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EXPANDING THE EFFICIENCY OF TOURISM SERVICES IN KARAKALPAKSTAN IN THE CONTEXT OF THE DIGITAL ECONOMY

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Abstract. *This study explores the role of digital technologies in enhancing tourism services in the Republic of Karakalpakstan. As a region rich in cultural heritage and natural landscapes, Karakalpakstan presents vast opportunities for tourism development. However, limited digital infrastructure and marketing strategies hinder its potential. This research employs a mixed-methods approach, including qualitative interviews with tourism stakeholders and quantitative analysis of tourist inflow data. Findings indicate that digital tools, including online booking systems, virtual tours, and digital payment solutions, significantly impact tourism growth. The study concludes that adopting a digital economy framework can improve service efficiency and regional economic sustainability.*

Key words: *Tourism, digitalization, digital economy, touristic potential enhancement*

Introduction. Tourism plays a crucial role in the economic development of many regions, providing employment opportunities and promoting cultural exchange. Karakalpakstan, a semi-autonomous republic within Uzbekistan, possesses unique historical and ecological attractions, such as the Aral Sea remnants, Mizdakhan necropolis, and the world-famous Savitsky Art Museum. Despite these assets, the region remains underdeveloped in terms of tourism infrastructure and digital integration. This paper investigates how digital technologies can transform Karakalpakstan's tourism sector, enhancing accessibility and service quality.

Methods

This study adopts a mixed-methods research design.

1. **Qualitative Analysis**: Semi-structured interviews were conducted with tourism industry representatives, including hotel managers, tour operators, and local government officials. These interviews assessed the perceived impact of digital technologies on business operations.
2. **Quantitative Analysis**: Data on tourist arrivals from 2015 to 2023 were collected from the Karakalpakstan Statistics Department. The data were

analyzed to identify trends and correlations between digital adoption and tourism growth.

3. **Comparative Analysis**: Karakalpakstan's digital tourism strategies were compared with those of other Central Asian regions to identify best practices and potential areas for improvement.

Tourism services in Karakalpakstan region.

Tourism services are defined as the services provided by hotels, restaurants (including catering), travel agencies, tour operator, guide and other related services. Table 3 illustrates the tourism services provided in Karakalpakstan relative other regions of Uzbekistan.

First tourism service which is crucial for tourism industry in the region is considered the number of travel agencies registered and operated in Karakalpakstan region. While the volume of travel agency services in value terms is the largest in Tashkent city, Karakalpakstan region's travel agency services is weak compared to other tourist-attractive regions in the country. Even though Karakalpakstan possesses rich cultural, archeological and other tourist attractive sites which are quite similar to those of tourist products in Khiva, Samarkand and Bukhara, travel to the regions remains low. The number of registered tourism agencies in the region was 40 and volume of services provided by those travel agencies was 1.9 billion UZS compared to 19.6 billion UZS in Khorezm, 16.3 billion UZS in Samarkand and 9.4 billion UZS in Bukhara (Table 3).

As tourism agencies and tour-guide services are essential for accessing the tourism products in Karakalpakstan, the number of measures was taken by the government to improve the tourism infrastructure in the region. A number of legislations were passed by the government for improving the conditions of cultural, historical and archeological objects for tourist attraction, conservation and restoration of these objects and developing the conditions of tourism services in Karakalpakstan (Figure 4).





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Figure 4. Restoration plans of different historical and archeological sites in Karakalpakstan.

According to the state development program for tourism, many tourism services were developed. These included marking road signs and advertising banners for tourist guides. Specific tourist sites in the region were given to tourism agencies including "Ayaztur", "Djambaskala tur", "Toprakkala tur", "Akhunjan Shakhsanem" along the historical and archaeological complexes "Djambaskala", "Bazar kala", "Kumbaskankala", "Koykirilgankala" in the Turtkul district, "Great Guldirsinkala", "Ayazkala 1-2", "Toprakkala" in the Ellikala district, "Shilpik" in the Amudarya district, the complex "Mizdakkhan" in the Khodjeyli district. These, in fact, played an essential role for developing tourism services in the region, improving tourism infrastructure for increasing the conditions of tourism services in historical, archeological and other famous attractive sites.

№		**The volume travel agency services (billion soums)**	**Number of hotels (in units)**	**Number of catering services (in units)**	**Passenger transportation by road (%)**	**Growth rates of automotive services**
1	Republic of Karakalpakstan	1,9	60	1324	2,3	102,4
2	Andijan	1,6	21	1288	11,8	105,6
3	Bukhara	9,4	193	2164	4,8	106,4
4	Jizzakh	0,7	43	1213	1,6	108,1
5	Kashkadarya	2,2	45	1536	5,4	110,8
6	Navoi	2,6	34	1219	2,9	110,6
7	Namangan	5,9	36	1309	7,4	109,5
8	Samarkand	16,3	149	3313	7,1	107,7

9	Surkhandarya	1	29	1556	4,5	107,9
10	Syrdarya	0,9	14	648	1,4	106,1
11	Tashkent region	5,9	109	2886	11,7	105,9
12	Fergana	7,4	98	2074	11,3	106,4
13	Khorezm	19,6	82	1603	7,4	107,9
14	Tashkent city	199,1	243	5783	20,4	111
	TOTAL IN UZBEKISTAN	274,5	1156	27916	100	

Table 3. Tourism services in Karakalpakstan region.

The number of tourism services and its development are crucial for attraction of tourists into the region and creation of unique tourist experience. Accommodation services including hotels, motels, guesthouses and yurtas are important for servicing short-term stay of tourists visiting the region. According to Statistics Committee of Uzbekistan, there are more than 1150 hotels are operating across Uzbekistan. In Karakalpakstan, the number of hotels is 60 (Table 3). While the number of hotels located in Tashkent city is the majority (243), accommodation services in Karakalpakstan is less developed compared to other tourist-attractive regions in Uzbekistan. For instance, there are 193 hotels in Bukhara, 149 in Samarkand, 109 in Tashkent region and 98 in Fergana.

Accommodation plays important role for short-term stay of the tourists. It gives the tourists options how and where to stay during their visit in Karakalpakstan. If there are limited hotels, motels or other types of accommodation services available, this complicates the duration of the stay of tourists and negative impact on their tourism experience. Despite the slow growth in the number of hotels in the region, tourism infrastructure is developing annual basis and reached 60 in 2023. It grew from 28 in 2018 to 38 in 2021 (Figure 4). However, the number of new hotels in the region is not growing stable and therefore, the number of hotels is positively correlated with the number of tourists into the region. When the number of hotels increased, the number of visitors to the region increased as shown in Figure 4.

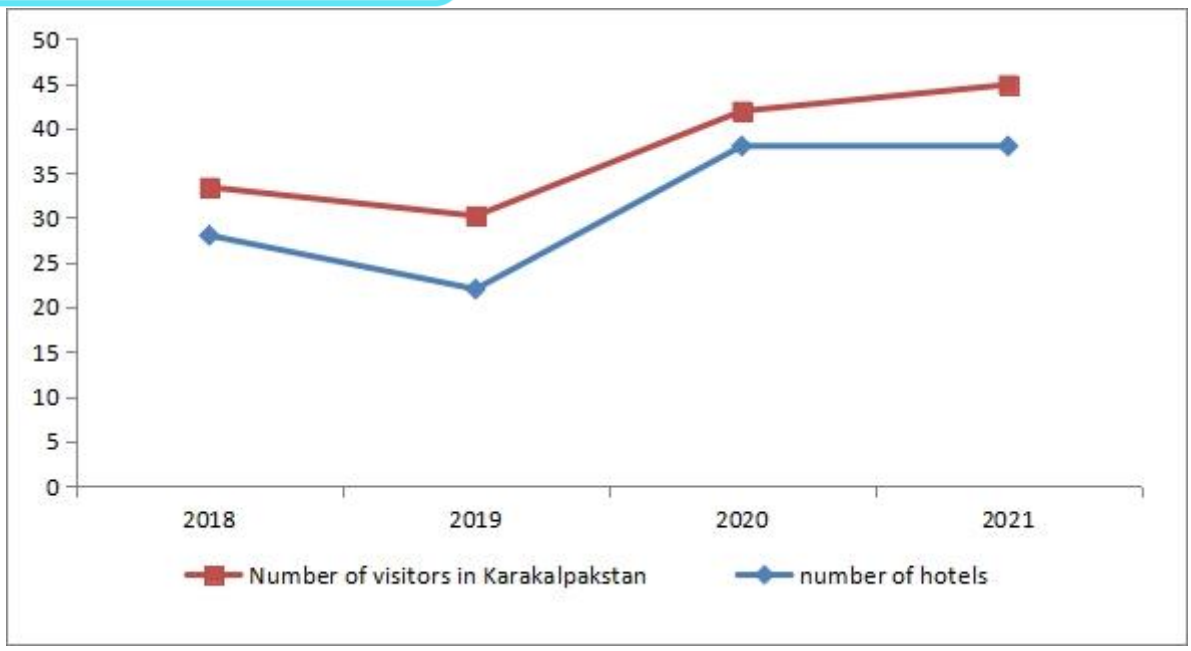


Figure 5. Number of hotels and visitors in Karakalpakstan

The number of catering services including restaurants, cafes and other related food services establishment in Karakalpakstan is also low compared to other tourist-attractive regions in the country. The number of catering service providers registered and operated in Karakalpakstan was 1324 compared to 1603 in Khorezm, 3313 in Samarkand, 2164 in Bukhara and 1536 in Kashkadarya (Table 3).

Road passenger transportation is problematic in Karakalpakstan region. Passenger transportation by road in Karakalpakstan region constitutes only 2.3% of all passenger transportation provided in the country by road. This can be due to few number of passenger transportation vehicles registered in the region and the length of the regional and inter-regional roads. According to statistics total length of highways within the city limits is 224 km, highways of international significance is 33 km, with republican significance is 126 km and local significance is 31 km. Moreover, condition of the public transportation within and outer city is challenging and are at a lower level (Figure 6). While demand for the public transportation is demanding by the city's residents, this can be good opportunity for tourists traveling individually without tour guidance if public transportation is developed at a considerable level. Currently, lower speed of public transportation, traffic jams, long intervals in the movement of public transportation, overloaded during busy times and lack of vehicles on popular routes which created unsuitability of the route network.

Results

1. **Tourism Growth Trends**: The number of international tourists visiting Karakalpakstan has steadily increased from 2015 to 2023, with a noticeable

spike following the introduction of online travel platforms and visa liberalization policies.

2. **Impact of Digital Tools**: Tour operators who integrated digital booking platforms reported a 40% increase in customer engagement. Similarly, the use of virtual tours and social media marketing led to a 35% increase in online inquiries.
3. **Challenges and Barriers**: Key obstacles identified include limited internet connectivity in rural areas, lack of digital literacy among local businesses, and insufficient government incentives for digital tourism development.

Discussion. The findings suggest that the digital economy can significantly enhance tourism services in Karakalpakstan by increasing efficiency, expanding market reach, and improving the overall visitor experience. However, several challenges must be addressed. Policymakers should focus on improving digital infrastructure, providing training programs for tourism stakeholders, and fostering public-private partnerships to develop tech-driven tourism solutions. Additionally, investment in e-marketing campaigns can increase global awareness of Karakalpakstan's attractions.

Conclusion. The transition to a digital economy presents significant opportunities for Karakalpakstan's tourism sector. Implementing digital booking platforms, virtual tourism experiences, and digital payment systems can increase tourist engagement and economic benefits. However, addressing infrastructural and educational barriers is crucial for sustainable development. Future research should explore the long-term economic impacts of digital transformation in regional tourism.

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