

INBOUND TOURISM IN UZBEKISTAN: DEMAND ANALYSIS AND FORECASTING

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ABSTRACT

Tourism development stimulates job creation and the development of other sectors of the economy. More than 30 sectors of the economy are connected to tourism. It distributes resources between sectors and stimulates development of such sectors like transport, communications, services, trade, construction, and the production of consumer goods. All these increase the importance of tourism as well as forecasting it by analyzing the demand.

This study is a review on inbound tourism of Uzbekistan. The study will examine regression analysis as an effective tool that plays an important role as well as in the field of tourism demand analysis. In this study, firstly the estimating tourism demand is explained, secondly, the regression analysis is examined as an estimating tool of tourism demand. The paper includes a country study dedicated to the Tourism market of Uzbekistan. Nevertheless, the forecast on the inbound tourism of Uzbekistan was developed by using some statistical data.

Keywords tourism, analysis, forecasting, inbound tourism, inbound tourism of Uzbekistan.

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1. Introduction

Tourism direct contribution to global GDP reached 3.13 trillion US dollar in 2020. This is more than the contribution of GDP to the automotive industry. Considering its indirect and induced impacts, tourism and travel amounted 10.5% of the global GDP in 2019, which exceeds the indicators of the automotive industry, the banking sector, agriculture and the mining industry. Tourism plays important role in labor market development. In 2019, tourism generated 10% of the world's jobs or 313 million employees. There are five times more jobs in tourism and travel than in the mining sector, and almost two times more than in the financial services sector. For each job directly in the tourism sector, about two additional jobs are created on an indirect or induced basis, which makes its links stronger than in the health, retail and agricultural sectors. In 2018, the travel and tourism sector was the fastest growing sector in the world, expanding by 3.9%, ahead of automobile manufacturing (3.7%) and healthcare (3.3%).

Tourism development, like no other sector of the economy, stimulates job creation and small business development. It distributes resources between sectors and stimulates development of such sectors as transport, communications, services, trade, construction, and the production of consumer goods.

Tourism plays an important role in solving social problems by stimulating the creation of additional jobs and improving the life quality of the population. UNESCO recognizes tourism as one of the main factors of cultural and humanitarian development, contributing to the preservation of peace and rapprochement of peoples through dialogue "between cultures."

More than 30 sectors of the economy are directly or indirectly connected with tourism. Successful development of tourism industry requires high-quality infrastructure, including roads, bridges, hotels, catering facilities. All these make it possible to solve complex regional problems, create many jobs and overcome the heterogeneity of the economic space.

2. Methodology

This study was conducted in a context where forecasting assumes an important role for the economic development of country. The method used to collect data is based on documentary research techniques with a quantitative focus that uses a log-linear regression model. The number of visitor arrivals as tourism indicator, used into time series from 2004 to 2019, were collected from the Integrated Information System for Tourism Markets database. The aim of log-linear regression is to analyze a model that purports to explain the behavior of a dependent variable.

3. Estimating Tourism Demand

In an ever-changing competitive business environment, the need for forecasting demand is growing, which is the basis for effective planning. Reinforcing global pandemics such as SARS, MERS and COVID-19 reaffirm the importance of tourism forecasting. This was considered to make forecasting of the tourism demand changes of Uzbekistan.

Tourism demand is expressed in terms of the number of tourists arriving from the country of origin in the country of destination or expenses incurred in the host country.

Over the last decade a number of researchers such as Crouch (1994), Lim (1997a, 1997b and 1999) and Witt and Witt (1995), Li et al (2005), Carey Goh et al. (2008), Akarapong et al. (2015), Andrea Saayman et al. (2019) published articles on tourism demand analysis and forecasts.

The focus of studies published between 2000 and 2004 were on the econometric approach only (Li et al., 2005). The review of Haiyan Song and Gang Li provided a full account of all methods used in tourism demand modelling and forecasting, including time series models, the econometric approach and off course some emerging new statistical and non-statistical methods.

3.1. Regression analysis to Estimating Tourism Demand

To forecast demand in tourism, it is advisable to use a regression model, since this method is based on a probabilistic assessment of the process development in the future based on a statistical regularity identified according to data from the previous period.

This approach allows us to estimate the quantitative relations between the predicted variables and those variables that are likely to affect these variables.

The regression analysis process in tourism includes the following steps:

- selection of variables affecting the predicted demand variable, and the establishment of a mathematical form by the relationship between them;
- collecting information related to the model;
- using a database to establish a measure of the impact of influencing variables on predicted variables (estimation of coefficients of a mathematical equation)
- conducting tests on the model established at the previous stage to determine the level of its realism;
- using the model to predict if the model tests are satisfactory.

Research on tourism demand analyzing and forecasting relies on secondary data, which is important for model construction and estimation. The tourist arrivals variable is still the most popular for tourism demand analysis. Total tourist arrivals from an origin to a destination includes

holiday tourist and business tourist arrivals (Turner and Witt, 2001a, 2001b), as well as tourist arrivals for visiting friends and relatives (VFR) purposes (Kulendran and Wong, 2005).

The explanatory variables of the tourism demand analysis vary enormously with research objectives. Some studies used tourist expenditure in the destination as the demand variable (such as Li et al, 2006). Other studies used tourist expenditure on particular tourism product categories, such as meal, sightseeing and shopping expenditures as the demand variable (eg. Au and Law, 2000, 2002). As well as in the literature there are studies which used tourism revenues (Akal, 2004), tourism employment (Witt et al, 2004) and tourism import-export (Smeral, 2004) as variables of tourism demand analysis. But the use of certain indicators as the measurement of tourism demand variables in analyzing and forecasting tourism demand is less controversial (Witt and Song, 2000).

Fallowing quantities are also used in the studies as the model variables for building a model to predict the size of the tourism market:

Per capita income in the country of origin (for private tourist trips or trips to visit relatives and friends they usually use personal income, and for business trips - other general income indicators, for example, national income).

Cost, which includes transportation costs to the destination, expressed in the currency of the country of origin and costs incurred at the destination (cost of living, etc.).

The exchange rate, although it is already incorporated (attached) to some extent in other price indicators. In practice, people may be more aware of exchange rates than the relative cost of living in both the country of origin and the host country.

Cost of replacement products. Potential tourists usually when planning their vacation in a tourist center compare the costs of spending it with the expenses of a house and expenses during previous holidays spent in other places. Such a comparative analysis may be an important determinant of demand for international tourism to a given destination from a certain place of origin. Therefore, the compared costs can be included in the above model in the form of weighted average values (transport and accommodation expenses).

Since research on tourism demand analysis relies on secondary data, the availability of the data is important for geographical coverage of the research. In recent Western European countries and the USA are the most popular researched countries since these countries are international tourism markets. Because of its fast and stable growth Asia has gained increasing interest in tourism demand analysis and forecasting studies (Huang, Y.-L., 2012). Japan, Hong Kong, Korea and China (Untong A., 2012) are researched frequently as tourist destinations.

Uzbekistan is not most popular researched country. Only local scientists studied some aspects of tourism in Uzbekistan. In particular S. Inoyatova and O. Khamidov analyzed customer satisfaction based on online reviews (Inoyatova Sitara & Obidjon Khamidov, 2018). A. Jumayev tested the

Tourism A–B–C model using data from regions of Uzbekistan (Jumayev A., 2020).

4. Tourism market of Uzbekistan

Uzbekistan is a multinational country. Anthropologically, these are people of mixed origin. Uzbeks belong to the southern Caucasians of the Central Asian interfluve. At the same time, a strong Mongoloid influence is traced in their formation. The population of Uzbekistan currently stands at almost 33 million people (the bulk of the population are Uzbeks, more than 71%). The territory of Uzbekistan occupies more than 447 thousand square meters. km. A variety of climatic zones and geographical landscape, as well as an interesting history of the country, painting and music, literature and religion - these are what Uzbekistan offers tourists today. Uzbekistan has great potential for the development of inbound tourism. The natural and cultural-historical diversity of Uzbekistan allows to develop almost all types of tourism, including the most common types of tourism according to consumer preferences: recreational tourism (tourism for recreation and entertainment), cultural awareness (including religious and pilgrimage), business, sports, extreme, health-improving, environmental, rural, etc.

However, the tourism potential of the country is far from being fully utilized, although the number of arrivals in 2018 increased by 2.3 times compared to 2017 - 6.430 million against 2.690 million people (Table 1). Over 6 million of tourists (93.5%) visited Uzbekistan from the CIS countries.

The main factors hindering the development of domestic and inbound tourism are the underdeveloped tourism infrastructure, the lack of favorable conditions for investment, the poor quality of tourist services and the insufficiently active image positioning of Uzbekistan in the domestic and international markets, which has a negative impact on the country's rating indicators. The main complaints regarding a stay in Uzbekistan or the opportunity to go there relate to the duration of bureaucratic procedures, the cost of a visa and the time required to obtain it, poor-quality service, as well as fear of crime. Among the main obstacles is also called the prohibitive price of trips to major tourist destinations (Tashkent, Samarkand, Bukhara, Khorezm).

Table 1 Inbound tourism dynamics of Uzbekistan (2004-2019)

Years	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of arrivals	262000	242000	560000	903000	1069000	1215000	975000	1969000	1862000	1918000	1862000	1918000	2027000	2690000	5346000	4020000

Source: <https://knoema.com/atlas/Uzbekistan/Number-of-arrivals>

As for visiting the rest regions of the country, the price is also a deterrent for tourists, mainly due to the distance of travel, but even more worrying is the quality of travel services. The reason for this in the majority of cases is the poor development and poor condition of the infrastructure – roads, transport links, lack of acceptable quality hotels, as well as the lack of tourist services – such as, information centers. These reasons, in principle, can explain the huge difference in the number of exits from the country compared with entries.

5. Study Results

Tourism development is one of the priority programs of the Government of the Republic of Uzbekistan. However, tourist demand is extremely unstable, subject to sharp seasonal fluctuations, depending on the geographic location of the region, market changes, political relations, social, economic, demographic, psychological and other factors.

In this regard, it is important to highlight the main determinants of international tourist flows, which significantly determine the demand for inbound tourism in order to see the possibilities of its development and regulation. Most tourism demand research focuses on the effects of income and price factors on demand, which lead to some unexpected results in elasticity values or inaccurate forecasts.

We used data from table 1 to estimate the regression statistics (figure 1). First of all, pay attention to the R-squared and the coefficients. R-squared is the coefficient of determination. In our analysis, 0.692, or 69.2%. This means that the calculated model parameters by 69.2% explain the relationship between the studied parameters.

CONCLUSION OF RESULTS						
Regression statistics						
Multiple R	0,8320453					
R-squared	0,6922994					
Normalized R-squared	0,6643266					
Standard error	0,7422239					
Observa-tions	13					

	coefficient	Standard error	t-statistics	P-value	Lower 95%	Top 95%
Y intersection	2,0106916	0,376374	5,34227315	0,00024	1,182298	2,839085
Variable X 1	7,061E-07	1,42E-07	4,97484019	0,00042	3,94E-07	1,02E-06

Figure 1 Regression analysis of visitors' arrivals of Uzbekistan (2004-2019)

The coefficient value of 2,0107 shows that there are other factors which also affect the value of the analyzed parameter not described in the model. Number of arrivals during the period 2004-2019 let us determine the general trend (figure 2), which allowed us to make forecast the tourism demand in Uzbekistan.

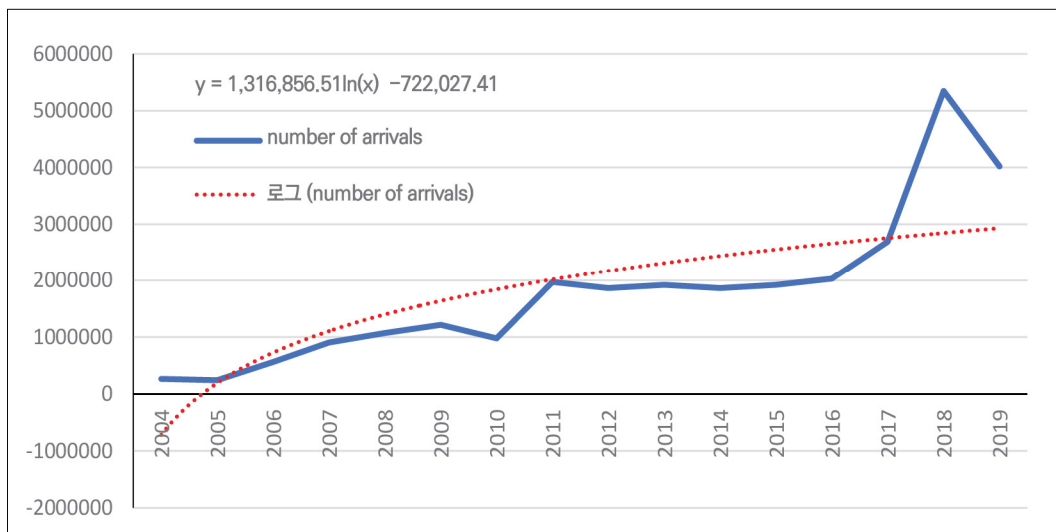


Figure 2 Number Of visitors' arrivals trend (2004-2019)

By using these data, we made forecast of changes in tourism demand of Uzbekistan (Table 2). Although in 2018 number of arrivals increased 2.3 times, in 2019 it decreased. According to our estimations in 2020 the number of arrivals will severely decrease due to COVID-19. Forecasting was made according to the formula of $y = a \cdot \ln(x) + b$. In our case value of $a = 1316856.51$, value of $b = -722027.41$ that is the following equation formed: $y = 1316856.51 \ln(x) - 722027.41$.

Table 2 Forecast for inbound tourism of Uzbekistan (2020-2024)

Years	2020	2021	2022	2023	2024
Number of arrivals	1,484,685	3,052,026	3,159,541	3,534,570	3,719,345
Values calculated using coefficients	3,160,762	3,241,279	3,317,440	3,389,695	3,458,423

According the forecast inflow of foreign tourists to Uzbekistan will decrease from 2020 due to COVID-19. However, model showed that from 2021 inflow of foreign tourists to Uzbekistan will begin increasing and by 2024 will reach the amount of nearly 3.8 mln.

6. Conclusion

In a globalized world, the development of tourism industry is more than clear. Uzbekistan has a great potential to develop the tourism industry. The natural and cultural-historical diversity of Uzbekistan allows to develop almost all types of tourism. However, the tourism potential of the country is far from being fully utilized. Most part of tourists (93.5%) visited Uzbekistan from the CIS countries. Poor tourism infrastructure is the main factor of hindering the development of domestic and inbound tourism. Among the main obstacles is also called the prohibitive price of trips to major tourist destinations (Tashkent, Samarkand, Bukhara, Khorezm).

In our opinion the decreasing of foreign tourists' inflow is fatally because of global pandemic spreading. In this regard, it is important to develop programs of social, cultural, educational, ecological and rural tourism for employees of enterprises and organizations, schoolchildren, students of secondary specialized and higher educational institutions, and senior citizens. The programs should include potential types of tourism such as pilgrimage, educational, ecological, ethnographic etc. This in turn will ensure the creation of a diverse, competitive and attractive tourist product, in demand at any time of the year.

Based on the foregoing, we can conclude: in the presence of appropriate climatic conditions, historical and architectural objects and other components, active investment in the tourism infrastructure will develop the tourism industry in Uzbekistan.

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