

Tourism development in the context of digital transformation in Vietnam: current situation and solutions

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Abstract: *Digital transformation has been instrumental in driving growth across various sectors, particularly tourism, in recent years. Thanks to the application of modern technologies, travelers can now easily explore and enjoy a diverse range of engaging experiences. Tourism businesses have also enhanced operational efficiency by optimizing processes, services, and customer management. Moreover, state management agencies have had the opportunity to innovate their models and management approaches and strengthen coordination with businesses in directing and guiding the implementation of tasks. This paper evaluates the tourism sector's outstanding achievements during the digital transformation process, identifies key challenges, and proposes several policy solutions to promote the sustainable development of this vital industry in Vietnam.*

Keywords: *Tourism; digital transformation; policy; development.*

1. Introduction

As the Fourth Industrial Revolution unfolds rapidly, digital transformation has become an inevitable trend, exerting profound impacts on all socio-economic sectors, including tourism. For Vietnam, digital transformation in the tourism sector not only presents opportunities to enhance competitiveness and optimize business operations but also contributes to building the image of a modern and hospitable country in the eyes of international visitors. However, to ensure a sustainable and effective digital transformation

process, the role of state management must be strongly promoted in a coordinated and timely manner.

Grounded in the theoretical framework of digital transformation, this paper examines the current state of Vietnam's tourism industry over recent years, thereby highlighting the opportunities and challenges that digital transformation presents to the sector. Based on that analysis, it proposes several policy recommendations to further foster tourism's development in the context of digital transformation in the coming time.

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2. Theoretical overview of digital transformation in the tourism sector

2.1. The concept of digital transformation in tourism

Digital transformation has become a widely recognized and familiar term across most sectors worldwide, including the tourism industry. According to Gartner (2024), a leading information technology research and advisory company, digital transformation uses digital technologies to reshape business models, create new opportunities, increase revenue, and deliver exceptional value. Gartner has also developed a digital transformation assessment framework with core pillars to help organizations and businesses holistically manage the transformation process.

From the above perspectives, digital transformation involves applying digital technologies to restructure business models, create new value, and enhance operational efficiency. In other words, it is a profound and comprehensive transformation in how individuals and organizations live, work, and produce, aiming to boost productivity, increase competitiveness, and generate added customer value.

One of the most influential theoretical models in studying technology usage behavior is the Technology Acceptance Model (TAM), proposed by Fred Davis in 1986. This model explains how users perceive, evaluate, and adopt new technologies, and it has been widely applied in research related to software, websites, online shopping, and mobile applications. Managers and technology developers can use this model to better understand user behavior and optimize technology design to more effectively meet practical needs.

In the tourism sector, digital

transformation is reflected in the shift in how people travel, business operations, and tourism activities, are managed based on data and digital technologies. In recent years, the concept of “digital transformation in tourism” has been increasingly mentioned, becoming an inevitable trend driven by the Fourth Industrial Revolution (Industry 4.0). The emergence of new technologies such as AI, IoT, Big Data, Blockchain, and Virtual Reality (VR) is driving profound changes in the socio-economic landscape, including the tourism industry. Enhancing the application of digital technologies in tourism development is now regarded as an optimal solution and a vital factor for tourism businesses to survive and thrive amid intensifying competition.

2.2. The role of digital transformation in the tourism sector

Digital transformation plays a pivotal role in the Fourth Industrial Revolution and has become an inevitable trend across all aspects of social life, particularly for businesses and government agencies. According to the Ministry of Culture, Sports, and Tourism (2022), digital transformation enhances operational efficiency and competitiveness. It significantly contributes to successfully implementing strategies for building a digital government, a digital economy, and a smart society.

For businesses and government agencies, digital transformation enables the practical construction and utilization of digital databases. The transition from physical to digital value facilitates the storage, exploitation, and management of information, thereby minimizing the cost of building fragmented and inconsistent data, as seen in the past (Government, 2020). Moreover, digital data has become a strategic asset, supporting strategic planning and reforming management

approaches toward greater streamlining, logic, efficiency, and alignment with global integration trends.

Digital transformation also significantly changes the value chain and product supply systems. It promotes automation, increases labor productivity, enhances business performance, and improves the quality of public services. By applying digital technologies in operations, connectivity, and strategic decision-making, businesses can optimize human resources, increase work efficiency, and strengthen competitiveness.

In an increasingly competitive tourism market, digital transformation has become vital for tourism enterprises. Technological applications help optimize management, reduce costs, improve business performance, and strengthen connections with customers and partners within the tourism value chain. Furthermore, technology fosters transparency, encourages collaboration, and promotes sustainable development across the entire industry.

The rapid development of technologies such as the Internet, tourism software, AI, Big Data, and Virtual Reality (VR) has eliminated geographical barriers, enabling businesses and customers to interact through a single screen. As a result, travel agencies can provide continuous services, update information in real-time, and support customers throughout their journey, from researching information and comparing prices to reading reviews and booking tickets and accommodations.

Modern consumers increasingly seek convenience and personalized experiences. Integrating digital platforms into tourism operations allows customers to book services anytime, anywhere, saving time and optimizing their travel journey. This shift has significantly altered consumer decision-

making behavior in the tourism and travel industry - from information search and evaluation to post-trip sharing of experiences.

Tourism businesses are gradually adapting their digital presence through various digital platforms to meet customers' increasingly diverse needs better. Users can access smart features on these platforms to select suitable services such as airlines, transportation, hotels, or rental accommodations. At the same time, customers can track their itineraries, receive consultations, leave reviews, and provide feedback with ease, contributing to an enhanced overall travel experience.

In summary, digital transformation is reshaping the tourism sector's entire landscape of business operations, management, and service delivery. Any enterprise wishing to survive and thrive in the digital age must actively innovate and adopt modern digital technologies to improve service quality, increase value, and deliver superior customer experiences.

3. Current status of digital transformation in Vietnam's tourism sector

3.1. Achievements

In recent years, Vietnam's tourism industry has emerged as a bright spot in the country's socio-economic development landscape. Digital transformation has been identified as a key factor in this success, catalyzing the tourism sector's rapid, sustainable, and deeply integrated development.

According to the Vietnam National Authority of Tourism, in 2024, the country welcomed over 17.5 million international visitors (an increase of 38.9% compared to 2023), generated VND 850 trillion in tourism revenue (a 23.8% increase), and served approximately 110 million domestic travelers. These impressive figures reflect the strong impact of digital transformation, which has

enabled the personalization of services and optimization of customer experiences. The achievements can be evaluated across several dimensions:

(1) Tourist behavior and the popularity of digital platforms

The rapid development of digital technologies has significantly altered consumer behavior in the tourism industry. Modern travelers increasingly prefer to use online platforms, social media, and mobile applications to search for information, compare prices, and book travel services such as tours, accommodations, flights, transportation, and attraction tickets via self-service methods. According to the “Digital 2024” report by DataReportal, over 72% of global travelers used mobile devices to search for travel information, and more than 50% booked services online through apps or websites.

Technology applications such as Traveloka, Agoda, Booking.com, and Vntrip have become increasingly popular in Vietnam, attracting millions of monthly visits. These platforms provide booking services and integrate features such as user reviews, feedback systems, digital maps, and loyalty programs, enhancing customer satisfaction and engagement. Additionally, many accommodations and tourism enterprises have implemented operational support technologies such as Property Management Systems (PMS), Smart locks for automated access control, Smart parking systems, Point-of-sale (POS) systems, Customer Relationship Management (CRM) systems, E-invoicing, and electronic contracts. These technologies optimize operational efficiency and create a transparent, convenient, and modern customer experience.

Notably, sharing travel experiences

through videos, photos, and online reviews on platforms such as Facebook, Instagram, TikTok, TripAdvisor, and Google Reviews has become increasingly popular. These interactions allow businesses to capture emerging trends, customer sentiments, and satisfaction levels, enabling them to adjust products and services accordingly. Furthermore, several prominent tourist destinations in Asia, such as Japan, South Korea, and Singapore, have actively integrated digital ecosystems with tools such as smart travel maps, virtual tour guide apps, and QR codes at attractions, enhancing personalized experiences. This is a trend that Vietnam can study and flexibly adopt.

(2) Legal framework and central-level orientation

Recognizing the pivotal role of digital transformation in tourism development, the Ministry of Culture, Sports, and Tourism has proactively issued a range of projects and guidance documents and organized training programs for local authorities and businesses. Notable among these are the Project on the National Tourism Database System and the Project on the Application of Fourth Industrial Revolution Technologies for the Development of Smart Tourism. The Ministry has also researched and developed a Set of Criteria for Evaluating the National Digital Platform for Tourism Governance and Business and a Smart Destination Performance Index. In addition, the Ministry has encouraged localities to synchronously implement three key initiatives: Digitalizing Cultural Heritage, Smart Tourism, and Tourism Operations Centers.

(3) Notable implementation outcomes

The Tourism Information Center (under the Vietnam National Authority of Tourism) has deployed the development of a nationwide

smart tourism ecosystem, including a national tourism database (covering enterprises, accommodations, tour guides, destinations, etc.); Tourism statistics reporting software from the central to local levels; The national mobile app “Vietnam Travel” is an integrated platform that offers information search, digital maps, ticket and hotel bookings, tour management, and a feedback system connected to competent authorities.

Technology adoption has improved visitor experience, strengthened management capacity, and promoted Vietnam’s tourism image more effectively. Outstanding virtual exhibitions such as “Vibrant Vietnam” and “Wonders of Vietnam” - in collaboration with Google Arts & Culture - have showcased over 1,300 photos and 35 exhibitions on Vietnam’s landscapes, culture, cuisine, and heritage. These initiatives have highlighted localities’ natural and cultural values on a global digital platform, such as Quang Binh, Ninh Binh, Thua Thien Hue, Da Nang, and Quang Nam.

(4) Prospects

With its inherent strengths in natural resources, culture, and people, combined with a comprehensive smart tourism ecosystem and digital transformation, Vietnam’s tourism industry is well-positioned for take-off in 2025 and the years ahead. The overarching goal is to elevate tourism into a leading economic sector while successfully promoting Vietnam’s image as a modern, friendly, and attractive destination to international visitors.

3.2. Challenges

Despite notable achievements, the digital transformation process in Vietnam’s tourism industry continues to face significant challenges that hinder modernization and sustainable development.

One of the most pressing barriers is the underdeveloped and inconsistent

technological infrastructure. While major urban centers benefit from high-speed Internet and stable connectivity, many remote, rural, and mountainous areas still lack adequate Wi-Fi coverage. This limitation poses difficulties in implementing digital solutions and constrains the potential for developing ecotourism in regions with unique natural and cultural resources.

Another critical bottleneck is the shortage of high-quality human resources in the digital technology sector. At present, much of the tourism workforce still operates using traditional methods and lacks formal technology training. The application of digital tools in tourism operations remains limited. Many small and medium-sized tourism enterprises struggle to recruit and retain IT personnel due to insufficient compensation policies, benefits, or appealing working environments.

A further challenge lies in management authorities’ and businesses’ limited awareness and digital mindset. Some local government agencies remain passive in developing digital transformation plans, policies, and roadmaps for tourism. Technical support and digital guidance efforts are often superficial and not tailored to the specific conditions of each locality. Simultaneously, many businesses still view digital transformation as a costly investment with unclear returns, leading to reluctance to adopt technological solutions.

These challenges indicate that digital transformation in Vietnam’s tourism industry requires a more comprehensive and strategic approach, with stronger collaboration between the government and businesses. Addressing infrastructure gaps, improving human capital, and enhancing digital awareness are essential to realizing a truly effective and sustainable smart tourism model.

4. Policy recommendations to promote digital transformation in Vietnam's tourism sector

First, improving the legal framework and formulating a national digital transformation strategy for tourism. The Government should urgently develop and complete a comprehensive legal system related to digital transformation in the tourism sector, especially in digital data, electronic transactions, and digital content copyrights. A National Tourism Digital Transformation Strategy for 2030 should be issued, aligned with specific and feasible sustainable development goals. A favorable legal environment should also be created to promote innovative tourism business models such as smart tourism, virtual tourism, and augmented reality (AR/VR) tourism experiences. Encouraging technological innovation from both the public and private sectors, especially among small and medium-sized enterprises (SMEs), will help reduce digital barriers and stimulate creativity across the industry.

Second, increasing investment in digital infrastructure for tourism. It is essential to strengthen investment in digital infrastructure to ensure high-speed broadband access and the availability of modern digital tools for businesses and tourists in cities, remote areas, and mountainous regions. This would enhance seamless travel experiences while supporting data management, analysis, and sharing in the tourism sector. Innovative tourism business models based on data analytics, AI, and shared digital platforms should be promoted to optimize operational efficiency and data synchronization. The Government should introduce financial support policies to help enterprises, especially SMEs, access and sustain digital transformation over the long term.

Third, enhancing regional coordination and fostering public-private partnerships (PPP). The Government should be central in coordinating inter-sectoral and inter-regional efforts to implement smart tourism projects. Mechanisms to encourage PPPs and connect traditional tourism businesses with local technology enterprises should be established to facilitate data sharing, business model innovation, and comprehensive digitalization. Moreover, training programs on digital transformation should be organized for government officials, tourism enterprises, and local destinations to build consensus and alignment in implementation.

Fourth, developing digital human resources for the tourism industry. Successful digital transformation requires a well-trained workforce. Therefore, efforts should be made to promote the training and upskilling of state management cadres and tourism enterprise personnel in digital technology and innovation. A digital learning and training system should be established to reduce costs and improve workforce quality. In addition, policies should encourage lifelong learning and continuous technological updating among tourism workers to meet job requirements in the digital era.

Fifth, strengthening the use of technology in tourism promotion and marketing. The focus should be developing a national digital tourism promotion platform, including a multilingual tourism portal that integrates destination information, events, tourism products, virtual experiences, and online booking services. This platform should be integrated with tourism digital ecosystems and technologies such as AI, Big Data, digital maps, and real-time feedback to enhance promotion quality. The Government should assist localities in developing digital tourism marketing plans aligned with the national

tourism communication strategy, as the Prime Minister directed in Directive No. 08/CT-TTg dated February 23, 2024. At the same time, communication campaigns should be intensified to raise awareness among communities, businesses, and local governments about the role and importance of digital transformation in tourism development.

Sixth, enhancing the effectiveness of monitoring and evaluation for digital transformation. To ensure the substantive effectiveness of digital transformation in tourism, a comprehensive set of evaluation criteria and indicators should be developed to accurately reflect program outcomes from the perspectives of policymakers, businesses, and tourists. Key criteria should include (1) Infrastructure and technology; (2) State management capacity; (3) Tourism enterprise capacity; (4) Tourist experience and feedback; (5) Outputs and outcomes of digital tourism activities. In addition, regular monitoring and inspections should be strengthened at local and enterprise levels to promptly identify challenges and adjust policies in line with real-world conditions.

4. Conclusion

Digital transformation in the tourism sector is an inevitable trend to improve service quality, enhance customer experience, and promote sustainable growth in this key economic sector. In practice, state management is crucial in creating a favorable legal environment, supporting businesses in adopting technology, and providing strategic direction for the development of smart tourism. In the coming period, to fully leverage the potential of digital transformation, it is essential to continue improving the legal framework, strengthening digital infrastructure, enhancing digital capabilities,

fostering public-private partnerships, and raising public awareness of digital tourism. With coordinated efforts from the government, businesses, and the broader community, Vietnam's tourism industry is poised to make significant strides, promoting the country's image on the global tourism map.

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