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DEVELOPING A TOURISM CLUSTER MANAGEMENT MODEL FOR SILK ROAD CITIES

Abstract. This study examines the development of an integrated tourism cluster management model for cities located along the historic Silk Road, with particular emphasis on Uzbekistan. The main objective is to identify effective organizational, institutional, economic, and digital mechanisms for improving the competitiveness and sustainability of tourism destinations. The research is based on institutional, comparative, statistical, and regulatory analysis, as well as indicator-based assessment and forecasting methods. The study examines the dynamics of tourist arrivals, tourism service exports, employment, accommodation capacity, and the contribution of tourism to the national economy. Particular attention is paid to the integration of tourism enterprises, transport organizations, hospitality businesses, educational institutions, public authorities, and local communities into a unified destination management system. The proposed model consists of three interconnected levels: national macro-clusters, territorial core clusters, and micro-service clusters. The findings demonstrate that tourism competitiveness depends not only on increasing tourist arrivals but also on extending the average length of stay, increasing tourist expenditure, improving institutional coordination, and strengthening the local retention of economic value. The study also highlights the importance of smart tourism technologies, destination branding, integrated digital platforms, and public-private partnerships. The proposed management framework can contribute to the sustainable development of Silk Road destinations, the preservation of cultural heritage, and the strengthening of Uzbekistan's position in the international tourism market.

Keywords: Silk Road cities, tourism cluster, cluster management model, sustainable tourism, destination management, tourism competitiveness, smart tourism, cultural heritage, digitalization, regional development.

BUYUK IPAK YO‘LI SHAHARLARI UCHUN TURIZM KLASTERINI BOSHQARISH MODELINI ISHLAB CHIQISH

Annotatsiya. Ushbu maqolada Buyuk Ipak yo‘li bo‘ylab joylashgan shaharlar, xususan, O‘zbekiston hududidagi tarixiy turizm markazlari uchun integratsiyalashgan turizm klasterini boshqarish modelini ishlab chiqish masalalari tadqiq etilgan. Tadqiqotning asosiy maqsadi turistik destinatsiyalarning raqobatbardoshligi va barqarorligini oshirishga xizmat qiluvchi tashkiliy, institutsional, iqtisodiy hamda raqamli boshqaruv mexanizmlarini aniqlashdan iborat. Tadqiqotda institutsional, qiyosiy, statistik va normativ-huquqiy tahlil, indikatorlar asosida baholash hamda prognozlash usullaridan foydalanilgan. Turistlar oqimi, turizm xizmatlari eksporti, bandlik, joylashtirish vositalari sig‘imi va turizmning mamlakat iqtisodiyotidagi ulushi tahlil qilingan. Turistik korxonalar, transport tashkilotlari, mehmonxona xo‘jaliklari, ta’lim muassasalari, davlat organlari va mahalliy jamoalarni yagona destinatsion boshqaruv tizimiga birlashtirish masalalariga alohida e’tibor qaratilgan. Muallif tomonidan uch bosqichli boshqaruv modeli, ya’ni

milliy makroklasterlar, hududiy tayanch klasterlar va mikroxizmat klasterlaridan iborat tizim taklif etilgan. Tadqiqot natijalari turizm raqobatbardoshligi nafaqat turistlar sonini ko‘paytirish, balki ularning o‘rtacha qolish muddatini uzaytirish, xarajatlarini oshirish, institutsional hamkorlikni kuchaytirish va iqtisodiy qiymatning mahalliy hududlarda saqlanishiga ham bog‘liqligini ko‘rsatadi. Shuningdek, aqlli turizm texnologiyalari, destinatsiya brendingi, yagona raqamli platformalar va davlat-xususiy sheriklikning ahamiyati asoslab berilgan.

Kalit so‘zlar: Buyuk Ipak yo‘li shaharlari, turizm klasteri, klaster boshqaruvi modeli, barqaror turizm, destinatsion boshqaruv, turizm raqobatbardoshligi, aqlli turizm, madaniy meros, raqamlashtirish, hududiy rivojlanish.

РАЗРАБОТКА МОДЕЛИ УПРАВЛЕНИЯ ТУРИСТСКИМ КЛАСТЕРОМ ДЛЯ ГОРОДОВ ВЕЛИКОГО ШЁЛКОВОГО ПУТИ

Аннотация. В данной статье исследуются вопросы разработки интегрированной модели управления туристскими кластерами для городов, расположенных вдоль исторического Великого шёлкового пути, с особым акцентом на туристские центры Узбекистана. Основная цель исследования заключается в определении эффективных организационных, институциональных, экономических и цифровых механизмов повышения конкурентоспособности и устойчивости туристских дестинаций. В исследовании применены институциональный, сравнительный, статистический и нормативно-правовой анализ, а также методы индикаторной оценки и прогнозирования. Рассмотрена динамика туристских потоков, экспорта туристских услуг, занятости населения, вместимости средств размещения и вклада туризма в национальную экономику. Особое внимание уделено интеграции туристских предприятий, транспортных организаций, гостиничного бизнеса, образовательных учреждений, государственных органов и местных сообществ в единую систему управления дестинацией. Автором предложена трёхуровневая модель управления, включающая национальные макрокластеры, территориальные базовые кластеры и микрокластеры услуг. Результаты исследования показывают, что конкурентоспособность туризма зависит не только от увеличения количества туристов, но и от продолжительности их пребывания, роста средних расходов, совершенствования институционального взаимодействия и сохранения экономической добавленной стоимости на местном уровне. Также обоснована роль интеллектуальных туристских технологий, брендинга дестинаций, интегрированных цифровых платформ и государственно-частного партнёрства. Предложенная модель может способствовать устойчивому развитию туристских направлений Великого шёлкового пути, сохранению культурного наследия и укреплению позиций Узбекистана на международном туристском рынке.

Ключевые слова: города Великого шёлкового пути, туристский кластер, модель управления кластерами, устойчивый туризм, управление дестинациями, конкурентоспособность туризма, интеллектуальный туризм, культурное наследие, цифровизация, региональное развитие.

INTRODUCTION

The Great Silk Road historically represented one of the most important trade and cultural exchange networks connecting Asia, Europe, and the Middle East. For

centuries, cities located along this route served as major centres of commerce, science, education, craftsmanship, and intercultural interaction. Today, the historical and cultural heritage of these cities represents a significant resource for tourism development and international destination competitiveness.

In the context of globalization, digital transformation, and increasing competition in the international tourism market, traditional approaches to tourism development are becoming insufficient. Individual tourism enterprises and infrastructure facilities cannot independently ensure the sustainable development of destinations. Consequently, the cluster approach has become an important instrument for strengthening cooperation among tourism stakeholders, improving service quality, increasing investment attractiveness, and generating additional economic value.

Tourism clusters represent geographically interconnected systems of tourism enterprises, public institutions, infrastructure organizations, educational establishments, and local communities that cooperate in producing and promoting integrated tourism products. Such cooperation enables destinations to improve resource utilization, coordinate investment activities, develop innovative services, and strengthen their competitive advantages.

Uzbekistan possesses considerable opportunities for developing tourism clusters due to its historical cities, architectural monuments, cultural traditions, handicrafts, gastronomic heritage, and geographical position along the Great Silk Road. Samarkand, Bukhara, Khiva, Tashkent, Shakhrisabz, and other destinations have the potential to become interconnected tourism centres offering integrated cultural, historical, gastronomic, pilgrimage, and recreational tourism products.

However, the development of tourism infrastructure alone does not automatically create an effective tourism cluster. The absence of coordinated management, insufficient integration of tourism services, fragmented marketing activities, and limited digital connectivity may reduce the economic efficiency of tourism destinations.

In this regard, the development of an integrated tourism cluster management model is particularly important. Such a model should establish effective cooperation among government authorities, tourism enterprises, transport organizations, hospitality businesses, educational institutions, investors, and local communities.

The purpose of this research is to develop a comprehensive tourism cluster management model for Silk Road cities, taking into account the institutional, economic, infrastructural, and digital characteristics of Uzbekistan's tourism sector.

To achieve this purpose, the following research objectives have been identified:

To examine the theoretical foundations of tourism cluster development and management.

To analyse the current development trends of tourism in Uzbekistan.

To identify the institutional and economic factors influencing tourism cluster competitiveness.

To assess the contribution of digital technologies, destination marketing, and stakeholder cooperation to tourism development.

To develop a multi-level tourism cluster management model for Silk Road destinations.

To formulate practical recommendations for improving the sustainability and economic efficiency of tourism clusters.

The scientific significance of the research lies in the development of an integrated management framework that considers tourism clusters not merely as geographical concentrations of tourism facilities, but as interconnected economic and institutional ecosystems.

LITERATURE REVIEW

The theoretical foundations of tourism cluster development are closely associated with the concept of industrial clusters introduced and developed by Michael Porter. According to Porter, geographical concentration and interaction among interconnected enterprises and institutions contribute to productivity growth, innovation, and the emergence of new business opportunities [1].

The application of cluster theory to tourism demonstrates that destination competitiveness depends on the interaction of several interconnected components, including accommodation facilities, transport infrastructure, tourist attractions, catering establishments, tour operators, cultural institutions, and supporting services.

In the tourism sector, the cluster approach makes it possible to integrate separate service providers into a coordinated system capable of creating comprehensive tourism products. This approach also increases opportunities for joint marketing, investment attraction, knowledge exchange, and innovation.

Rosenfeld's research on regional cluster development emphasizes the importance of institutional relationships, business networks, and cooperation among enterprises in strengthening regional economic competitiveness [2]. These principles are particularly relevant to historical tourism destinations, where the preservation and commercial use of cultural heritage require coordinated activities involving public and private stakeholders.

The destination management approach provides another important theoretical foundation for tourism cluster development. It considers a tourism destination as an integrated system in which planning, marketing, infrastructure development, environmental protection, and stakeholder coordination must be implemented simultaneously.

The Organisation for Economic Co-operation and Development (OECD) emphasizes that effective tourism development requires coordinated destination governance, evidence-based policymaking, infrastructure integration, and sustainable management practices [3].

Similarly, the World Economic Forum's Travel and Tourism Development Index 2024 identifies transport infrastructure, tourism services, enabling conditions,

sustainability, and institutional factors as important determinants of destination competitiveness [4].

International tourism development trends also demonstrate the increasing importance of digital transformation. Digital booking systems, online destination platforms, electronic ticketing, geographic information systems, mobile applications, and data analytics contribute to improving the accessibility and efficiency of tourism services.

The development of smart tourism destinations enables tourism stakeholders to collect, analyse, and use information about visitor behaviour, tourist flows, service quality, and infrastructure utilization. Such technologies are particularly important for historical cities, where the management of tourist flows and the protection of cultural heritage must be balanced.

The principles of sustainable tourism also play an important role in cluster management. According to international tourism development approaches, economic growth should be accompanied by environmental protection, cultural heritage preservation, social inclusion, and the equitable distribution of tourism benefits.

The analysis of existing scientific approaches makes it possible to identify several important research gaps.

First, many traditional approaches focus primarily on the geographical concentration of tourism enterprises rather than on the institutional mechanisms that ensure their effective cooperation.

Second, tourism performance is frequently assessed through the number of tourist arrivals, while indicators such as average tourist expenditure, length of stay, local economic value added, and interregional connectivity receive insufficient attention.

Third, the integration of digital management technologies into multi-level tourism cluster governance requires further methodological development.

Therefore, this research proposes an integrated approach combining cluster theory, destination management, sustainable tourism principles, institutional coordination, and digital transformation. Its main distinguishing feature is the consideration of tourism clusters as multi-level service ecosystems managed through measurable performance indicators.

METHODOLOGY

The research employs a combination of qualitative and quantitative methods to examine the institutional, economic, organizational, and infrastructural dimensions of tourism cluster development in Uzbekistan.

The methodological framework consists of five interconnected stages.

First stage: Institutional and regulatory analysis.

At the initial stage, presidential decrees, resolutions, legislative acts, and strategic documents adopted during 2016–2024 were analysed. The purpose was to

identify the institutional evolution of tourism policy in Uzbekistan and determine the regulatory foundations for tourism cluster development.

Particular attention was paid to strategic documents concerning tourism development, digital transformation, regional economic development, and the preservation of cultural heritage.

Second stage: Statistical analysis.

Statistical information published by the National Statistics Committee of the Republic of Uzbekistan was systematized to assess the development of the tourism sector.

The following indicators were examined:

Number of foreign tourist trips.

Tourism service exports.

Employment in tourism-related industries.

Share of tourism-related gross value added in GDP.

Accommodation capacity.

Average tourist stay.

Tourism revenue.

Comparative and time-series analysis was used to identify the main trends in tourism development during 2020–2025.

Third stage: Comparative analysis.

The tourism development experience of Uzbekistan was compared with international approaches to cluster management, destination governance, sustainable tourism, and tourism competitiveness.

The theoretical framework was based on Porter's cluster theory, OECD destination management principles, and the international tourism competitiveness framework.

Fourth stage: Development of the tourism cluster management model.

An original management model was developed using the following conceptual sequence:

Target Indicator→Resource→Territory→Institution→ResultTarget Indicator→Resource→Territory→Institution→Result

This sequence establishes the relationship between strategic objectives, available tourism resources, territorial organization, institutional cooperation, and measurable economic outcomes.

The proposed model incorporates three interconnected organizational levels:

National macro-clusters.

Territorial core clusters.

Micro-service clusters.

Fifth stage: Forecasting and performance assessment.

The forecasting approach was used to determine the average annual growth rate required to achieve the target of 15 million foreign tourists by 2030.

The compound annual growth rate (CAGR) was calculated using the following formula:

CAGR=(VnV0)1n−1CAGR=(V0Vn)n1−1

Where:

V0V0 – initial number of tourist trips;

VnVn – target number of tourist trips;

nn – forecasting period in years.

Based on the 2024 baseline of 7.957 million tourist trips and the 2030 target of 15 million tourists, the required average annual growth rate is approximately 11.1%.

The effectiveness of tourism clusters was assessed using five principal criteria:

Growth of tourist flows.

Expansion of accommodation capacity.

Growth of service exports and economic value added.

Employment generation.

Interregional connectivity and digital visibility.

An indicator-based approach was also applied to assess the contribution of individual cluster components to destination competitiveness.

The methodological novelty of the research consists in considering tourism clusters not simply as geographical concentrations of tourism enterprises, but as multi-level service ecosystems managed through strategic targets, institutional coordination, and measurable performance indicators.

RESULTS

Current trends in tourism development in Uzbekistan

The analysis of official statistical indicators demonstrates that tourism has become one of the important components of Uzbekistan's economic development.

According to the National Statistics Committee, the number of foreign citizen trips to Uzbekistan for tourism purposes reached 7,957.2 thousand in 2024, representing an increase of 20.1% compared with 2023.

A considerable proportion of incoming visitors originated from CIS countries, accounting for approximately 90.3% of the total. This indicates that Uzbekistan's tourism market remains strongly oriented towards geographically close markets characterized by relatively convenient transport connections.

During January–March 2025, the number of tourist trips reached 2,102.4 thousand, which was 38.4% higher than during the corresponding period of 2024.

These indicators demonstrate the positive development of international tourism demand and the growing importance of Uzbekistan as a regional tourism destination.

However, the structure of incoming visits also indicates the need to expand higher-value leisure, cultural, recreational, and experiential tourism products.

The development of integrated tourism clusters can contribute to this objective by combining historical attractions with accommodation, gastronomy, transport, entertainment, cultural events, and other complementary services.

Economic contribution of tourism

The economic significance of tourism is also reflected in the structure of service exports.

In 2024, Uzbekistan's total service exports amounted to USD 7.204 billion, of which tourism accounted for approximately 48.8%. Based on this share, travel exports amounted to approximately USD 3.52 billion.

In 2025, total service exports increased to USD 9.760 billion, while the share of travel reached 50%. Accordingly, estimated travel exports amounted to approximately USD 4.88 billion.

These developments indicate that the strategic target of USD 5 billion in tourism service exports is approaching achievement.

Therefore, future tourism policy should increasingly focus not only on attracting more visitors but also on increasing average expenditure per tourist, extending the duration of visits, and expanding the range of tourism services.

Employment in tourism-related industries reached 249,764 persons in 2024, compared with 215,679 persons in 2023.

Furthermore, the share of gross value added generated in tourism industries in GDP increased from 8.0% in 2019 to 9.2% in 2024.

These indicators demonstrate the growing contribution of tourism to employment generation, regional economic development, and national value added.

The cluster approach can strengthen these effects by increasing cooperation among enterprises and improving the circulation of tourism-related income within local economies.

Tourism development indicators in Silk Road cities

The proposed tourism cluster management model was examined in relation to the development of major Silk Road destinations in Uzbekistan, including Samarkand, Bukhara, and Khiva.

The comparative indicators presented in Table 1 demonstrate the reported changes in tourism performance between 2020 and 2025.

Table 1. Tourism Development Indicators in Silk Road Cities (2020–2025)

Indicator	2020	2025	Growth (%)
Number of tourists (million persons)	1.8	4.5	150.0
Tourism revenues (USD million)	420	1,120	166.7
Hotel capacity (thousand beds)	32	51	59.4
Employment in tourism sector (thousand persons)	78	124	59.0
Average tourist stay (days)	2.8	4.1	46.4

Source: Author's calculations based on the statistical indicators provided in the research materials.

The results indicate that tourist arrivals increased by 150%, while tourism revenues increased by 166.7%.

The increase in accommodation capacity and employment also demonstrates the expansion of tourism infrastructure and related economic activities.

The growth in the average length of stay from 2.8 to 4.1 days is particularly important because it reflects the potential of integrated tourism products to encourage visitors to remain in destinations for longer periods.

The observed positive dynamics can be associated with infrastructure modernization, improvements in tourism services, increased destination visibility, and the development of digital tourism channels.

However, the comparative indicators should be interpreted as reported regional dynamics rather than as independently verified causal effects of cluster management.

4.4. Assessment of tourism cluster competitiveness factors

Tourism cluster competitiveness depends on the interaction of several organizational, infrastructural, technological, and marketing components.

For the purposes of this research, four principal components were identified and assessed through expert evaluation.

Table 2. Contribution of Cluster Components to Tourism Competitiveness

Component	Weight (%)
Destination marketing	30
Digital technologies	25
Infrastructure quality	23
Institutional coordination	22
Total	100

Source: Author's expert assessment.

The results demonstrate that destination marketing has the highest estimated contribution to tourism competitiveness, accounting for 30%.

Digital technologies rank second, with 25%, followed by infrastructure quality at 23% and institutional coordination at 22%.

These results emphasize the importance of developing a unified destination brand and strengthening the digital presence of tourism clusters.

At the same time, the relatively high contribution of institutional coordination demonstrates that the success of tourism clusters depends on effective cooperation among stakeholders.

Marketing activities without integrated services may increase visitor awareness but cannot independently ensure a high-quality tourism experience.

Similarly, digital platforms are most effective when they connect tourism enterprises, transport services, accommodation providers, cultural attractions, and payment systems.

4.5. Macroeconomic indicators and analytical assessment

The main statistical indicators of Uzbekistan's tourism development are summarized in Table 3.

Table 3. Key Tourism Development Indicators of Uzbekistan and Their Analytical Assessment (2024–2025)

No.	Indicator	2024	2025	Analytical assessment
1	Growth in tourist trips	20.1%	38.4% in Q1	Positive growth dynamics
2	Total service exports (USD billion)	7.204	9.760	Expansion of service exports
3	Share of travel in service exports	48.8%	50.0%	Increasing economic importance of tourism
4	Travel exports (USD billion)	3.52	4.88	Approaching the USD 5 billion target
5	Employment in tourism industries (persons)	249,764	—	Significant employment contribution
6	Share of tourism-related value added in GDP	9.2%	—	Strengthening macroeconomic role

Source: National Statistics Committee of the Republic of Uzbekistan; author's calculations.

The results indicate that tourism has considerable potential to become one of the strategic drivers of Uzbekistan's regional economic development.

The main growth signals include increasing tourist arrivals, expanding travel exports, rising employment, and the growing contribution of tourism-related activities to GDP.

Nevertheless, these quantitative developments should be accompanied by qualitative improvements in destination management, tourism service integration, and the efficient use of local resources.

Proposed tourism cluster management model

Based on the theoretical and statistical analysis, a three-level tourism cluster management model is proposed for Uzbekistan's Silk Road destinations.

The first level: National macro-clusters.

This level integrates tourism destinations according to their common thematic, cultural, and economic characteristics.

Four main macro-clusters are proposed:

Silk Road Heritage Cluster.

Pilgrimage Tourism Cluster.

Eco and Mountain-Recreational Tourism Cluster.

Gastronomic and Handicraft Tourism Cluster.

The purpose of this level is to establish national strategic priorities, coordinate interregional tourism policies, develop international marketing strategies, and promote Uzbekistan as an integrated tourism destination.

The second level: Territorial core clusters.

This level includes major regional tourism centres that function as the principal destinations within national macro-clusters.

The proposed territorial core clusters include:

Samarkand.

Bukhara.

Khiva.

Tashkent–Bostanliq.

Fergana Valley.

Surkhandarya.

Each territorial cluster should have a specialized management mechanism responsible for infrastructure coordination, investment attraction, tourism product development, marketing, and stakeholder cooperation.

The third level: Micro-service clusters.

The third level includes smaller tourism service concentrations operating within individual cities and destinations.

Examples include:

Handicraft quarters.

Gastronomic streets.

Cultural and historical thematic routes.

Festival and event-service zones.

Local recreation and entertainment areas.

These micro-clusters provide tourists with integrated experiences and increase the opportunities for local businesses to participate in tourism value chains.

The proposed management model is based on the interaction of five fundamental elements:

Specialized territorial tourism resources.

Integrated supporting services.

Unified destination marketing and branding.

Coordinated transport and logistics.

Shared digital management infrastructure.

The effectiveness of the model should be evaluated through measurable indicators, including tourist arrivals, average length of stay, expenditure per visitor, digital booking rates, employment, and the share of tourism income retained within local communities.

Forecasting tourism development towards 2030

The strategic development of tourism in Uzbekistan is closely connected with the objectives established in the Uzbekistan–2030 Strategy.

One of the principal targets is to increase the number of foreign tourists to 15 million by 2030.

According to the 2024 baseline of 7.957 million tourist trips, achieving this target requires an average annual growth rate of approximately 11.1%.

The calculation is based on the following expression:

CAGR=(157.957)16−1CAGR=(7.95715)61−1

CAGR≈0.111=11.1%CAGR≈0.111=11.1%

This forecast demonstrates that achieving the target requires more than conventional promotional activities or the expansion of individual tourism facilities.

It requires the development of integrated tourism products, stronger transport connectivity, increased accommodation capacity, improved service quality, and more effective digital management.

A particularly important concept in this context is cluster density.

Cluster density refers to the degree of concentration and interconnection of tourism enterprises and services within a destination, including the availability of services per tourist, the number of complementary activities, the integration of tourism routes, and the share of visitor expenditure retained locally.

Increasing cluster density can improve the economic efficiency of tourism destinations and strengthen their ability to generate additional value.

Consequently, forecast indicators should become an essential element of tourism cluster management and strategic planning.

DISCUSSION

The findings of the research demonstrate that Uzbekistan's tourism sector has entered a new stage of development characterized by increasing tourist flows, expanding service exports, and growing employment opportunities.

However, quantitative growth alone cannot guarantee sustainable competitiveness in the international tourism market. The next stage of development requires a transition from the expansion of individual tourism facilities towards the creation of integrated territorial tourism ecosystems.

The proposed tourism cluster management model is consistent with Porter's cluster theory, which emphasizes that geographical proximity and cooperation among interconnected enterprises and institutions contribute to productivity, innovation, and competitiveness [1].

In the context of Silk Road destinations, this means that hotels, restaurants, transport operators, tour agencies, cultural institutions, artisans, and digital service providers should operate within an integrated economic system.

For example, the Samarkand–Bukhara–Shakhrisabz historical tourism corridor can function as an integrated destination offering interconnected cultural routes, accommodation services, gastronomic experiences, handicraft products, and transport solutions.

Similarly, the Fergana Valley can strengthen its position through the integration of handicraft, gastronomic, and cultural tourism, while the Khorezm–Karakalpakstan corridor has opportunities to develop cultural and ecological tourism products.

An important finding of the research is that the current approach to tourism cluster formation should move beyond the construction of individual facilities.

The establishment of a hotel, restoration of a historical monument, improvement of a road, or organization of a tourism event does not independently create a functioning cluster.

An effective tourism cluster requires institutional coordination, integrated services, unified marketing, transport connectivity, and shared digital infrastructure.

The proposed three-level model addresses this challenge by establishing relationships between national tourism priorities, regional tourism centres, and local service providers.

Another important implication concerns the transformation of tourism performance indicators.

Traditionally, the success of tourism development has often been evaluated through the number of tourist arrivals. However, this indicator does not fully reflect the economic contribution of tourism.

For this reason, cluster performance should also be evaluated through:

Average tourist expenditure.

Average length of stay.

Tourism revenue per visitor.

Employment generated by tourism activities.

Local retention of tourism income.

Number of integrated tourism products.

Share of digital bookings.

Distribution of tourist flows across neighbouring territories.

Such indicators provide a more comprehensive understanding of tourism competitiveness and economic efficiency.

Digital transformation represents another important dimension of the proposed model.

The integration of online booking systems, electronic ticketing, digital payments, transport information, mobile applications, and tourism analytics can improve the coordination of tourism services and enhance visitor experiences.

For Silk Road cities, digital integration is especially important because tourists frequently visit several destinations within one journey. A unified digital platform could facilitate the planning of multi-city routes, simplify access to cultural attractions, and improve the distribution of visitor flows.

The role of public-private partnerships should also be emphasized. Public institutions are responsible for strategic planning, regulatory support, infrastructure development, and heritage protection, while private enterprises contribute investment, innovation, service delivery, and marketing expertise.

Coordinated cooperation between these stakeholders can increase investment efficiency and create additional opportunities for local businesses.

Finally, sustainable tourism management must become an integral component of cluster governance. Increasing tourist flows should not negatively affect historical monuments, local communities, or environmental resources.

Therefore, tourism cluster management should incorporate environmental carrying capacity, cultural heritage protection, transport congestion management, seasonality reduction, and community participation.

Overall, the findings suggest that the competitiveness of Silk Road destinations depends on the transition from fragmented tourism development towards coordinated, digitally integrated, and economically sustainable destination management.

CONCLUSION

The research has examined the theoretical, institutional, economic, and organizational foundations of tourism cluster management in Silk Road cities, with particular emphasis on Uzbekistan.

The findings confirm that Uzbekistan possesses considerable potential for developing competitive tourism clusters based on its historical and cultural heritage, geographical location, traditional craftsmanship, gastronomic resources, and expanding tourism infrastructure.

The statistical analysis demonstrates positive developments in tourist arrivals, tourism service exports, employment, and the contribution of tourism-related industries to the national economy.

In particular, the number of foreign citizen trips for tourism purposes reached 7.957 million in 2024, while tourism-related services accounted for approximately 48.8% of total service exports. The estimated value of travel exports approached USD 4.88 billion in 2025.

These indicators confirm the increasing economic importance of tourism and demonstrate the need for more advanced mechanisms of destination management.

The principal scientific contribution of the study is the development of a three-level tourism cluster management model consisting of national macro-clusters, territorial core clusters, and micro-service clusters.

The proposed model establishes an integrated relationship between strategic planning, territorial tourism resources, institutional coordination, infrastructure, digital technologies, and measurable economic outcomes.

Based on the findings, the following recommendations are proposed.

First, tourism cluster management should be based on clearly defined strategic performance indicators. Each cluster should develop a KPI framework incorporating

tourist arrivals, average length of stay, tourist expenditure, service exports, employment, and digital booking rates.

Second, cluster boundaries should be established according to tourism routes, resource complementarities, and economic interdependence rather than exclusively administrative divisions. This approach would strengthen cooperation between neighbouring destinations and facilitate the development of integrated tourism products.

Third, a unified digital destination management platform should be introduced for major tourism clusters. The platform should integrate accommodation reservations, electronic ticketing, tourist information, guiding services, transport connectivity, payment systems, and analytical tools.

Fourth, tourism investment policies should extend beyond hotel construction and include gastronomy, handicrafts, cultural events, entertainment, wellness, recreational services, and local creative industries.

Fifth, the centre–satellite cooperation model should be developed to distribute tourist flows from major historical cities towards neighbouring territories. For example, Samarkand, Bukhara, and Khiva can function as principal tourism centres connected with smaller destinations offering complementary cultural, ecological, and recreational experiences.

Sixth, tourism cluster performance should be evaluated not only by the number of visitors but also by the economic value generated per tourist. Particular attention should be paid to increasing visitor expenditure, extending the average duration of stay, strengthening local employment, and retaining a greater share of tourism income within destination economies.

Seventh, sustainability principles should be incorporated into all levels of cluster management through the protection of historical monuments, environmental monitoring, responsible tourism practices, and active participation of local communities.

In conclusion, the development of an integrated tourism cluster management model can become an important instrument for transforming Uzbekistan's tourism sector into a highly competitive, innovative, and sustainable economic system. The proposed approach can strengthen the international attractiveness of Silk Road cities, improve the efficiency of tourism resources, preserve cultural heritage, and generate long-term economic benefits for regional communities.

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