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**UMIDAXON NARZULLAYEVA NODIR QIZI**

**DIGITAL TRANSFORMATION OF TOURISM INDUSTRY IN  
UZBEKISTAN**

**08.00.17– Tourism and hotel activities**

**DISSERTATION  
submitted for a degree Doctor of Philosophy (PhD) in Economics**

**Research supervisor:  
Doctor of Economics, prof.  
Alisher Abduganievich Eshtayev**

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## CONTENTS

	<b>INTRODUCTION.....</b>	<b>3</b>
<b>I CHAPTER.</b>	<b>THEORETICAL FOUNDATIONS OF THE DIGITAL TRANSFORMATION OF TOURISM.....</b>	<b>13</b>
1.1-§.	A critical analysis of the theoretical underpinnings of the concept of digital transformation of the economy.....	13
1.2-§.	Digital transformation as a driver of tourism industry development.....	24
1.3-§.	Institutional reform and the regulatory framework for the development of digital tourism in Uzbekistan.....	32
	Summary of chapter 1.....	43
<b>II CHAPTER.</b>	<b>SYSTEM ANALYSIS OF THE DIGITALIZATION OF TOURISM INDUSTRY IN UZBEKISTAN.....</b>	<b>46</b>
2.1-§.	The main digital trends in tourism industry of Uzbekistan	46
2.2-§.	A systemic analysis of the study of digital transformation in Uzbekistan.....	65
2.3-§.	Current state of digital transformation of tourism industry in Uzbekistan.....	80
	Summary of chapter 2.....	93
<b>III CHAPTER.</b>	<b>PROSPECTS FOR TOURISM DEVELOPMENT UNDER DIGITAL TRANSFORMATION IN UZBEKISTAN.....</b>	<b>96</b>
3.1-§.	The priorities of tourism enterprises in the context of digital trends and changes.....	96
3.2-§.	Modeling and forecasting tools demonstrate the influence of the digital transformation process on tourist flows.....	105
3.3-§.	Tourism development perspectives under the conditions of digital transformation of Uzbekistan.....	117
	Summary of chapter 3.....	131
	<b>CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>134</b>
	<b>BIBLIOGRAPHY.....</b>	<b>138</b>
	<b>APPENDIX .....</b>	<b>152</b>

## **INTRODUCTION (abstract of dissertation of the Doctor of Philosophy (PhD) on Economic Sciences)**

The increasing globalization of the world is having a beneficial impact on the tourism sector, with digital technologies playing an important role in this process. Such technologies facilitate the discovery, customisation and purchase of tourism products and services. The role of technology in enhancing the competitiveness of their businesses and the quality of their services is of great importance to those involved in the provision of tourism services. The benefits of the tourism industry to the international economy are enormous, and they achieve this through the use of digital technologies that facilitate the production of attractive, creative, tourism products, distribution for sale, advertising to target audiences, and the sale of products through various online channels. Tourism industry is a significant contributor to international trade, ranks fourth in the world in terms of exports of goods and services, third in terms of income, and accounts for 10% of the world's gross domestic product<sup>1</sup>. Due to the digital transformation of the tourism sector, more than 975 million tourists traveled around the world in 2023. Global tourism costs are expected to reach \$ 2 trillion in 2024<sup>2</sup>. The importance of digital transformation in the tourism industry is increasing, as evidenced by the growing body of scientific research exploring the potential of digital technologies in this sector. Technology for the optimization of internal processes in tourism companies, systematization of the client base, geolocalization and targeting of mails, content and distribution, effective communication of tourism companies with consumers in the digital environment, chat-bots, online bookings, expositions, online formats of entertainment programs, virtual tour development, AI, etc. Based applications that assist tourists in planning their trips, the creation of various search engines, and the development of a personal travel plan proposal tailored to the user's needs using neural networks are among the priority areas of scientific research being carried out in this regard. These areas include the global application of digital technologies in

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<sup>1</sup> The Social Impact of Global Tourism. World Travel & Tourism Council Research Hub. Dec, 17 2023y

<sup>2</sup> Global Tourism Statistics 2024: Facts and Forecasts. <https://wptravel.io/global-tourism-industry-statistics/#h-global-tourism-statistics-2024-predictive-analysis>

the formation of personal travel plan, information, and inclusive societies, as well as the digital economy.

Uzbekistan has significant potential to grow tourism and is committed to providing comprehensive support to the sector. The Strategy for the Development of the New Uzbekistan in 2022-2026 was developed to support the implementation of digital transformation in the country's economy, industry and society as a whole, with the introduction and development of information, communication and digital technologies in all sectors of the economy as a priority. In accordance with the strategic plan, the objective is to increase the number of local tourists to 12 million and the number of foreign tourists to 9 million, as part of the implementation of the "Travel Uzbekistan" programme. There is growing interest among foreign investors in Uzbekistan's tourism industry. The foreign investment attraction agency highlighted the security situation, the existence of over 9,000 places of pilgrimage, the establishment of free tourist and economic zones, and the improvement of the current legislation in the tourism industry as investment advantages of the republic. In addition, Uzbekistan aims to strengthen its digital infrastructure through some 580 projects in various areas, including e-government, digital tourism, online business development, and support for start-ups, as part of its "Digital Uzbekistan - 2030" strategy for sustainable economic development. The pervasive integration of digital technologies into all facets of contemporary society, coupled with the heightened focus on the tourism industry at the national level, underscores the significance of the dissertation research. This is particularly evident in the context of economic realities, the inflow of tourists from abroad, and, most crucially, the advancement of domestic tourism.

Dissertation work serves to a certain extent for the implementation of the tasks specified in the following regulatory legal documents: The Presidential Decree

No. PF-60, dated January 28, 2022, "On the Development Strategy of the New Uzbekistan for 2022 — 2026", No. PF-6079, dated October 5, 2020, is entitled

"On approval of the strategy "Digital Uzbekistan-2030" and measures for its effective implementation", as outlined in the PF-5611 of 5 January 2019, entitled "On additional measures to improve the tourist infrastructure and further increase

the flow of foreign tourists to the Republic of Uzbekistan”, and the President Decision PQ-135 dated April 26, 2023, entitled "On Additional Measures to Rapidly Develop the Tourism Potential of the Republic and Further Increase the Number of Domestic and Foreign Tourists", and PQ-20 dated January 12, 2024, “On the Development of Barrier-Free Tourism Infrastructure in the Republic of Uzbekistan and Measures to Promote It”.

**Compliance of the research with the priorities of the development of science and technology of the republic.** The dissertation was carried out according to Priority I of the Scientific and Technological Development of the Republic, which is entitled “Spiritual, ethical and cultural development of democratic and legal society, formation of innovative economy”.

**Level of study of the problem.** In order to facilitate the rapid development of digital transformation in the tourism industry, on the basis of socio-economic research, the integral aspect of the modern economy focuses on various issues such as the development of digital technologies, implementation on the scale of industries, creation of new unique business models, short and long-term strategies and fair management. The results of these studies are widely disseminated in the works of Uzbek and foreign scientists who have devoted their research to theoretical and practical issues and have provided both theoretical and practical suggestions.

From foreign scientists, Heirvan Gunawan, Buhalis D, Sachs JD, Fennell DA, Williams AM, Rodriguez I, Makkonen T, Verma, S., Warriar, L., Bolia, B. Mehta, Buer C., Pershina E.S., Daragan S.V., Grigoryev M.N., Maksimtsev I.A., and Uvarov S.A<sup>3</sup>. Evaluation of the results of foreign experience draws attention to the

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<sup>3</sup>Gunawan, H., Udin, U., & Rahayu, M. K. P. (2024). Research trends on the impact of digital transformation on the development of the tourism industry. Buhalis D, Harwood T, Bogicevic V, Viglia G, Beldona S, Hofacker C (2019) Technological disruptions in services: lessons from tourism and hospitality. *J Serv Manag* 30(4):484–506. Sachs JD, Schmidt-Traub G, Mazzucato M, Messner D, Nakicenovic N, Rockström J (2019) Six transformations to achieve the sustainable development goals. *Nat Sustain* 2(9):805–814. Fennell DA (2021) Technology and the sustainable tourist in the new age of disruption. *J Sust Tour* 29(5):767–773. Williams AM, Rodriguez I, Makkonen T (2020) Innovation and smart destinations: critical insights. Verma, S., Warriar, L., Bolia, B. and Mehta, S. (2022), “Past, present, and future of virtual tourism-a literature review”, *International Journal of Information Management Data Insights*, Vol. 2 No. 2, 100085. Buer C (2020) Digitalization in the hotel industry, Tajeddini K, Ratten V, Merkle T (eds) *Tourism, hospitality and digital Transformation: strategic management aspects*. Routledge, London, pp 6–24. Goloventchik G.G. Digital Technologies are a Key Driver of the Development of Smart Cities: Analysis of World Rankings. *Digital Transformation*. 2022;28(1):5-19. N.Pershina Sustainable development as the basis for the tourist attractiveness of the territory 29(5):767–773. Lavrova Tourism as driver of regional economic development under crisis economic

lack of mutual cooperation and solidarity of tourist subjects in the tourism market. Due to the insufficient development of digital technologies and the absence of involvement in the tourism sector, tourists with disabilities cannot use tourist services. F. Cassia put forward the idea that the achievement of sustainable tourism starts by designing inclusive tourism, the obstacles that exist in inclusive tourism by failing to use digital technologies to serve tourists<sup>4</sup>.

The state of Uzbekistan's tourism sector, existing problems and their solutions K.Kh. Abdurakhmonov, A.M. Abduvohidov, M.Q. Pardayev, A.N. Norchayev, A.A. Eshtayev, D.K. Usmanova, B.Sh. Safarov, M.T. Aliyeva, S.S. Roziyev, U.R. Matyakubov, Z.I. Usmanova, S.R.Safayeva, D.I.Abidova, H.F.Ochilova, S.Sh.Khalilov, Sh.S.Saifutdinov, D.A.Nasimov, M.Z.Nurfayziyeva, T.G.Ravshanov, Sh.N.Isakulov, I.A.Akhmedov are covered in the researches of scientists and practitioners<sup>5</sup>.

In the process of digital transformation, technology provides a multitude of tools to assist tourism businesses in reaching a wider audience. Furthermore, utilising digital platforms to disseminate information within the tourism industry ensures that the target audience is promptly informed. This objective is achieved through the implementation of neural networks comprising internet algorithms<sup>6</sup>.

V. Mesropyan describes the definition of digital transformation in the following way: "Digital transformation is defined as the revolutionary changes in

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conditions p 805–814. Sergey Evgenievich Barykin Peter the Great St.Petersburg Polytechnic University, Kanwar Muhammad Javed Iqbal Bahria University Islamabad Campus//Tourism Industry: Digital Transformation,July 2021

<sup>4</sup> F. Cassia. "Development of inclusive tourism as a means of achieving sustainable development"// journal of Law and sustainable development .2020y.

<sup>5</sup> Abduraxmonov K.X. Menejment turizma: Uchebnoe pocobie. - T.: Filial FGBOU VPO "REU im. G.V. Plexanova" v g. Tashkente, 2013.; Pardaev M.Q., Atabaev R. Turistik resurslarni tahlil qilish va baholash. - Samarqand: CamICI, 2006. - 137 b.; Norchaev A.N. Zamonaviy turizm infratuzilmasining shakllanish va rivojlanish tendensiyalari: i.f.d. (DSc) diss. - T.: 2021. -246 b.; Eshtayev A.A. Turizm industriyasini boshqarishning marketing strategiyasi. Monografiya. - T.: Fan, 2011; Safarov B.Sh. Milliy turizm xizmatlar bozorini innovatsion rivojlantirishning metodologik asoslari. - T.: Fan va texnologiya, 2016. - 184 b.; Matyakubov U. Ekologik vaziyatni inobatga olib turizm samaradorligini oshirish yunalishlari va istiqbollari (Xorazm viloyati misolida). i.f.n. nomz. diss. -Samarqand, 2011; Sayfutdinov Sh.S. O'zbekistonda turizm industriyasini barqaror rivojlantirish strategiyasi. iqt.f.dokt. (PhD) diss.avt. – Toshkent, 2022. - 64 b. Nurfayziyeva M.Z. Analysis and ways to solving of the problems of the impact of the covid 19 pandemic on the tourism economy Экономика И Образование 2021., (2), 231–234. Ravshanov T.G.Characteristics of development of ziyarah tourism in our country// Journal of Management Value & Ethics Gwalior Management Academy (GMA) Publications C-17, Kailash Nagar, Near New High Court. Sh.N.Isakulov,Level of safety of tourists in Uzbekistan..Axmedov I.A.Korxonalar tashqi iqtisodiy faoliyatida xalqaro marketingni faollashtirishning metodologik jihatlarni takomillashtirish: i.f.d. (DSc) diss. - T.: 2021.

<sup>6</sup> Sergey Evgenievich Barykin Peter the Great St.Petersburg Polytechnic University, Kanwar Muhammad Javed Iqbal Bahria University Islamabad Campus//Tourism Industry: Digital Transformation,July 2021

business models based on the use of digital platforms, which lead to an increase in the volume of tourist products in the tourism market and the competitiveness of companies”<sup>7</sup>.

**The connection of the dissertation research with the scientific research plans of the higher educational institution where the dissertation was completed.** The subject of this dissertation was carried out in accordance with the research plan of the Tashkent State University of Economics.

**The aim of the research** consists in the development of scientific and practical proposals for improving the digital transformation of the tourism industry in Uzbekistan.

**The tasks of the research work are:**

analysis of digital technologies as a driving key issue in the development of tourism businesses;

explore approach to digital transformation in the tourism industry;

developing proposals for improving the methods of using digital technologies;

study the theoretical foundations of digital transformation in the tourism industry;

conducting a comparative study on the digital transformation of the tourism industry in Central Asian countries;

determine the effect of the development of the digital transformation process on the tourism industry of Uzbekistan;

to investigate the existing status of development of the tourism industry in Uzbekistan;

suggesting ways to enhance how digital technologies get used;

identifying the link between foreign tourism flows and digitally transformed internet users;

applying analytical procedures to assess the growth indicators of the tourism industry in the path of digital restructuring in Uzbekistan.

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<sup>7</sup> Перспективы использования наукометрических методов в прогнозировании В. Р. Месропян, М. В. Овсянников // Научно-техническая информация. Сер. 1, Организация и методика информационной работы. - 2014. - № 2. - С. 19-27

**The object of the research** is the activity of tourism industry subjects of Uzbekistan participating in the process of digital transformation.

**The subject of the research** is digital transformation processes in the tourism industry in Uzbekistan.

**Research methods.** Methods such as systematic, economic-statistical analysis, econometric modeling, analysis and synthesis were used in the research process.

**Scientific results that determine the novelty of the dissertation research include:**

in accordance with the methodological framework, the economic aspects of the theme “digital transformation in tourism” are considered by the transition of data to digital format without modifying the accuracy and substance of information in tourism industry, the transformation into e-format for post processing, the enrichment of data in digital format has been upgraded in terms of improving business operations;

the certification of services provided in the tourism industry as part of the digital transformation of the tourism industry ( $C=0,21$ ), the classification of tourist industry objects ( $C=0,17$ ), the provision of quick information on accommodation facilities ( $AF=0,25$ ), and the use of codified system of information transmission that allows for the creation of convenience in the assessment of service quality ( $C=0,37$ ) are based on the improvement of processes through the optimal ratio between the processes;

the initiative on the development of inclusive tourism based on the introduction of a mobile application "Qulay sayohat" ("Comfortable travel"), reflecting the improvement of tourist destinations in Uzbekistan, creating the necessary conditions for the free movement of tourists and travelers with disabilities in tourism infrastructure and cultural heritage sites;

forecast indicators until 2030 have been developed based on the econometric model reflecting the indirect impact of providing the population with Internet access



on tourist flows, which constitutes the first stage of digitalization of the tourism industry of Uzbekistan.

**The practical result of the research is as follows:**

to raise the standards of customer service in the tourism industry, to achieve the maximum level of security and transparency, it is proposed to organize an alternative integrated ecosystem through the digital transformation of tourism management;

it is scientifically proven that 5% rise in the value of investment projects in tourism will lead to 1,3% an expansion in the number of international tourists visiting the country;

in the aim of promoting inclusive tourism in the Republic of Uzbekistan, it is offered to create the required facilities for tourists and travelers with disabilities to move freely in tourism infrastructure and cultural heritage sites. This would be achieved through the use of sign language interpreters and guides who would utilize virtual (VR) and augmented (AR) reality technologies in their teaching mechanism;

the specific features of digital technologies in the sustainable development of the tourism industry are revealed through an in-depth analysis;

the directions for the creation of a digital platform and the introduction of the "Tourism 4.0" concept in Uzbekistan have been revealed;

a structured analysis was undertaken to identify the digital transformation of tourism in Uzbekistan and the features of its creation through networking;

this research paper assesses the opportunities for the governmental management of tourism in Uzbekistan in the age of the digital transformation.

**Reliability of research results.** The methodological approach and methods used in the research, the appropriateness of the data, and the official sources of data, including the Statistical Agency under the President of the Republic of Uzbekistan, the Ministry of Ecology, Environmental Protection and Climate Change, and the official World Tourism Organization, are justified by the source of the information, which is recognized at local and interregional level, and by the fact that specific scientific evidence has been put into practice.

**Scientific and practical significance of research results.** The scientific relevance of the research results lies in the ability to use the developed scientific findings and suggestions for the upcoming implementation of strategic directions for the digital transformation of the tourism industry. The practical usefulness of the research results is that the ideas and recommendations presented in the dissertation, as well as the methodological achievements of the dissertation research, can be used in developing targeted comprehensive programs for developing digital tourism potential, in decision-making processes concerning tourism development by tourism management bodies and tourism enterprises in the country.

**Implementation of research results.**

In line with the methodological approach, the economic aspects of the theme "digital transformation in tourism" are considered by the transition of data to digital format without modifying the accuracy and substance of information in tourism, the transformation into e-format for post processing, the enrichment of data in digital format has been upgraded in terms of improving business operations are applied in the preparation of the textbook "Tourism Product", recommended for students of higher educational institutions (Order of the Tashkent State Economic University No.228 dd. July 14, 2023). As a result, the practical application of this academic proposal will allow the theoretical fund of knowledge of the economic meaning of the notion of "digital transformation in tourism" to be broadened, with the ambition of optimizing present business relationships through the digitalization of information, its adaptation to electronic form for additional elaboration, and the digitalization of data, without altering the quality and value of the information in the domain of tourism.

Tourism services certification within the framework of digital transformation of the tourism sector ( $C=0,21$ ), classification of tourism objects ( $C=0,17$ ), obtaining relevant operational data on accommodation facilities ( $AF=0,25$ ), use of a codified system of information transfer allowing to create convenience in assessing the quality of services ( $C=0,37$ ) due to the optimal ratio of processes, suggestions for improvement which were specified in the Presidential Decree No. PQ-238 dd. July

27, 2023 "On measures to further accelerate reforms in the tourism sector and effective organization of the system of state management in this sector" (Information of the Tourism Committee under the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan No. 03-12-17-4032 dd. July 1, 2024). As a foreseen result of this scientific innovation, it is possible to accelerate the digital transformation of the tourism sector through the optimal balance of service delivery processes in the tourism industry.

The initiative on the development of inclusive tourism based on the introduction of a mobile application "Qulay sayohat" ("Comfortable travel"), reflecting the improvement of tourist destinations in Uzbekistan, creating the necessary conditions for the free movement of tourists and travelers with disabilities in tourism infrastructure and cultural heritage sites, organizing activities of tourism entities to ensure the implementation of Presidential Decree No. PQ-20 dd. January 12, 2024 "On development of barrier-free tourism infrastructure in the Republic of Uzbekistan and measures for its development", which has been launched in our republic in order to set up a system for the introduction of new digital technologies for the regulation of online tourism platforms (information of the Tourism Committee under the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan No. 03-12-17-4032 dd. July 1, 2024). The goals of organizing new types of tourist services, improving the capacity of tourist infrastructure for the movement of people with disabilities around the country under favorable conditions were defined as a result of the practical implementation of this scientific innovation.

Action plan for the tasks identified to ensure the implementation of the Presidential Decree No. PQ-135 dd. April 26, 2023 "On additional measures to accelerate the development of the tourism potential of the Republic and further increase the number of domestic and foreign tourists", which has been applied in the activities of regional offices of the Tourism Committee, taking into account the forecast indicators developed until 2030, based on the econometric model reflecting the indirect impact of providing the population with Internet access on tourist flows,

which constitutes the first stage of digitalization of the tourism industry of Uzbekistan (Information of the Tourism Committee under the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan No. 03-12-17-4032 dd. July 1, 2024). It is scientifically proven that as a result of the implementation of this scientific innovation, the number of people using the net will increase as a result of the widening of the possibilities for the exploitation of digital technologies in the regions, and this, in turn, will have an impressive effect on the growth of the flow of foreign tourists to the country.

**Approval of research results.** The research results presented and discussed at three international and two republican scientific-practical conferences.

**Publication of research results.** A summary of 22 scientific articles related to the topic of the dissertation is made, of which 7 were published in republican scientific journals and 3 in foreign journals approved for publication of the main results by the High Attestation Commission of the Republic of Uzbekistan. Five articles were published in international scientific and practical congresses, four in national scientific and practical congresses, one in the Scopus database and one in the journals included in the Web of Science database.

**The structure and scope of the dissertation.**

The research contains an introduction, three chapters, a conclusion, a bibliography and appendices. The total length of the dissertation is 156 pages.