MIRZO ULUG'BEK NOMIDAGI O'ZBEKISTON MILLIY UNIVERSITETI JIZZAX FILIALI

KOMPYUTER ILMLARI VA MUHANDISLIK TEXNOLOGIYALARI

XALQARO ILMIY-TEXNIK ANJUMAN MATERIALLARI TO'PLAMI

1-QISM

26-27-SENTABR
2025-YIL

doi · Google Scholar

O'ZBEKISTON RESPUBLIKASI OLIY TA'LIM, FAN VA INNOVATSIYALAR VAZIRLIGI

MIRZO ULUG'BEK NOMIDAGI O'ZBEKISTON MILLIY UNIVERSITETINING JIZZAX FILIALI

KOMPYUTER ILMLARI VA MUHANDISLIK TEXNOLOGIYALARI
mavzusidagi Xalqaro ilmiy-texnik anjuman materiallari to'plami
(2025-yil 26-27-sentabr)
1-QISM

JIZZAX-2025

Kompyuter ilmlari va muhandislik texnologiyalari. Xalqaro ilmiy-texnik anjuman materiallari to'plami – Jizzax: O'zMU Jizzax filiali, 2025-yil 26-27-sentabr. 355-bet.

Xalqaro miqyosidagi ilmiy-texnik anjuman materiallarida zamonaviy kompyuter ilmlari va muhandislik texnologiyalari sohasidagi innovatsion tadqiqotlar aks etgan.

Globallashuv sharoitida davlatimizni yanada barqaror va jadal sur'atlar bilan rivojlantirish bo'yicha amalga oshirilayotgan islohotlar samarasini yaxshilash sohasidagi ilmiy-tadqiqot ishlariga alohida e'tibor qaratilgan. Zero iqtisodiyotning, ijtimoiy sohalarni qamrab olgan modernizatsiya jarayonlari, hayotning barcha sohalarini liberallashtirishni talab qilmoqda.

Ushbu ilmiy ma'ruza tezislari to'plamida mamlakatimiz va xorijlik turli yo'nalishlarda faoliyat olib borayotgan mutaxassislar, olimlar, professor-o'qituvchilar, ilmiy tadqiqot institutlari va markazlarining ilmiy xodimlari, tadqiqotchilari, magistr va talabalarning ilmiy-tadqiqot ishlari natijalari mujassamlashgan.

Mas'ul muharrirlar: DSc.prof. Turakulov O.X., t.f.n., dots. Baboyev A.M.

Tahrir hay'ati a'zolari: p.f.d.(DSc), prof. Turakulov O.X., t.f.n., dots. Baboyev A.M., t.f.f.d.(PhD), prof. Abduraxmanov R.A., p.f.f.d.(PhD) Eshankulov B.S., p.f.n., dots. Alimov N.N., p.f.f.d.(PhD), dots. Alibayev S.X., т.f.f.d.(PhD), dots. Abdumalikov A.A, p.f.f.d.(PhD) Hafizov E.A., f.f.f.d.(PhD), dots. Sindorov L.K., t.f.f.d.(PhD), dots. Nasirov B.U., b.f.f.d. (PhD) O'ralov A.I., p.f.n., dots. Aliqulov S.T., t.f.f.d.(PhD) Kuvandikov J.T., i.f.n., dots. Tsoy M.P., Sharipova S.F., Jo'rayev M.M.

Mazkur to'plamga kiritilgan ma'ruza tezislarining mazmuni, undagi statistik ma'lumotlar va me'yoriy hujjatlarning to'g'riligi hamda tanqidiy fikr-mulohazalar, keltirilgan takliflarga mualliflarning o'zlari mas'uldirlar.

4. Abipova, A., Khodjaeva, Kh.Sh., Ubaydullaev, S. «Tourism in Uzbekistan: Development of Tourism Industry and Tourist Realities». International Journal of Disaster Recovery and Business Continuity, Vol. 12, No. 1 (2021).

5. «Tourism education in an emerging digital economy: World experience and perspectives in Uzbekistan». Research article (август 2025).

6. Uzbekistan-UN Sustainable Development Cooperation Framework (2021-2025). United Nations.

7. Всемирный банк: «Resilient Cultural Heritage and Sustainable Tourism Development in Uzbekistan».

SMART TOURISM AND SUSTAINABILITY: AN ANALYTICAL REVIEW OF ASIAN COUNTRIES

Dr. Dilli Samadhi[1], Dr. K. Venkatalakshmi[2],
Mr. Deepan[3], Dr. Inom Tursunqulov[4]
Sambhram University, Jizzax, Uzbekistan
tursunqulovinom3900@gmail.com

Abstract. The rapid emergence of the digital economy has transformed the tourism industry worldwide, with Asia leading as one of the fastest-growing regions for digital adoption. The proliferation of online booking platforms, mobile applications, digital payments, artificial intelligence, and social media marketing has reshaped how tourists plan, experience, and share their journeys. This study investigates the role of the digital economy in tourism development across Asian countries, highlighting both opportunities and challenges. Using secondary data from UNWTO, World Bank, and national tourism boards and the paper reveals that digital adoption has a significant positive impact on tourism growth. However, the study concludes that inclusive digital strategies, smart tourism policies, and sustainable practices are essential for ensuring that the digital economy continues to drive balanced tourism growth across Asia.

Keywords: Digital Economy, Tourism Development, Asia, Smart Tourism.

1. Introduction:

Tourism is playing a pivotal role and vital contribution to economic growth of economy, exploring cultural exchange and provides employment across world particularly in Asia. According to the UNWTO, Asia-Pacific accounted for nearly 25% of global international arrivals before the COVID-19 pandemic. Tourism has experienced a remarkable shift with the emergence of the digital economy. Online Travel Agencies (OTAs), mobile applications, digital wallets, artificial intelligence and big data have redefined the tourist experience from pre-trip planning to post-trip sharing.

The COVID-19 pandemic accelerated this digital move, as online bookings, contactless payments and virtual experiences are become essential now a day.

Countries like China, India, Singapore, Thailand and Uzbekistan have adopted digital tourism strategies to increase competitiveness and sustainability. However, the uneven digital infrastructure across Asia creates disparities in benefits.

This article explores how the digital economy is shaping tourism in Asian countries, focusing on opportunities to number of arrivals, challenges of tourism receipts and strategies for sustainable development tourism exports among the selected Asian countries.

2. Literature Review:

Tourism development in Asia has been increasingly shaped by globalization, technological innovation, and sustainability imperatives. Buhalis and Law (2008) emphasized that information and communication technologies (ICTs) have become central to tourism competitiveness, improving marketing reach and customer interaction. In the Asian context, the rise of online travel agencies (OTAs) and mobile platforms has transformed distribution channels, enhancing tourist arrivals and receipts (Xiang & Gretzel, 2010).

Recent studies highlight the role of the digital economy in facilitating sustainable tourism growth. Sharma (2019) argued that e-services, digital payments, and e-visa systems have reduced transaction costs and increased accessibility for international travelers. Similarly, Zhang (2020) observed that China's digital payment ecosystem has streamlined tourism-related financial transactions, enhancing visitor convenience.

The smart tourism paradigm integrates big data, IoT, and AI to optimize destination management and improve traveler experiences (Buhalis & Amaranggana, 2015). OECD (2022) noted that digitally enabled destinations in Asia are better equipped for resilience, especially in the post-COVID-19 recovery phase. However, scholars caution against the risks of over-tourism, unequal digital access, and sustainability trade-offs (ADB, 2021).

Despite strong progress in East and Southeast Asia, Central Asia remains underrepresented in tourism and digital economy research. World Bank (2023) reported that countries such as Uzbekistan and Kazakhstan are now investing in digital tourism infrastructure but lack comparative evaluation against more advanced Asian economies. This gap underscores the need for cross-country studies on sustainable tourism in Asia that integrate digital economy indicators with traditional tourism metrics.

3. Research Objectives:

The present study grabs the following objectives to bring meaning full inferences for the collected data:

To analyze the impact of digital economy adoption on the growth and sustainability of tourism in selected Asian countries.

To examine cross-country variations in tourism performance indicators (arrivals, receipts, receipts per arrival, and tourism exports) within Asia.

To assess the role of digital technologies (e-services, digital payments, OTAs, and smart tourism initiatives) in promoting sustainable tourism practices.

4. Research Design and Methodology:

4.1 Research Design:

This study adopts a descriptive–exploratory research design. Descriptive methods are used to profile tourism performance and digital adoption across selected Asian countries (e.g., arrivals, receipts, receipts per arrival), while exploratory analysis investigates relationships between the digital economy and tourism outcomes and surfaces opportunities, constraints, and policy implications.

4.2 Data Sources and Period:

The study uses secondary data collected from authoritative sources: UNWTO, World Bank, National Tourism Boards, Industry Reports and peer-reviewed literature. The available national statistical portals and industry, supplement international datasets.

4.3 Unit of Analysis and Sample:

The unit of analysis is the country. The sample comprises selected Asian economies representing diverse development and tourism profiles like China, India, Thailand, Japan, Malaysia, Vietnam, Uzbekistan, etc., intentionally chosen to capture variation in digital infrastructure, tourism scale, and policy environments.

4.4 Variables and Measures:

Dependent variables (tourism outcomes):

- International tourist arrivals (million)
- Tourism receipts (USD billion)
- Receipts per arrival (USD)
- Tourism exports (USD billion)

4.5 Data Collection and Preparation:

Data are extracted from source tables, standardized to common units, and checked for consistency and completeness. Missing values are handled via case-wise exclusion or documented imputation where appropriate; data provenance and retrieval dates are recorded for reproducibility.

4.6 Analytical Techniques:

Cross-tabulations and ratio analysis undertaken (e.g., receipts per arrival) to compare performance.

4.8 Limitations of the Methodology:

1. Reliance on secondary data constrains causal inference and may suffer from cross-country reporting differences.

2. Some digital economy indicators (e.g., digital payment penetration, OTA market share) may be inconsistently reported across countries.

3. Heterogeneity in country contexts of policy, seasonality, data quality restricts generalizability; results therefore emphasize associations and policy insights rather than strict causation

5. Data Analysis:

A perusal of table 5.1 evidenced that the select Asian Countries, Thailand registered around 28.15 million people followed by Japan 25.07 million, Malaysia 20.14 million, India 18.90 million people, Hong Kong 17.16 million, Macao 14.23 million, Vietnam 12.6 million, Korea 11.03 million, Uzbekistan 6.63 million people, Taiwan 6.49 million, Cambodia 5.45 million and Philippines 5 million people tourists were arrived during 2023-24 respectively.

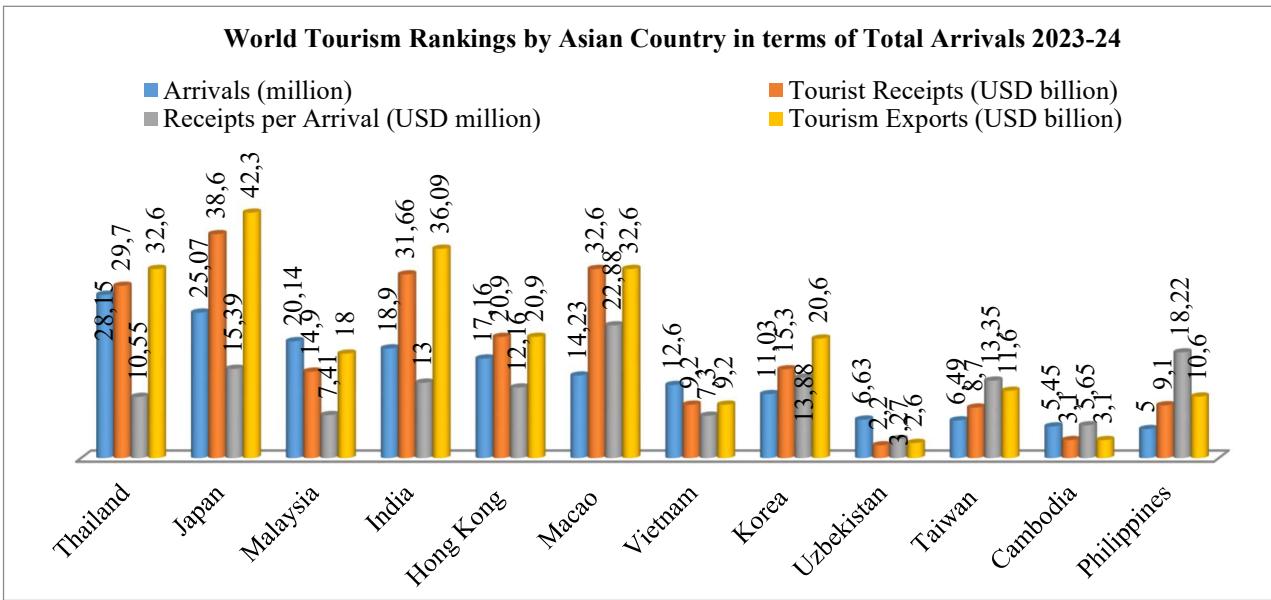Table 5.1 World Tourism Rankings by Asian Countries during 2023-24

Rank	Country	Arrivals (million)	Tourist Receipts (USD billion)	Receipts per Arrival (USD million)	Tourism Exports (USD billion)
1	Thailand	28.15	29.7	10.55	32.6
2	Japan	25.07	38.6	15.39	42.3
3	Malaysia	20.14	14.9	7.41	18
4	India	18.9	31.66	13	36.09
5	Hong Kong	17.16	20.9	12.16	20.9
6	Macao	14.23	32.6	22.88	32.6
7	Vietnam	12.6	9.2	7.3	9.2
8	Korea	11.03	15.3	13.88	20.6
9	Uzbekistan	6.63	2.2	3.27	2.6
10	Taiwan	6.49	8.7	13.35	11.6
11	Cambodia	5.45	3.1	5.65	3.1
12	Philippines	5	9.1	18.22	10.6

It is evaluated that the country-wise tourism earnings among the Asian Countries. Japan have evidenced and holds highest tourism earnings $. 38.60 billion followed by Macao $. 32.60 billion, India earned $. 31.66 billion from Tourism sector, Thailand earned worth of $. 29.70 billion, Hong Kong $. 20.9 billion of tourism income, Korea $. 15.3 billion earnings, Malaysia $. 14.9 billion, Vietnam $. 9.2 billion Tourism earnings, Philippines $. 9.1 billion, Taiwan $. 8.7 billion earnings, Cambodia $. 3.1 billion and least tourism earnings earned by Uzbekistan respectively.

It is further found that the receipts of per arrival ranged from $. 18.22 million highest earnings by Philippines to least of per arrival income of $. 3.72 billion by Uzbekistan among the select Asian countries during 2023-24.

Chart - 1

World Tourism Rankings by Asian Country in terms of Total Arrivals 2023-24

It also proven that the select Asian Countries towards Tourism Exports earnings ranged highest from $. 42.3 billion by Japan and lowest export earnings $.2.6 billion by Uzbekistan respectively during 2023-24.

6. **Findings:**

Top Arrival Leaders in Asia:

Thailand (28.15M), Japan (25.07M), and India (18.9M) rank highest in arrivals, showcasing strong demand for cultural, heritage, and leisure tourism.

Balanced Growth Economies:

India (USD 31.66B receipts, USD 1,300 per tourist) and Japan (USD 38.6B receipts, USD 1,539 per tourist) were demonstrated volume and strong per capita spending, making them balanced and sustainable growth destinations.

High-Spending Economies:

Macao (USD 2,288 per tourist) and Philippines (USD 1,822 per tourist) record higher than average spending per arrival, despite moderate arrivals. This reflects premium, entertainment, and Diaspora-driven tourism.

Moderate Spending & High Arrivals:

Thailand (USD 1,055 per tourist) attracts the highest arrivals, but relatively modest spending levels indicate reliance on mass tourism rather than premium services.

Emerging Growth Destinations:

Uzbekistan (USD 327 per tourist), Cambodia (USD 565 per tourist), and Vietnam (USD 730 per tourist) highlight rising visitor numbers but with very low spending per tourist, suggesting underdeveloped tourism offerings.

Regional Dependence:

Hong Kong (USD 1,216 per tourist) and Korea (USD 1,388 per tourist) rely heavily on regional inflows (mainly East Asia), making them vulnerable to travel restrictions and geopolitical factors.

7. **Recommendations:**

➢ Need to develop premium tourism packages (luxury stays, eco-tourism) and encourage longer stays and value-added activities. Sustain growth through digital tourism, sustainable practices, and infrastructure expansion.

➢ Government has to take initiation to promote regional tourism packages to strengthen inflows (e.g., Japan–Korea–Taiwan circuits).

➢ Expand premium tourism offerings (luxury casinos, shopping hubs, medical & wellness tourism).

➢ Focus on Investing in high-value cultural tourism, Silk Road routes (Uzbekistan), heritage tourism (Cambodia).

➢ Improve hospitality standards, digital marketing, and international connectivity.

8. Conclusion:

Tourism in Asia is rapidly evolving with digital technologies driving growth, competitiveness, and sustainability. While advanced economies like Japan, India, and Thailand attract high arrivals and receipts, emerging destinations such as Uzbekistan and Cambodia require stronger infrastructure and policies to increase value per tourist. To ensure balanced and sustainable growth, Asian countries must integrate digital adoption with eco-friendly practices, cultural tourism, and regional cooperation. Harnessing the digital economy effectively will enable Asia to achieve a resilient and inclusive tourism future.

References:

1. Asian Development Bank (ADB), (2021). Asian economic integration report 2021: Making digital platforms work for Asia and the Pacific.

2. Buhalis, D., & Amaranggana, A. (2015). Smart tourism destinations. In Z. Xiang & I. Tussyadiah (Eds.), Information and communication technologies in tourism 2014 (pp. 553–564). Springer.

3. Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet. Tourism Management, 29(4), 609–623. https://doi.org/10.1016/j.tourman.2008.01.005

4. Xiang, Z., & Gretzel, U. (2010). Role of social media in online travel information search. Tourism Management, 31(2), 179–188.

5. Sharma, P. (2019). Digital tourism in India: Challenges and opportunities. Journal of Tourism Studies, 12(2), 45–58.

6. Zhang, Y. (2020). Digital payment ecosystems and tourism growth in China. Asia Pacific Tourism Research, 18(3), 101–118.

7. ASEAN Tourism Report (2022). Digital adoption in Southeast Asian tourism. ASEAN Secretariat.

8. World Bank (2023). Digital economy and tourism development in Central Asia. Washington DC.

9. UNWTO. (2022). Tourism in Asia-Pacific: Digital transformation.

10. https://wptravel.io

11. UNWTO Global and Regional Tourism Performance