourism services market, the integration of digital tools into current operations, and the implementation of the company's strategic goals. This is what contributes to increased competitiveness and creativity, distinguishing the tourism industry from manufacturing.

Discussion

An analysis of current global trends, along with examples of digital transformation in the tourism industry, shows that technological innovations play an important role not only in optimizing business processes and increasing revenues, but also in creating long-term competitive advantages for enterprises (Qiao et al., 2024; Tandafatu et al., 2024). Digital solutions are the basis for the sustainable development

of the tourism industry both within national economies and internationally (Zeqiri et al., 2025). To achieve maximum results, a holistic approach to technology implementation is needed, including the development of employees' professional competencies, strategic management of innovations, and adaptation to dynamic economic, social, and cultural realities (Sereda et al., 2024; Stacey, 2015).

The unrestrained flow of information from social networks, blogs, and online reviews creates difficulties for consumers in their decision-making. Therefore, businesses need an effective reputation and content management strategy to minimize potential negative impact (Horn et al., 2015). Changes in staff qualification requirements are forcing companies to master new competencies, such as digital marketing, SEO/SEM, and data analytics. This increases the cost of training employees and hiring IT specialists, forcing companies to revise their HR policies. At the same time, increased competition from global online agencies makes differentiation a crucial factor in maintaining market positions. In this environment, local companies should focus on creating unique value, implementing personalized marketing, and building a strong brand to ensure customer loyalty (Bindawas, 2025; Murphy, 2024).

Financial costs and technology obsolescence remain among the key challenges for modern tourism management. Integration of complex systems such as CRM, ERP, or online booking platforms requires significant investment, and the rapid pace of technological development forces companies to constantly update their infrastructure (Bondarenko et al., 2025; Chorna et al., 2024). The issue of cybersecurity and data protection is becoming critically important as the intensification of online operations increases the risk of confidential information being leaked. In this regard, it is necessary to implement reliable measures such as encryption, multi-level authentication, and compliance with legal regulations (Lesmana et al., 2023). The ever-changing conditions of the global world increasingly emphasize the importance of digital information systems in everyday life, covering both interpersonal communication and financial transactions and business processes. The Internet of Things (further – IoT), cloud computing, big data, and other innovative developments have become firmly integrated into modern society, providing multifaceted digital opportunities. However, along with this growth comes a threat - an increase in the area for potential attacks, which is often used by cybersecurity attackers (Sendjaja et al., 2024).

At the same time, competitiveness in today's world largely depends on personalized approaches and managing customer expectations. The use of algorithms for data analysis helps to offer targeted services but requires responsible handling of information in accordance with ethical and legal standards. In general, the digitalization of tourism management is associated with a whole range of challenges: from information overload and staffing difficulties to financial risks, cybersecurity threats, and high consumer expectations. Successfully overcoming these challenges requires a strategic approach that combines investments in modern technologies, the development of staff professional competencies, effective data analytics, and active brand building in the digital space (Suharto, 2024). This integrated approach allows

for the maximization of digitalization potential, improved performance, and the competitiveness of tourism enterprises.

The integration of modern technologies, global trends, and innovative business solutions demonstrates that the digitalization of the tourism sector is not merely about improving efficiency (Santarsiero et al., 2024). It creates new approaches to customer interaction, promotes the development of local and national tourism products, and supports sustainable economic progress and the preservation of cultural heritage (Wu et al., 2023). In the future, the success of this sector will be determined by three main factors: companies' ability to respond quickly to technological changes, ensuring data security and transparency, and focusing on the personalized needs of each tourist in the global digital space.

Conclusions

The digitalization of the tourism industry has become a decisive factor in transforming business models, customer interactions, and business development strategies. Modern research shows that effective adaptation to the digital environment enables improved competitive positions, expanded service offerings, and new channels of communication with tourists.

The main trends in the digital transformation of tourism include the active use of online booking platforms, the popularity of mobile applications, the integration of social media into operations, and the introduction of artificial intelligence to personalize services. These technologies help to improve the quality of service, attract new audiences, and strengthen the loyalty of existing customers.

However, digitalization is not without its challenges. These include, first and foremost, customer information overload, the need to upgrade staff skills, increased competition, significant investments in technology, the risk of rapid solution obsolescence, and cybersecurity issues. Addressing these issues requires comprehensive strategies that include investing in modern technologies, employee training, building a strong digital brand, and improved data management. It should be noted that these challenges are not specific to tourism businesses. Instead, authors can talk about a global trend – the adaptation of humanity and all spheres of life to the digital era.

The scientific value of this approach lies in systematizing current trends in the digitalization of tourism, considering international experience, thereby helping to develop practical recommendations for the industry's strategic management. The practical significance lies in the possibility of applying the results to improve the activities of travel companies, optimize the customer experience, and create conditions for the stable development of the industry in the digital economy, especially with the use of successful examples of such digital adaptation, as well as taking into account the mistakes and problems that have been solved.

Thus, digital transformation is not only a technological process, but also a strategic need for all tourism market participants who want to remain competitive and meet the expectations of modern consumers.

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