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MODERN MODELS OF INNOVATION-DRIVEN TOURISM DEVELOPMENT: A HYBRID FRAMEWORK FOR UZBEKISTAN



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Abstract. This study systematises and comparatively evaluates contemporary models of innovation-driven tourism development and develops an integrated framework adapted to the context of Uzbekistan. The analysis encompasses six complementary models: smart tourism destinations, digital platform ecosystems, experience and creative tourism, sustainable (green) innovation, open innovation and tourism clusters, and AI and data-driven management. A mixed analytical design combining a systems approach, comparative analysis, descriptive statistical analysis, structured content analysis, and SWOT analysis is applied to international and national evidence covering the period 2024–2026.

The study identifies a methodological gap in existing approaches that tend to examine these models separately and proposes a hybrid framework that links innovation inputs and capabilities with destination-level mechanisms and measurable tourism outcomes. The findings indicate that Uzbekistan's recent tourism development has been supported substantially by institutional and market-access innovations, while opportunities for the next stage of development are increasingly associated with enhancing quality, productivity, diversification, and sustainability alongside continued tourism growth.

The proposed framework integrates digital infrastructure, smart-destination governance, experience design, AI-enabled decision-making, green transformation, and collaborative innovation, linking each component to specific implementation stages and performance indicators. The study provides an applied methodological basis for selecting and combining innovation mechanisms according to destination-specific conditions and offers practical policy recommendations for advancing innovation-driven tourism development in Uzbekistan.

Keywords. innovation-driven tourism development, hybrid innovation model, smart tourism destination, digital ecosystem, artificial intelligence, sustainable tourism, creative tourism, tourism cluster, Uzbekistan.

Аннотация. В настоящем исследовании систематизированы и проведена сравнительная оценка современных моделей инновационно-ориентированного развития туризма, а также разработана интегрированная концептуальная модель, адаптированная к условиям Узбекистана. Анализ охватывает шесть взаимодополняющих моделей: умные туристские дестинации, экосистемы цифровых платформ, туризм впечатлений и креативный туризм, устойчивые («зелёные») инновации, открытые инновации и туристские кластеры, а также управление на основе искусственного интеллекта и данных. В исследовании применяется смешанный аналитический подход, объединяющий системный подход, сравнительный анализ, описательный статистический анализ, структурированный контент-анализ и SWOT-анализ международных и национальных данных за период 2024–2026 гг.

В исследовании выявлен методологический пробел в существующих подходах, в рамках которых данные модели преимущественно рассматриваются по отдельности, и предложена гибридная концептуальная модель, связывающая инновационные ресурсы и потенциал с механизмами на уровне туристских дестинаций и измеримыми результатами развития туризма. Результаты показывают, что современное развитие туризма в Узбекистане в значительной степени поддерживается

институциональными инновациями и инновациями, расширяющими доступ к рынку, тогда как возможности следующего этапа развития всё в большей степени связаны с повышением качества, производительности, диверсификации и устойчивости наряду с дальнейшим ростом туристской отрасли.

Предлагаемая модель объединяет цифровую инфраструктуру, управление умными туристскими дестинациями, проектирование туристского опыта, принятие решений с использованием искусственного интеллекта, «зелёную» трансформацию и совместную инновационную деятельность, связывая каждый компонент с конкретными этапами реализации и показателями эффективности. Исследование формирует прикладную методологическую основу для выбора и комбинирования инновационных механизмов с учётом специфических условий туристских дестинаций и предлагает практические рекомендации в области политики, направленные на дальнейшее развитие инновационно-ориентированного туризма в Узбекистане.

Ключевые слова. инновационно-ориентированное развитие туризма, гибридная инновационная модель, умная туристская дестинация, цифровая экосистема, искусственный интеллект, устойчивый туризм, креативный туризм, туристский кластер, Узбекистан.

INTRODUCTION

Tourism has become one of the fastest-growing sectors of the global economy. According to the World Tourism Organization (UN Tourism), international tourist arrivals reached 1.52 billion in 2025, representing a 4% increase compared with 2024, or approximately 60 million additional arrivals. International tourism receipts amounted to USD 1.9 trillion, while total tourism export revenues, including passenger transport, reached a record USD 2.2 trillion [21-22]. According to the World Travel & Tourism Council (WTTC), the sector contributed USD 11.6 trillion to global GDP in 2025, equivalent to 9.8%, and supported 366 million jobs, representing 10.9% of global employment. Its growth rate of 4.1% exceeded the 2.8% growth rate of the global economy [25].

At the same time, the continued expansion of tourist flows creates opportunities to place greater emphasis on the qualitative dimensions of tourism competitiveness. Tourist behaviour is evolving rapidly: travellers increasingly use generative artificial intelligence to plan trips, seek personalised and distinctive experiences, and pay greater attention to environmental responsibility. Consequently, the competitiveness of tourism destinations increasingly depends on their capacity to select and effectively implement innovation models that respond to changing visitor expectations and technological developments.

This issue is particularly relevant to Uzbekistan. In 2025, the country received 11.7 million foreign tourists, representing a 46.8% increase compared with the previous year [7]. Tourism services exports reached USD 4.88 billion, accounting for half of total services exports [26]. According to UN Tourism, Uzbekistan was among the seven fastest-growing tourism destinations worldwide during January–September 2025 [23]. Building on these achievements and supporting their transformation into sustainable, high-quality tourism development requires a scientifically grounded approach to selecting and combining contemporary innovation models.

Despite the rapid expansion of research on smart tourism, digitalisation, sustainability, experience design, and open innovation, these areas are frequently examined as separate research streams. Greater integration of these approaches could enhance their practical applicability to emerging tourism destinations, where technological, institutional, environmental, and human-capital factors interact closely. In addition, there is scope for developing a more integrated decision-making framework that explains which innovation mechanisms can be combined under different destination conditions and which indicators can be used to evaluate their outcomes. For Uzbekistan, this issue is particularly important because the country's strong growth in tourist arrivals creates additional opportunities to increase visitor value, extend the duration of stays, broaden the regional distribution of tourism benefits, and promote environmentally sustainable tourism development.

Accordingly, the aim of this study is to systematise contemporary models of innovation-driven tourism development, assess their applicability to Uzbekistan, and develop a hybrid methodological framework for their integration. The study addresses three research questions: (RQ1) Which innovation models currently shape tourism development, and what mechanisms distinguish them? (RQ2) Which elements of these models are most relevant to Uzbekistan's institutional, market, and regional conditions? (RQ3) How can these elements be integrated into a phased framework with measurable performance indicators?

LITERATURE REVIEW

The concept of innovation was introduced into economic theory by J. Schumpeter, who defined innovation as a “new combination of the factors of production” and distinguished five principal types: the introduction of a new product, the application of a new method of production, the opening of a new market, the acquisition

of a new source of supply, and the establishment of a new organisational structure [19]. Building on this theoretical foundation, A.-M. Hjalager adapted the concept of innovation to the tourism sector and proposed five categories of tourism innovation [11]. This classification remains one of the widely applied theoretical frameworks in tourism innovation research and provides a useful foundation for systematising contemporary approaches to innovation-driven tourism development (Table 1).

Table 1

Classification of innovations in tourism (based on Hjalager's approach)¹

Type of innovation	Content	Contemporary examples
Product and service innovation	New or improved services directly perceived by tourists	Gastronomic tours, VR/AR museum tours, "digital nomad" packages
Process innovation	Changes that improve the efficiency of internal operations	Online check-in, facial-recognition check-in, resource management systems
Managerial innovation	Innovations in staff management, collaboration and organisational governance	Destination management organisations (DMOs), public–private partnerships
Marketing innovation	New ways of communicating with customers and building brands	Influencer marketing, data-driven targeted advertising, co-creation platforms
Institutional innovation	Innovations that change the "rules of the game" in the sector	E-visa, visa-free regimes, a single national tourism platform

Over the past decade, the concept of smart tourism has become increasingly established in the academic literature. D. Buhalis and A. Amaranggana defined a smart tourism destination as a system that uses information and communication technologies, big data, and the Internet of Things to enrich the tourist experience and enhance management efficiency [3]. U. Gretzel and co-authors conceptualised smart tourism as a three-layer structure comprising the smart experience, the smart business ecosystem, and the smart destination [10]. The concept of the "experience economy", proposed by B. J. Pine and J. H. Gilmore [17], together with G. Richards' theory of creative tourism [18], provided a theoretical foundation for transforming tourism products from conventional service offerings into distinctive and memorable experiences.

The open innovation paradigm developed by H. Chesbrough [4] demonstrated that innovation can emerge not only within individual organisations but also through collaboration among multiple stakeholders. From a sustainability perspective, S. Gössling and co-authors emphasised the importance of using the post-pandemic transformation of tourism as an opportunity to develop a more sustainable and resilient tourism system rather than simply returning to previous development patterns [9].

Taken together, these theoretical perspectives demonstrate that tourism innovation has evolved from firm-level product and process innovation towards destination-wide ecosystems in which technology, institutions, sustainability, knowledge networks, and visitor co-creation interact. At the same time, there is scope for a more comprehensive model capable of integrating these dimensions within the context of an emerging tourism destination experiencing rapid institutional and market development. Accordingly, this study considers the six identified models not as mutually exclusive alternatives but as complementary configurations whose applicability depends on destination maturity, digital readiness, resource structure, governance capacity, and sustainability priorities. This integrative perspective provides the conceptual foundation for the hybrid framework proposed in this study.

RESEARCH METHODOLOGY

This study applies a multi-method analytical design. First, a systems approach is employed to conceptualise tourism innovation as an interaction among technological, institutional, organisational, market, environmental, and human-capital subsystems. Second, structured content analysis is applied to academic literature and policy documents to identify the defining mechanisms, advantages, and implementation characteristics of contemporary innovation models. Third, comparative analysis is used to examine selected international destinations representing different innovation configurations. Fourth, descriptive statistical analysis is applied to tourism indicators for Uzbekistan and selected comparator

¹ Source: compiled by the author based on Hjalager (2010) [9]; examples are taken from 2024–2026 practice.

destinations. Fifth, a SWOT analysis is employed to assess the internal and external conditions influencing the applicability and adaptation of the identified models to the context of Uzbekistan.

The empirical information base comprises the UN Tourism *World Tourism Barometer* (January 2026), WTTC *Economic Impact Research* (April 2026), OECD *Tourism Trends and Policies 2024*, European Commission materials on the European Capital of Smart Tourism, SEGITTUR data, official and publicly available data from the Tourism Committee and the National Statistics Committee of the Republic of Uzbekistan, and Presidential Decree No. PF-87 of 15 May 2025. As national statistical systems may apply different definitions and classifications to tourists, overnight visitors, arrivals, and visits, cross-country absolute values are interpreted with appropriate consideration of methodological differences, and indicator definitions are specified where relevant.

The analytical procedure consists of four stages: (1) identification and theoretical classification of innovation models; (2) comparison of their technologies, governance mechanisms, potential benefits, and implementation considerations; (3) assessment of Uzbekistan's tourism dynamics and innovation environment; and (4) synthesis of the results into a hybrid framework incorporating phased measures and performance indicators. The proposed framework is therefore an analytical and policy-design construct derived from comparative synthesis rather than a causal econometric model. This methodological distinction is taken into account when interpreting the results.

Statement on the Use of Artificial Intelligence. In the preparation of this study, artificial intelligence (AI) tools were used to a limited extent, accounting for approximately 10% of the overall research process. Their use was primarily confined to language refinement, technical editing, and structural support. The selection of research methods, collection and analysis of empirical data, interpretation of the findings, formulation of scientific conclusions, and development of practical recommendations were carried out and verified by the author.

ANALYSIS AND RESULTS

According to UN Tourism data, international tourism demonstrated continued recovery and strong growth in 2025, with international tourist arrivals reaching levels above those recorded before the pandemic. The sector subsequently moved towards a more stable growth trajectory, approaching the average annual growth rate observed during 2009–2019, which was approximately 5% [21–22]. Regional tourism indicators are presented in Table 2.

Table 2
International tourist arrivals by world region, 2025²

Region	Arrivals	Change vs 2024	Key features
World total	1.52 billion	+4%	Receipts USD 1.9 trillion (+5%)
Europe	793 million	+4%	6% above 2019
Asia and the Pacific	331 million	+6%	Still 9% below 2019; North-East Asia +13%
Africa	–	+8%	North Africa +11%; highest growth
Middle East	~100 million	+3%	39% above 2019
Americas	–	+1%	Mixed performance across subregions

The data presented in the table indicate that the geography of global tourism growth is becoming increasingly diversified, with particularly dynamic developments observed in Africa, Asia, and the Middle East, while Europe continues to maintain its leading position in terms of absolute tourist volumes. According to WTTC, the contribution of the tourism sector to GDP in the Asia-Pacific region increased by 8.1% in 2025, reaching USD 3.29 trillion, while North America recorded growth of 1.0% [25]. UN Tourism forecasts a further 3–4% increase in international tourist arrivals in 2026 [21].

The role of technology in tourism is also expanding rapidly. According to a 2025 Phocuswright survey, more than half of US travellers had used generative AI, while approximately one-third were already using it for travel-related purposes. At least 78% of users considered AI-generated results somewhat or very helpful for both travel planning and in-destination use [16]. These developments indicate a significant transformation in the channels through which tourists discover, evaluate, and purchase tourism products and services.

² UN Tourism, World Tourism Barometer, January 2026 [1; 2].

Based on the analysis of the academic literature and international practices, six principal contemporary models of innovation-driven tourism development can be distinguished.

The Smart Tourism Destination Model. This model is based on destination management supported by an integrated digital infrastructure in which data on tourist flows, transport, accommodation, and other destination resources are collected, integrated, and analysed in real time. Spain represents one of the prominent examples of the systematic implementation of this approach. The Smart Tourism Destinations Network (Red DTI), coordinated by the state agency SEGITTUR, was established in 2019 and, as of December 2025, comprised 716 members [20].

At the European Union level, the European Capital of Smart Tourism initiative has been implemented since 2019, with participating cities assessed according to accessibility, sustainability, digitalisation, cultural heritage, and creativity. For 2026, Tampere (Finland) was designated the European Capital of Smart Tourism, while Dubrovnik (Croatia) was named the European Green Pioneer of Smart Tourism [6].

The Digital Platform and Ecosystem Model. In this model, the principal components of the tourism product—including visa services, air tickets, accommodation, guide services, transport, and payments—are integrated within a unified digital ecosystem. Public institutions can play an important role as platform operators, coordinators, or standard-setters, facilitating interoperability among tourism services.

In Uzbekistan, Presidential Decree No. PF-87 provides for the introduction, from 1 June 2025, of a unified national tourism platform incorporating MyID identification and facial-recognition-based check-in [1]. The model can contribute to reducing transaction and operating costs, improving service integration, and increasing the accuracy and timeliness of tourism statistics. At the same time, the development of strong national digital capabilities and diversified platform partnerships can further enhance the resilience and technological independence of the tourism ecosystem.

The Experience and Creative Tourism Model. This model is based on transforming tourists from passive observers into active participants in destination experiences. Examples include participation in craft workshops, masterclasses in preparing national dishes, festivals, creative activities, and community-based experiences. According to Pine and Gilmore, experiences can be classified into four principal realms: entertainment, education, aesthetics, and escapism [17].

For Uzbekistan, this model provides opportunities to generate higher added value by drawing on the country's rich traditions of craftsmanship, gastronomy, cultural heritage, and the historical legacy of the Great Silk Road. Presidential Decree No. PF-87 also provides dedicated support for the establishment of Uzbek cuisine restaurants abroad and the organisation of gastronomic festivals [1]. These measures can contribute to strengthening the international visibility of Uzbekistan's cultural and gastronomic tourism products.

The Sustainable (Green) Innovation Model. This model combines technological and organisational solutions designed to enhance the environmental sustainability of tourism while supporting the interests of local communities. Its principal elements include energy-efficient accommodation facilities, renewable energy technologies, environmentally responsible resource management, eco-certification, and the balanced spatial distribution of tourist flows.

Spain's emphasis on enhancing tourism quality following the arrival of 96.8 million foreign tourists in 2025, whose expenditure reached EUR 134.7 billion, illustrates the growing relevance of approaches aimed at balancing tourism growth with quality, sustainability, and destination management objectives [14].

The Open Innovation and Tourism Cluster Model. This model is based on collaboration among government institutions, businesses, universities, and local communities within the framework of the “quadruple helix” approach. Tourism clusters can facilitate the establishment of start-up accelerators, innovation competitions and hackathons, knowledge-sharing initiatives, and public–private partnership projects.

The model is particularly relevant to regions characterised by a substantial presence of small and medium-sized enterprises, as collaborative innovation networks can expand their access to knowledge, technology, finance, professional expertise, and innovation opportunities [4, 15]. Consequently, tourism clusters can serve as platforms for combining the complementary capabilities of different stakeholders and accelerating the diffusion of innovation across destinations.

The AI- and Data-Driven Management Model. This model represents one of the most recent stages in the evolution of innovation-driven tourism management. Big data, machine learning, and generative artificial intelligence can be applied to forecast tourism demand, support dynamic pricing, develop personalised itineraries, optimise resource allocation, and provide multilingual visitor services through virtual assistants. D. Buhalis conceptualised this emerging stage as “ambient intelligence tourism” [2].

The effective implementation of this model requires particular attention to personal data protection, transparency and responsible AI use, the continued development of tourists' confidence in AI-enabled services, and the strengthening of relevant professional competencies. According to Phocuswright, approximately one-third of surveyed travellers reported a high level of trust in AI [16]. This finding highlights opportunities

to strengthen transparency, user awareness, data governance, and human oversight as AI-enabled tourism services continue to develop.

A comparative overview of the six innovation-driven tourism development models is presented in Table 3.

Table 3

Comparative analysis of innovative tourism development models³

Model	Key technologies and tools	Advantages	Risks and limitations	International examples
Smart destination	IoT, big data, unified DMO platform	Flow management, service quality, accurate statistics	High initial investment, inter-agency coordination	Spain (Red DTI), Tampere, Singapore
Digital platform ecosystem	Online booking, e-payment, e-visa, MyID	Saves time and costs, transparency	Dependence on global OTAs, cyber risks	Dubai (D33), Estonia's e-services
Experience and creative tourism	Master classes, festivals, AR/VR storytelling	High added value, longer stays, heritage	Loss of authenticity, seasonality	Italy, Japan, Georgia (gastro-tourism)
Sustainable (green) innovation	Eco-certification, energy saving, flow distribution	Long-term competitiveness, resident support	Higher costs in the short term	Dubrovnik, Copenhagen, Spain
Open innovation and cluster	Accelerators, PPP, university–business links	Raises innovation capacity of small firms	Hard to coordinate, slow results	Finland, South Korea
AI- and data-driven management	Generative AI, machine learning, dynamic pricing	Personalisation, forecast accuracy, 24/7 service	Data privacy, trust, skills	Singapore, UAE, South Korea

To assess the effectiveness of innovation models, we compare the 2025 results of destinations at different stages of development (Table 4).

Table 4

Key indicators of selected destinations, 2025⁴

Destination	Foreign visitors	Growth vs 2024	Economic indicator	Leading innovation model
Spain	96.8 million tourists	record	Spending EUR 134.7 billion (+6.8%)	Smart destination (Red DTI – 716 members), sustainability
Dubai (UAE)	19.59 million overnight visitors	+5%	Hotel occupancy 80.7%	Digital ecosystem, D33 agenda, visa policy
Kazakhstan	≈16 million visits	growth	Rose from 66th to 52nd in the WEF TTDI	Eco- and nature tourism, investment attraction
Georgia	5.52 million tourists (7.8 million visits)	+8.4%	China +44%, EU/UK +14%	Gastronomy and wine tourism, creative model
Uzbekistan	11.7 million tourists	+46.8%	Tourism exports USD 4.88 billion	Institutional innovation, digital platform

The comparative analysis leads to several important conclusions. First, mature tourism destinations, such as Spain and Dubai, are increasingly complementing the expansion of tourist flows with a stronger emphasis on qualitative indicators, including tourism revenue per visitor, hotel occupancy, service quality, and sustainability. This reflects an evolving approach in which destination competitiveness is assessed not only through visitor numbers but also through the economic, social, and environmental value generated by tourism.

³ compiled by the author based on [4; 9–21]. Note: DMO – destination management organisation; PPP – public–private partnership; OTA – online travel agency; AI – artificial intelligence.

⁴ Spain – Mintur/INE [18]; Dubai – DET [22]; Kazakhstan – Kazakhstan Today, Astana Times [23]; Georgia – Georgian National Tourism Administration [24]; Uzbekistan – National Statistics Committee, Tourism Committee [5; 7]. Note: since countries count “tourists” (overnight visitors) and “visits” (all arrivals) differently, the absolute figures are not fully comparable.

Second, among the destinations included in the comparative analysis, Uzbekistan demonstrates particularly strong growth dynamics. This positive performance has been supported substantially by institutional innovations, including the expansion of visa-free entry and the introduction of the e-visa regime, as well as by increasing tourist flows from neighbouring countries. These developments illustrate the contribution of improved accessibility and institutional facilitation to the continued expansion of Uzbekistan's tourism sector.

Third, Georgia's experience demonstrates the potential of an experience- and creative-tourism model based on gastronomy, local culture, and authentic destination experiences to strengthen the attractiveness of tourism products for geographically diverse international markets, including China and European countries. This experience is particularly relevant to Uzbekistan, given the country's rich cultural heritage, traditional crafts, gastronomy, and opportunities for developing distinctive regional tourism products.

In recent years, tourism in Uzbekistan has demonstrated strong and sustained development dynamics. The evolution of the principal tourism indicators is presented in Table 5 and Figure 1.

Table 5
Key indicators of tourism in Uzbekistan (2023–2026)⁵

Indicator	2023	2024	2025	2026 (Jan–Aug)
Foreign tourists, million	6.6	8.2 ¹	11.7	9.1
Growth vs previous year, %	–	≈24	46.8	21.1 ²
Tourism services exports, USD billion	–	–	4.88	4.6
Share of tourism in services exports, %	–	–	50.0	53.8 ³
Accommodation facilities, units	–	–	6,861	7,440
Beds in accommodation facilities, thousand	–	–	184	202.6

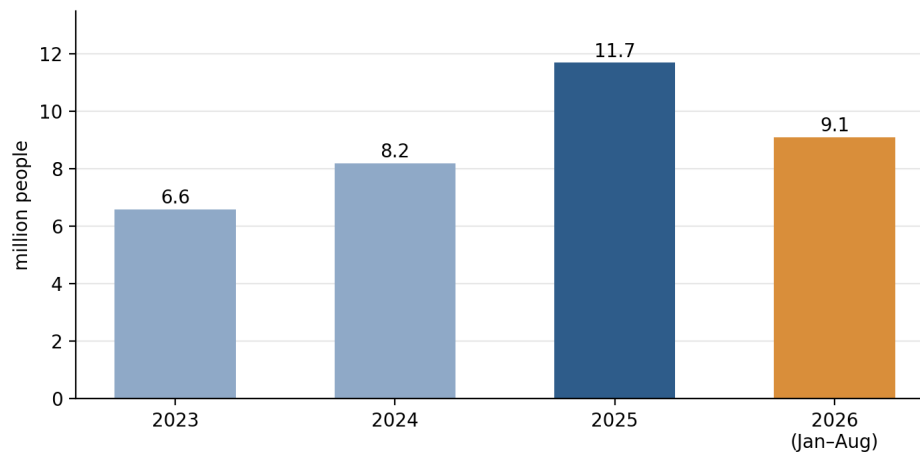


Figure 1. Number of foreign tourists visiting Uzbekistan, million⁶

The data reveal several important trends. First, in 2025, citizens of CIS countries accounted for 81.5% of total foreign tourist arrivals, equivalent to approximately 9.5 million visitors. The largest numbers of visitors came from Kyrgyzstan (3.3 million), Tajikistan (2.7 million), and Kazakhstan (2.7 million) [7]. This structure highlights the continued importance of neighbouring and regional markets in Uzbekistan's tourism development.

Second, tourist flows from geographically more distant markets are demonstrating strong growth dynamics. In 2025, arrivals from China increased 3.8-fold, reaching 279 thousand visitors [7]. During the first eight months of 2026, arrivals from China and Malaysia more than doubled, while arrivals from Japan increased by 50% and those from Germany by 25% [24]. These trends indicate increasing geographical diversification of Uzbekistan's international tourism market and expanding opportunities to attract visitors from long-haul destinations.

⁵ National Statistics Committee, Tourism Committee, kun.uz, gazeta.uz, yuz.uz [5; 7; 25; 26]. ¹ – preliminary figure of the Tourism Committee (February 2025); the 46.8% growth reported by the Statistics Committee corresponds to a revised 2024 base of about 7.97 million. ² – compared with the same period of 2025. ³ – January–July. “–” – data not found in a reliable source.

⁶ compiled by the author based on Table 5. For 2026, only the January–August figure is shown.

Third, indicators reflecting the economic value of tourism are also demonstrating positive dynamics. According to the Tourism Committee, average spending per tourist increased from USD 197 in 2017 to USD 503 in 2026 [24]. In addition, based on the authors' calculation, the ratio of tourism services exports to the number of foreign tourists in 2025 was approximately USD 417 per tourist (USD 4.88 billion / 11.7 million). This calculated indicator provides an additional measure of the relationship between tourism export revenues and international tourist flows, although it should not be interpreted as equivalent to survey-based average tourist expenditure.

At the policy level, Presidential Decree No. PF-87 of 15 May 2025 represents an important institutional measure supporting the continued development and modernisation of Uzbekistan's tourism sector. The Decree establishes a range of targets and measures for 2025–2026, including 15.8 million foreign tourist visits, USD 4 billion in tourism services exports, and 40 million domestic tourist trips. It also provides for the construction of 108 new hotels, 375 family guest houses, 123 hostels, and 12 tourist villages; the introduction of a 30-day visa-free regime for citizens of Bahrain, Kuwait, and Oman; and the launch of a unified national tourism platform [1].

Tourism services exports reached USD 4.6 billion in January–August 2026, indicating that the export performance recorded during this period had already surpassed the USD 4 billion benchmark established in the Decree [24]. This positive dynamic reflects the continued expansion of Uzbekistan's tourism services exports and provides a favourable foundation for the further development of innovation-driven tourism.

The conditions for adapting and implementing contemporary innovation-driven tourism models in Uzbekistan are systematised through the SWOT analysis presented in Table 6.

Table 6
SWOT analysis of innovative tourism development in Uzbekistan⁷

Strengths (S)	Weaknesses (W)
– Rich UNESCO-listed heritage (Samarkand, Bukhara, Khiva, Shakhrisabz) – High growth rate and strong state support – Visa-free and e-visa regimes – Distinctive gastronomy and crafts	– High dependence of tourist flows on CIS markets – Concentration on the classic route (Tashkent–Samarkand–Bukhara–Khiva) – Shortage of digital services and multilingual staff – Uneven regional infrastructure
Opportunities (O)	Threats (T)
– Rapid growth of Chinese, South-East Asian and Gulf markets – New air routes (Abu Dhabi, Shanghai, Seoul) – Low-cost marketing to foreign markets via generative AI – Growth of regional airports (Termez +52%)	– Regional competition (Kazakhstan, Georgia, Türkiye) – Risk of overtourism in historic cities – Geopolitical changes and transport price fluctuations – Digital dependence on global OTA platforms

The results support the view that tourism competitiveness increasingly depends on the interaction of multiple forms of innovation rather than on the isolated adoption of individual technologies. Smart-destination and digital-platform models can enhance coordination, data integration, and information flows, while their effectiveness is strengthened by appropriate governance capacity and interoperable data standards. Experience and creative tourism can increase local value added and differentiate destinations by creating distinctive visitor experiences, provided that cultural authenticity and local identity are appropriately preserved. Green innovation can strengthen long-term environmental and economic resilience, although its implementation may require additional investment during the initial stages. Open innovation can expand the research, development, and innovation capabilities available to tourism SMEs through collaboration and knowledge sharing, while AI can enhance personalisation, demand forecasting, and decision-making when supported by high-quality data, appropriate privacy safeguards, and relevant professional competencies. These complementarities indicate that an integrated configuration adapted to national and destination-specific conditions is more appropriate for Uzbekistan than the direct replication of any single international model.

For Uzbekistan, the central strategic implication is to complement the country's strong growth in tourist arrivals with an increasing emphasis on intensive and quality-oriented dimensions of tourism development. The continued expansion of visitor numbers provides economies of scale, strengthens international market

⁷ compiled by the author based on [5; 7; 20; 25; 26].

visibility, and creates a favourable foundation for further development. Building on these achievements, long-term tourism competitiveness can be further enhanced by increasing expenditure per visitor, extending the average duration of stays, broadening the regional distribution of tourism benefits, strengthening digital conversion, enhancing resident satisfaction, and improving resource efficiency. The proposed hybrid approach therefore links innovation policy with measurable destination-level outcomes, while positioning digitalisation and infrastructure development as enabling mechanisms for achieving broader tourism development objectives.

The comparative and SWOT analyses indicate that Uzbekistan can benefit from an integrated combination of complementary innovation models rather than relying on a single approach. The country's tourism system is characterised by rapid market expansion and strong institutional support, accompanied by opportunities to further strengthen regional infrastructure, diversify international source markets, expand integrated digital services, and advance environmentally sustainable destination management. Accordingly, the proposed hybrid model is conceptualised as a portfolio of mutually reinforcing innovation mechanisms adapted to Uzbekistan's specific institutional, market, regional, and resource conditions rather than as a direct combination of international practices.

The logic of the proposed framework is sequential and interconnected. Digital and institutional infrastructure establishes the foundation for data collection, interoperability, and connectivity; smart-destination governance transforms these resources into coordinated and evidence-based decisions; experience and creative tourism enhance visitor value and destination differentiation; AI-enabled solutions support forecasting, personalisation, and operational decision-making; green innovation promotes resource efficiency and environmental sustainability; and open-innovation networks strengthen local capabilities for generating, adapting, and disseminating new solutions. The principal components of the proposed hybrid framework, their implementation horizons, and indicative performance measures are presented in Table 7.

Table 7

Components and stages of the hybrid innovation model for Uzbekistan⁸

Component model	Key measures	Timeline	Performance indicator
Digital platform	Integrate the national tourism platform with visa, air, rail and payment systems; open API	2026–2027	Share of online bookings
Smart destination	Pilot smart destination centres in Samarkand and Bukhara; assessment system aligned with Spain's DTI methodology	2026–2028	Flow distribution, tourist satisfaction index
Experience and creative tourism	Gastronomy and craft routes; tourist villages; AR guides based on local stories	2026–2028	Average length of stay, spending per tourist
AI and data	Multilingual AI assistant; demand forecasting; targeted marketing for long-haul markets	2027–2029	Share of long-haul markets
Sustainability	Green certification for hotels; visitor quotas and time slots in historic centres	2026–2030	Energy and water use, resident satisfaction
Open innovation and cluster	Tourism start-up accelerators at universities; PPP projects; regional tourism clusters	2026–2030	New start-ups and investment volume

CONCLUSION AND RECOMMENDATIONS

The study concludes that innovation-driven tourism development is best understood as a systemic process in which technology, institutions, sustainability, knowledge networks, and visitor experience mutually reinforce one another. Six contemporary models were identified and comparatively assessed: smart tourism destinations, digital platform ecosystems, experience and creative tourism, sustainable innovation, open innovation and tourism clusters, and AI- and data-driven management. The findings indicate that mature tourism destinations are increasingly complementing visitor growth with a stronger emphasis on value creation, service quality, and sustainability. In Uzbekistan, recent tourism development has been supported substantially by institutional reforms, expanded market access, and strong growth in visitor flows. Building on these achievements, the next stage of development provides opportunities to generate greater visitor value, enhance tourism quality, and strengthen the long-term resilience and sustainability of the sector.

⁸ developed by the author.

For this purpose, the study proposes a phased hybrid framework integrating interoperable digital infrastructure, smart-destination governance, experience design, AI-enabled analytics, green transformation, and collaborative innovation. The effectiveness of this framework should be assessed not only through tourist arrivals but also through a broader set of destination-level indicators, including expenditure per visitor, average length of stay, regional distribution of tourism benefits, digital adoption, resource efficiency, and resident and visitor satisfaction. The proposed framework provides a methodological basis for subsequent regional assessment and empirical testing within the broader objective of advancing the methodology of tourism development in Uzbekistan through an innovation-driven approach.

Based on the findings of the study, the following practical recommendations are proposed:

- Market diversification. Strengthen data-driven digital marketing campaigns targeting China, Malaysia, Japan, the Gulf states, and European markets in order to complement the strong position of CIS markets and further diversify Uzbekistan's international tourism source markets.
- Regional diversification. Building on the growing interest of tourists in destinations beyond the established tourism routes [24], further develop creative, cultural, and eco-tourism products in Surkhandarya, Karakalpakstan, and the Fergana Valley. This can contribute to broadening the geographical distribution of tourism benefits and showcasing the distinctive tourism potential of different regions.
- Unified tourism statistics and data standards. Continue the harmonisation of the definitions and measurement of “tourist” and “visit” indicators with international UN Tourism methodology and further develop the statistical framework through the implementation of a Tourism Satellite Account (TSA). This can strengthen the comparability, consistency, and analytical value of national tourism statistics.
- Human capital development. Expand specialised training modules in digital tourism, data analytics, artificial intelligence, and destination management within higher education institutions in order to strengthen the professional competencies required for innovation-driven tourism development.
- Quality-oriented performance indicators. Alongside tourist arrival targets, incorporate indicators such as expenditure per visitor, average length of stay, tourist satisfaction, regional distribution of tourism benefits, and resource efficiency into tourism development programmes. This broader set of indicators can support a more comprehensive assessment of tourism performance and sustainable value creation.

The principal scientific contribution of the study is the development of an integrated hybrid framework for innovation-driven tourism development adapted to the conditions of an emerging tourism destination. While existing approaches frequently examine smart tourism, digital platforms, creative tourism, sustainability, open innovation, and artificial intelligence as distinct development trajectories, the proposed framework integrates these dimensions within a common logic linking enabling conditions, innovation mechanisms, and measurable destination-level outcomes.

The practical value of the framework lies in its capacity to support differentiated and coordinated policy and management decisions across multiple levels of the tourism ecosystem. National authorities can facilitate the development of interoperable digital infrastructure and harmonised statistical standards; destination management organisations can apply smart-management systems and visitor-flow management tools; tourism enterprises can develop experience-based and AI-enabled services; universities, research institutions, and tourism clusters can strengthen knowledge exchange and innovation capabilities; and sustainability indicators can be integrated throughout all stages of implementation. In this way, the proposed framework provides a structured basis for combining technological, institutional, environmental, and human-capital innovations to support the continued development, competitiveness, and sustainability of tourism in Uzbekistan.

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