

Method for Estimation of Statistics and Records of Mongolian Domestic Travelers and Tourists

Khishigdalai Ulaankhuu¹, Bat-Erdene Nyandag²

¹School of Business, Mongolian University of the Humanities, Ulaanbaatar, Mongolia

²School of Applied Sciences, Mongolian University of Life Sciences, Ulaanbaatar, Mongolia

Email: khishigdalai@humanities.mn, baterdene@mul.s.edu.mn

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Abstract

Tourism statistics play a pivotal role in developing and determining a marketing strategy, strengthening bonds between companies, assessing management decisions' efficacy, and computing tourism in the national economy (United Nations, 2010a). In other words, decision-making requires reliable information to guide rational policies and strategies of development. The scarcity of robust digital databases providing precise, accredited, and reliable information is a common challenge in our nation's tourism industry. Especially, there is currently a shortage of techniques for determining the statistics of domestic travelers. Therefore, this study aims to gather and scrutinize data about domestic travelers through 3 registration points including Entry points of protected areas, electronic toll collection points, and accommodation units in each province by utilizing approaches like document analysis, induction, and deduction. By amalgamating these datasets, we proposed a method for calculating the statistical record of all travelers and tourists of Mongolia who traveled domestically.

Keywords

Mongolian Tourism, Tourism Statistics, Domestic Tourist, Destination

1. Introduction

The unprecedented COVID-19 pandemic reversed the ongoing upsurge in the global tourism industry. Yet compared with still-stagnant international tourism, domestic tourism has shown signs of recovery (Wu et al., 2022). The COVID-19 pandemic has profoundly influenced travelers' decision (Moya Calderón et al., 2021), leading to heightened concerns for safety and a preference for shorter-distance trips compared to pre-pandemic period (Wu et al., 2022). Consequently, several nations have established objectives aimed at revitalizing domestic tour-

ism.

On the other hand, there is no global database on domestic tourism statistics and no global view of overall volume and value trend statistics based on integrated measurements that include both domestic and international tourism travel (Ragab et al., 2020).

Hence, it is prudent to focus efforts on boosting demand for domestic tourism, encouraging the transition of international tourists into domestic ones, and accurately assessing the resulting impacts through meticulous statistical calculations.

Tourism statistics are crucial for guiding the tourism sector's development and informing governmental policies. Statistical data on tourists visiting Mongolia is derived from the "Statistical Indicators and Calculation Methodology of Tourism" ratified by the Chairman of the National Statistics Committee on November 29, 2011 01/180, and was updated on December 28, 2023. The methodology states that the total number of tourists is calculated as the sum of the number of foreign and domestic tourists, and the number of domestic tourists is the sum of the number of Mongolian tourists who traveled abroad and domestically (NSO, 2023).

Statistical information on foreign tourists traveling to Mongolia and Mongolian tourists traveling abroad is based on the survey of citizens who crossed the border submitted by the General Authority of Border Protection of Mongolia. Meanwhile, the methodology stipulates that the number of Mongolian tourists who traveled domestically will be calculated using the quarterly reports of tourism enterprises and other sources of information (NSO, 2023).

However, deriving the count of domestically traveled Mongolian tourists solely from the aforementioned sources presents a drawback: it overlooks tourists who haven't availed services from tourism enterprises. Because of this reason, the purpose of this study is to formulate a novel methodology to address this limitation. This study will improve the methodology of calculating the statistics and records of Mongolian travelers and tourists who have traveled domestically.

2. Materials and Methodology

Tourism is not an industry with distinct boundaries but rather represents a "sector" comprising multiple industries with complicated interactions (Meng et al., 2017). This complexity renders it challenging to measure statistics of tourism, especially the domestic tourists'. Tourism statistics have often been distrusted by policy-makers because of inconsistency in methods and data sources between jurisdictions and over time. Further, tourism statistics are too-often fragmented and not integrated with other macro-economic data (Frençt & Frechtling, 2015).

A variety of methods and approaches are used to collect international tourism statistics. The most commonly used ones are statistical rule reporting, border customs, and special registration (Munkhtogtokh.B, 2022; Brown, n.d.; Hecht, 2006) (Table 1).

Table 1. Features of statistical methods.

#	Methods	Features of methods
1	A method of statistical observation based on reports	According to the determined format, statistical information is collected from enterprises, institutions, and service centers in a certain period. Compile reports based on operational and accounting data and submit them to the statistical office. The majority of travel information is contained in those reports.
2	Method of statistical registration of border customs	This approach is used in many countries. Some countries maintain border statistics by establishing close bilateral cooperation in border statistics. For instance, Canada collects the information of citizens who traveled to the USA and delivers it to the National Statics Commission of the USA.
3	Method to register tourists with an accommodation units	Customs statistics are substituted for compensatory purposes. The data collected during the statistical observation of hotels and other means of accommodation allows us to evaluate the distribution of visitors to the country's regions, and to determine and control the interest of foreign and domestic tourists by looking at the choice of means of accommodation.
4	Method based on tourism income and outcome	It is a method of calculating the flow of tourists based on tourism income and outcome. Expenditure indicators that are based on relevant records of tourism industry enterprises or bank reports.
5	Banking method	Collecting information on the international exchange rate (foreign currency) and analyzing approach. The Central (National) Bank records travel expenses through commercial banks and currency exchange offices and conducts research on the sale and purchase of foreign currency through tourism.
6	Satellite estimation method	Satellite computing is used in international standards. This method is designed for a more detailed analysis of some important areas of social, economic, and social development. It allows for in-depth analysis of some issues such as environmental protection, tourism development, health care, etc.
7	Auxiliary calculation method	Obtain additional information on production activities and inter-sectoral relationships, analyze subsequent data using appropriate indicators and aggregates, and link physical indicators (e.g. tourist flows, employment) to outcome indicators.

Whichever approach is being used, to estimate statistics and records of tourism, it is necessary to have an understanding of some of the following terminology issues (**Table 2**). In other words, the World Tourism Organization (UNWTO) considers the following prescribed categories of tourists to be considered to assess the Internal Tourism Volume (*World Tourism Organization, 2017; Eurostat, 2014; United Nations, 2010b; Market Research Division, Ministry of Tourism, n.d.*).

However, none of the methodologies mentioned in **Table 1** can accurately determine the number of tourists who traveled through the country accurately. For example, a methodology that relies on guests staying in accommodation facilities cannot estimate same-day visitors and visitors staying with friends and

Table 2. The categories need to be accounted by the UNWTO.

Leisure visitor:	Non Leisure visitor:
1) Same day Visitors (Passing through, etc.)	1) Same day Visitors (Passing through, etc.)
2) Overnight Visitors	2) Overnight Visitors
a) Staying at accommodation unit	a) Staying at accommodation unit
b) Staying with friends and relatives	b) Staying with friends and relatives
c) Staying elsewhere (Tent, etc.)	c) Staying elsewhere (Tent, etc.)

relatives. A destination-based approach can only estimate the number of leisure visitors. Surveys and inventories at entry and exit points require a lot of time and human resources.

Therefore, it is necessary to develop several alternative methods that patch for the weaknesses of the above methods and support each other.

3. Research Result

The methods of calculating the statistics and records of Mongolian travelers and tourists who have traveled domestically can be done in the following 3 areas in each province.

1) Destinations:

a) Estimate the number of leisure visits (volume) by the number of tickets cut at the entrance/point of the destination.

b) Assess the province-wide average number of visited/planned visits, residences of leisure traveling tourists, through a short survey of destinations, etc.

2) Toll collection points:

a) Evaluate several visitors based on the number of tickets sold at toll collection points and surveys conducted on that very same point.

3) Accommodation units:

a) Gathering and estimating the total number of visitors based on records of accommodation units.

3.1. Methodology for Conducting Statistics and Records of Domestic Tourists Who Have Traveled to Destinations

The methodology comprises 2 phases.

- The first phase, preliminary phase (This stage includes the identification of research destinations, their registration, identification of human resources for research, and training. Also, based on the number of tourists who have traveled to the destination in previous years, the sample size will be determined and allocated to the destination).

- The second phase, the main stage lasts 5 to 9 months which is an active period of tourism.

The main research will be conducted in this phase. This methodology will allow the aggregation of the number of visitors and the number of visitors during the province-wide tourism peak in a given base year. Thus:

1) For ticketed destinations, the number of domestic visitors is calculated from the number of tickets sold. Tickets are sold separately for domestic and foreign citizens.

2) For non-ticketed destinations, approaches that manually count visitors entering the destination through all the gates/points/by hand will be carried out. For this purpose, counting sheets would be executed (**Table 3**).

When calculating the number of visits to a non-ticketed destination in a month, a suitable multiplier should be calculated each month based on the number of days in that month. Let N be the number of leisure visits in a month of 31 days based on the survey done in 14 days, then the multiplier would be $31/14$, and $N*(31/14)$ would be the total number of visits in that month. Similar to the previous case, the multiplier can be calculated for the month with 30, 29, and 28 days.

3) The total number of domestic passengers can be calculated by adding the number of domestic visitors entering ticketed and non-ticketed destinations.

The short survey will be taken from June to September at the entry points of ticketed and non-ticketed destinations. We can extract that essential information from running the survey. Thus include:

- Whether you are a transit tourist or an overnight tourist, whether you are staying at an accommodation facility, staying with friends or relatives, or staying at other places, you can also know whether you are a transit tourist or a resident.
- You can know the average direction of the visited/planned destination, place of residence, etc.

4) In addition to determining the optimal sample size for conducting this survey, if a suitable sample is not obtained in certain months, the shortfall must be made up in subsequent months. The sample size will be proportionally allocated to the destinations (ticketed and non-ticketed) based on the number of visitors.

The survey will be conducted from July to September of the year in each of the selected areas. The survey will be conducted for 2 weeks in a specific destination in that month. In the first week, the first 3 days of the week, and in the second week, the last 4 days. For this instance, the first day of the month is considered the first day of the week.

5) The total number of visitors determined in stage 3 will be classified into guests and non-guests based on the survey results. In other words, the number of non-guests (local residents) will be subtracted from the number of guests included in the previous census.

Table 3. Countdown days.

Week	Days
1	First 03 days
2	Last 04 days
3	First 03 days
4	Last 04 days

3.2. Methodology for Processing Statistics and Records of Tourists Based on Toll Collection Points

Censuses and surveys conducted at tourist destinations only show the number (volume) of tourists visiting for leisure.

To know the total number of domestic tourists in the province, it is necessary to enrich the information about the tourists gathered at the tourist destinations with the information about the non-leisure tourists.

Therefore, it is possible to calculate the number of travelers in the province based on the number of cars entering the toll collection point. Following the “Procedures for charging fees for the use of international, national and special purpose roads and road facilities” approved by the Minister of Road Transport and Development on July 23, 2021, the Toll collection point issues tickets to vehicles other than vehicles included in the “White List”. We can see here that the number of visitors to the province can be calculated based on the number of tickets issued during the year and the results of a survey of visitors.

This methodology will consist of 2 phases.

- Phase 1, preliminary phase (Determine the toll collection points to be included in the study. When choosing a toll collection point, choose a toll collection point located at the entrance to the province as much as possible. They include identification and training of human resources for registration and research. Also, the number of cars to be included in the survey will be determined based on the number of cars that have entered the toll collection points in previous years).

- Phase 2, a main phase that will last for a whole year.

The main research will be conducted in this phase. This will allow the aggregation of visitor numbers and visitor numbers across the province for 12 months in a given base year.

- 1) The number of cars that have entered through the selected toll collection point for 12 months is calculated by the number of tickets.

- 2) Surveys will be taken from specific vehicles based on a specific sample size in those months. The dates for this study are as shown in **Table 3**.

- 3) Analyzing the data collected through research, deducting the number of cars passing through from the number of cars that entered the station, and calculating the number of cars that arrived in the province, then from collected data, the number of tourists will be extracted based on the average number of people traveling in one car. By distributing this to the original population, it is determined how many of the total number of cars (passengers) that have entered through the toll collection point have arrived in the province.

3.3. Methodology for Statistics and Registration of Tourists Based on the Accommodation Units

Statistics and registration of travelers in the province will be made based on the number of visitors who stayed and stayed at the accommodation facilities and units registered in the province.

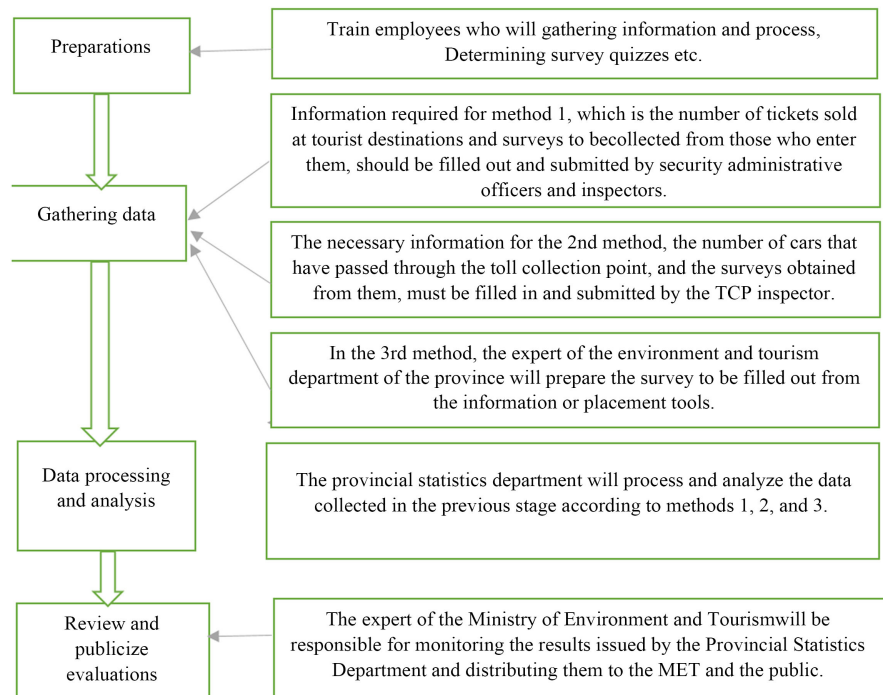


Figure 1. Map of the process of making travel statistics and records.

Based on registration and booking of accommodation units, overnight guest data will be collected for 12 months.

- 1) The number of visitors.
- 2) The duration of domestic visitors stayed.

Based on the data collected from the accommodation units during the 12 months, the number of tourists who visited the province in the current year will be determined.

The methodology included in 1 and 3 of the above 3 methods does not fully indicate the number of tourists who visited the province, but it is intended to serve as a reference for verifying and correcting the method included in 2. To put this differently, the methodology included in 2 will allow us to fully evaluate the number of tourists who traveled to the province.

Below is a diagram of the process of making tourism statistics and records using the above 3 methods (**Figure 1**).

4. Conclusion

There are many methods of recording travel statistics, but each has its disadvantages.

Therefore, a methodology for improving the statistics and records of Mongolian travelers and tourists who have traveled domestically has been put forward.

The responsibility and participation of stakeholders are important in making statistics and records using this method. In particular, the Ministry of Environment and Tourism Provincial Department of Environment and Tourism should provide support for the implementation of statistics and registration and provide

legal reforms, as well as external monitoring, cooperation agreements with parties, and legal issues related to the inclusion of research data collection in the work schedule of each relevant employee. Also, the administration of the protected areas, Road transport development centers, hotels, etc. should gather all the data correctly, completely, and accurately using the methodologies we mentioned. Then transmit it to the relevant department and employee within the specified time. The provincial statistics department will analyze the collected data and compile tourism statistics.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- Brown, M. (n.d.). *A Discussion and Analysis of Counting International Visitors: Country of Residence Versus Nationality*.
- Eurostat (2014). *Methodological Manual for Tourism Statistics*.
- Frençt, C., & Frechtling, D. C. (2015). Assessing a Tourism Satellite Account: A Program for Ascertaining Conformance with United Nations Standards. *Tourism Economics*, 21, 543-559. <https://doi.org/10.5367/te.2014.0368>
- Hecht, J. E. (2006). *Compiling a Mongolian Tourism Satellite Account: Phase I*.
- Market Research Division, Ministry of Tourism (n.d.). *Methodology for Estimation of Domestic and Foreign Visitors (Same Day & Overnight) at District Level in India*.
- Meng, W. Q. et al. (2017). Quantifying Direct and Indirect Carbon Dioxide Emissions of the Chinese Tourism Industry. *Journal of Cleaner Production*, 163, S401-S409. <https://doi.org/10.1016/j.jclepro.2016.03.177>
- Moya Calderón, M. et al. (2021). Tourist Behaviour and Dynamics of Domestic Tourism in Times of COVID-19. *Current Issues in Tourism*, 25, 2207-2211. <https://doi.org/10.1080/13683500.2021.1947993>
- Munkhtogtokh, B, D. G. (2022). *The Demand to Improve Tourism Industry Statistics*.
- NSO (2023). *Methodology for Calculating Tourism Statistics*. UB.
- Ragab, A., Smith, S., Ragab, A. M., & Meis, S. (2020). Domestic Tourism Statistics: A Comparative Analysis of Demand Data Coverage and Method. *Tourism Review International*, 24, 5-21. <https://doi.org/10.3727/154427220X15791346544752>
- United Nations (2010a). *International Recommendations for Tourism Statics 2008*.
- United Nations (2010b). *Tourism Satellite Account: Recommended Methodological Framework 2008*.
- World Tourism Organization (2017). *Methodological Notes to the Tourism Statistics Database*.
- Wu, D. C., Cao, C. Y., Liu, W., & Chen, J. L. (2022). Impact of Domestic Tourism on Economy under COVID-19: The Perspective of Tourism Satellite Accounts. *Annals of Tourism Research Empirical Insights*, 3, 100055. <https://doi.org/10.1016/j.annale.2022.100055>