# Economic Evaluation of Sea Tourism with Travel Cost Method in the Romantic Beach of Serdang Bedagai, North Sumatra

## *Evaluasi Ekonomi Wisata Bahari dengan Travel Cost Method (TCM) di Pantai Romantis, Serdang Bedagai, Sumatera Utara*

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**Abstract**

Romantic Beach, located in Serdang Bedagai Regency, precisely in Nagalawan Perbaungan Village, North Sumatra, this beach is between Cemara Beach and Kampung Nipah Mangrove tourism, because this beach has very beautiful white sand and is located around a large mangrove forest, this Romantic Beach become a tourist spot. This research was conducted at Romantic Beach Tourism, Deli Serdang Regency, North Sumatra Province, in June 2023. This research aimed to look at the factors that influence the number of tourist visits to Romantic Beach and to determine the economic value of Romantic Beach The research method used in this research is a survey. The researcher goes directly into the field to obtain research data. The methods used in this research are the travel cost method and surveys by collecting primary data for analysis. The data analysis used is Descriptive Analysis. With this analysis, travel costs, income, distance, age, and education influence the number of romantic beach tourism visits. The economic value of Romantic Beach using the travel cost method approach is IDR 29,116,354.00 / year, the maximum cost incurred by respondents is IDR 750,000.00, and the minimum cost incurred by respondents is IDR 140,000.00.

**Keywords:** Tourist Visits, Romantic Beaches, Travel Cost Method

**Abstrak**

Pantai Romantis, terletak di Kabupaten Serdang Bedagai tepatnya di Desa Nagalawan Perbaungan Sumatera Utara, pantai ini berada di antara Pantai Cemara dan wisata Mangrove Kampung Nipah, karena pantai ini memiliki pasir putih yang sangat indah dan berada di sekitar hutan mangrove yang luas, Pantai Romantis ini menjadi salah satu tempat wisata. Penelitian ini telah dilaksanakan di Wisata Pantai Romantis, Kabupaten Deli Serdang Provinsi Sumatera Utara pada bulan Juni 2023. Adapun tujuan penelitian ini untuk melihat faktor-faktor yang mempengaruhi terhadap jumlah kunjungan wisata di Pantai Romantis dan untuk mengetahui nilai ekonomi di Pantai Romantis dengan menggunakan Metode Biaya Perjalanan. Metode penelitian yang digunakan pada penelitian ini adalah survei yaitu, peneliti langsung terjun lapangan untuk mendapatkan data penelitian. Metode yang digunakan dalam penelitian ini yaitu survei dengan mengumpulkan data primer untuk di Analisis. Analisis data yang digunakan yaitu Analisis Deskriptif. Dengan Analisis tersebut faktor yang berpengaruh terhadap jumlah kunjungan wisata pantai romantik yaitu biaya perjalanan, pendapatan, jarak, usia dan pendidikan. Nilai ekonomi Pantai Romantis dengan pendekatan *Travel Cost Method* adalah Rp

29.116.354,00 /tahun, biaya maksimum yang dikeluarkan oleh responden, yaitu Rp 750.000,00 dan biaya minimum sebesar Rp 140.000,00.

**Kata kunci:** Kunjungan Wisata, Pantai Romantis, *Travel Cost Method*

# 1.  Introduction

Serdang Bedagai is a District in the Province of North Sumatra. This District has a capital city in Sei Rampah and was newly expanded from Deli Serdang Regency following Indonesian Law Number 36 of 2003 on December 18, 2003. Based on data from the Serdang Bedagai Regency Statistics Center Agency, the population of Serdang Bedagai Regency is 657,490. Romantic Beach is located in Serdang Bedagai District, North Sumatra.

Tourism is a commodity every individual need because the traveling activities needed by each individual can increase creative power, eliminate work boredom, relax, shop, and do business, as well as know the historical heritage and culture of a technique. Increased leisure time as a result of shorter working days and supported by increased income will increase the activity of tourists. The purpose of tourism is for recreational needs and leisure time that has benefits for health and soul, and the purpose of this tour is to fulfill a person's work services or business relations. Serdang Bedagai Regency has quite a lot of tourism, for example, pretty famous beaches, namely Pondok Permai Beach, Mutiara Indah Beach, Klang Beach, Mirror Beach, and Mangrove Beach. But this Romantic Beach has a beautiful panorama, clean white sand, and pine trees that are neatly planted on the Beach, making the romantic Beach atmosphere relaxed and look beautiful.

Romantic Beach, located in Serdang Bedagai District, precisely in Nagalawan Perbaungan Village, North Sumatra, has the potential for quite extensive waters. This Beach is between Cemara Beach and Kampung Nipah Mangrove Tourism, which was formerly called Pantai Tengah and officially changed its name to Romantic Beach after being managed by Mr. Haji Saipul because this Beach has gorgeous white sand and is around a vast mangrove forest, this Romantic Beach is also a place for photos. The travel cost method is used to analyze the demand for outdoor recreation, such as fishing, hunting, hiking, and others. This method examines the costs incurred by each individual to visit these recreational areas. The TCM method is used to interpret and describe data to determine the recreational value of a tourist site based on the money tourists spend to realize their recreational activities.

Consumer surplus is the buyer's willingness to pay for a product or service minus the amount the buyer buys (Mankiw, 2014). Consumer surplus of Romantic Beach tourism visitors from the function and demand curve formed. Consumer surplus indicates that visitors still receive excess (Surplus) benefits from the level of tourist ticket prices set, so the actual cost of tourist tickets can still be increased for the maintenance and further development of these attractions. The tourism demand curve can also show the maximum tourist ticket price level that tour managers can still apply.

Novita (2020), visitors are satisfied with the facilities and infrastructure adapted to Taman Kehati tourism. The average travel cost is IDR 165,614,852/individual per visit, with the highest allocation of travel costs, namely consumption costs of IDR 101,657.72/individual. The factors influencing the number of Taman Kehati tourist visits are age, income, travel costs, length of travel, days of visit, and the state of Taman Kehati tourist park. The economic value of Taman Kehati tourism using the Travel Cost method is IDR 993,850,777,736 per year. Based on research conducted by Armadinata (2019), results of economic valuation with the ITCM approach used in the Sawarna Beach area obtained an average WTP value of IDR 93,672 per visitor, and the financial value of Sawarna Beach is IDR 6,722,558,424 per year and consumer surplus value of IDR 5,164,066,252.

Therefore, the valuation of Romantic Beach is a method used to provide quantitative value to goods and services produced by natural resources and the environment regardless of whether from market value or non-market value. It is necessary to know the economic value of marine tourism, which is close to the actual value of the tourist attraction. This value is determined by assessing the financial benefits of recreation of the Romantic Beach tourist attraction using the TCM approach.

# 2.  Material and Method

## 2.1. Time and Place

This research was conducted in June 2023 at Romantic Beach Tourism, Deli Serdang District, North Sumatra Province. It was carried out intentionally (Purposefully) because Romantic Beach is one of the interesting marine tourism objects in the Serdang Bedagai District.

## 2.2. Methods

The method used in this research is a survey method, which involves conducting field observations and interviews with respondents through a descriptive-quantitative approach. According to Sugiyono (2013), research was conducted using a questionnaire as a research tool on large and small populations, but the data studied was

data from samples taken from these populations so that economic values and relationships between variables were found.

*2.3. Data Analysis*

According to Sugiyono (2013), three main things affect the quality of research data: the quality of research instruments, data collection, and data analysis. The quality of research instruments relates to the validity and reliability of the instrument and the quality of data collection about the accuracy of the methods used to collect data. Therefore, an instrument tested for validity and reliability can only produce valid and reliable data if used appropriately in data collection. This study uses two data types needed for research: primary and secondary. Data sources The types of data used in this study are as follows: Quantitative data, namely data in the form of numbers such as data on the number of travel costs, individual income, the number of personal visits, and the number of individual visits.

Based on the data source, the data used in this study can be grouped into: Primary data is data obtained from the results of distributing questionnaires and direct interviews with respondents, namely visitors to Romantic Beach tourists; Secondary data is a research data source obtained by researchers indirectly through intermediary media to complete the analysis in this study.

Data and research data sources contain primary data and secondary data from the results of data collection; secondary data is a document from the general description of the research location, while primary data sources are data from respondents, both factors that influence the number of tourist visitor the economic value of tourism using TCM and CVM as shown in (Table 1).

Table 1. Types of data and research data sources

| No | Objective | Data Source | | Data collection methods |
| | | Primer | Sekunder | |
|---|---|---|---|---|
| 1 | Overview of the research location | - | Dokumen | Survey and Interviews |
| 2 | Factors that influence the number of tourist visits | Respondent | - | Survey and Kuesioner |
| 3 | Economic value of tourism using TCM and CVM | Respondent | - | Kuesioner and Interviews |

# 3.  Result and Discussion

*3.1. Respondent Characteristics*

The characteristics of the respondents are the criteria that will be given to the research subject so that the source of information in the research or experiment can be targeted appropriately and as expected. Tourists who come to Romantic Beach come from within the city and outside the North Sumatera Province, as well as visitors who come to the Beach. The number of respondents selected for this study was 81 people, consisting of 38 male and 43 female respondents. Socio-economic characteristics (demographics) are seen from the type of work, income level, regional origin, education level, and age of Romantic Beach visitors. See the type of division of gender, age, education level, type of work, income level, and type of work. The characteristics of tourist respondents based on demographics can be seen in (Table 2).

*3.2. Tourist Characteristics of Romantic Beach Tourist Respondents*

Character is interpreted as a person's characteristic that makes him different from others in motivation, problem-solving, and adaptation. It can be interpreted that character is a person's nature that forms a concept of himself to be able to behave in a situation related to activities that are manifested in thoughts, feelings, words, and actions to create relationships with others. Romantic Beach tourists have travel characteristics, while the respondent's travel characteristics consist of 3: how the respondent arrives, the type of transportation, and the number of visits the respondent makes to Romantic Beach. To see the travel characteristics of respondents, we can see (Table 3).

Table 3 shows that the arrival of tourists visiting Romantic Beach is different, as for the way of visiting tourists, into three (3), namely, with friends, with family, and in groups. Tourists visiting Romantic Beach are dominated by visitor respondents who come with families, with a percentage of 46.91%. Based on this research, visitors to this Romantic Beach tour are suitable for recreation or gathering places for families. Based on Table 3, the type of transportation used by tourists to Romantic Beach is divided into 2, namely, motorbikes and cars; the kind of transportation that dominates for traveling to Romantic Beach is a private car with a percentage of 55.56%. This means that most of the respondents came with their families, so the respondents were more comfortable if they used a car vehicle for comfort. The number of respondents who visit this RomanticBeach is divided into 2, namely less than four (<4) and four to 8 times (4 eight times), the most dominant number of respondent visits in this study with a frequency of 65 or a percentage of 80%.

*3.3. Traveler Perception*

Perception is sharing information to determine and organize the process to create a more meaningful picture. As social creatures, humans are endowed with the ability to assess the environment and capture an object through

the sensory organs. By focusing on a tourist destination someone will come to visit, tourists can decide to visit an area as a product or service (Safitri et al., 2020).

Table 2. Characteristics of tourist respondents based on demographics

| Gender | Frekuensi (People) | Percentage (%) |
|---|---|---|
| Male | 38 | 47 |
| Female | 43 | 53 |
| Total | 81 | 100% |
| Age | Frekuensi (People) | Percentage (%) |
| < 24 | 18 | 23 |
| 24-33 | 45 | 54 |
| 34-44 | 10 | 12 |
| > 44 | 9 | 11 |
| Total | 81 | 100% |
| Schooling Level | Frekuensi (People) | Percentage (%) |
| Junior High School | 0 | 0 |
| High School | 21 | 26 |
| Higher Education | 60 | 74 |
| Total | 81 | 100% |
| Type of Employment | Frekuensi (People) | Percentage (%) |
| Laborer | 9 | 11 |
| Private Employee | 7 | 9 |
| State Employee | 23 | 28 |
| Employee | 17 | 21 |
| Self-employed | 9 | 11 |
| Students | 16 | 20 |
| Total | 81 | 100% |
| Income Level | Frekuensi (People) | Percentage (%) |
| < 3.000.000 | 54 | 67 |
| 3.500.000 - 5.000.000 | 27 | 33 |
| Jumlah | 81 | 100% |
| Regional Origin | Frekuensi (People) | Percentage (%) |
| Medan City | 76 | 51 |
| Outside Medan City | 5 | 6 |
| Total | 81 | 100% |

Table 3. Travel characteristics responder traveler Romantic Beach

| Way of Arrival | Frequency (People) | Percentage (%) |
|---|---|---|
| With Friends | 35 | 43,21 |
| With Family | 38 | 46,91 |
| Groups | 8 | 9,88 |
| Total | 81 | 100 |
| Type of Transportation | Frequency (People) | Percentage (%) |
| Motorcycle | 36 | 44,44 |
| Private Car | 45 | 55,56 |
| Total | 81 | 100 |
| Frequency Number of Visits | Frequency (People) | Percentage (%) |
| < 4 Times | 65 | 80 |
| 4 Times-8 Times | 16 | 20 |
| Total | 81 | 100 |

The higher the tourist perception of tourism, the greater the demand for these environmental services. Vice versa, the lower the perception of tourists, the lower the demand for tourism. As for what tourists perceive, natural beauty, facilities, affordability of attractions, and cleanliness have a significant role. Tourists have a perception of affordability to the Romantic Beach tourist location; affordability to the area in tourism management plays a vital role because if the road to the recreation location influences someone to visit and the worse the means to the location and difficult, tourists do not want to see the Romantic Beach location.

This Romantic Beach has facilities to get to the location quite well; the public road to the area, starting from the main road to the Romantic Beach, has been asphalted. However, the street lights illuminating the streets could be better, from the main road to the Romantic location. There is a lack of maintenance regarding street lighting, so access to lighting at the Romantic Beach is not good. More details about tourist visitors' perceptions of the accessibility of romantic beach tourism can be seen in (Table 4).

Table 4 that respondents considered the accessibility to the Romantic Beach tour to be accessible as much as 61.73%, respondents who stated that it was effortless were only 32.10%, and respondents who considered the accessibility to the Romantic Beach tour to be complicated 6.17%. This study obtained data on respondents'

perceptions of the quality of the tourist environment of Romantic Beach with predetermined categories. To see more details about tourists' perceptions of environmental quality, we can see (Table 5).

Table 4. Travelers' perceptions of Romantic Beach tourism accessibility

| Purpose of Visit | Respondent | Percentage (%) |
|---|---|---|
| Easy | 50 | 61,73 |
| Very Easy | 26 | 3,70 |
| Hard | 3 | 32,10 |
| Very Hard | 2 | 2,47 |
| Total | 81 | 100 |

Table 5. Travelers' perceptions of the quality of the Romantic Beach tourism environment

| Environmental Quality | Respondent | Percentage (%) |
|---|---|---|
| Good | 40 | 49,38 |
| Good Enough | 26 | 32,10 |
| Not Good | 15 | 18,52 |
| Total | 81 | 100,00 |

Based on Table 5, the respondents' perceptions regarding the quality of the tourist environment of Romantic Beach, 49% of respondents stated that Romantic Beach tourism was of good quality. However, some respondents considered the quality of the Romantic Beach environment to be quite good, with a percentage of 32.10%. In addition, some respondents thought the quality of the environment on the Beach could have been better, with a rate of 18.52%; these respondents said the quality of cleanliness still needed to be better maintained.

### 3.4. Travel Cost Method

The travel cost method is a technique that was first used to assume that the value of a tourist spot is related to the travel costs incurred by visitors (Handayani et al., 2021). The travel cost method is the time and travel costs spent or incurred by someone to visit a tourist spot; the travel costs in this study are all the total costs incurred by respondents during the trip, starting from the initial location to the Romantic Beach and then returning to the original location. These costs include transportation, consumption, lodging, tickets, and other expenses incurred during tourism activities at Romantic Beach. So, to see the total amount of travel costs, it can be seen in (Table 6).

Table 6. Average distribution of travel cost to all respondents

| No | Cost Type | Total (IDR) | Percentage (%) |
|---|---|---|---|
| 1 | Transportation (Round-Trip) | 10.780.000 | 36 |
| 2 | Recreation Consumption | 10.880.000 | 36 |
| 3 | Tickets | 3.240.000 | 10 |
| 4 | Others (souvenirs, toll road fees, etc.) | 5.600.000 | 18 |
| | Total | 30.905.000 | 100 |

Table 6 shows that the total cost spent by all respondents to carry out tourist activities at Romantic Beach amounted to IDR 30,905,000. Transportation costs are costs that respondents must incur, and the total expenditure of all respondents for transportation costs is 36% or IDR 10,780,000. For respondents' consumption costs during tourist activities on the Romantic Beach amounting to IDR 10,880,000 or converted into percentages resulting 36%, while the entrance ticket issued by the respondent is IDR 40,000/person if the total respondent is totaled, the amount is IDR 3,240,000. or converted into percentages it results in 10%.

Other costs are everything that produces or becomes directly related to traveling activities. If converted into percent, the costs incurred for other costs by respondents amounted to IDR 5,600,00, which resulted in 18% of all travel costs. Thus, the average actual cost incurred by respondents is IDR 381,550/individual.

### 3.5. Consumer Surplus and Total Economic Value

The travel cost approach is the basis for predicting the size of consumer surpluses. Tourist demand models have been obtained through regression analysis to calculate consumer surpluses. Based on the results of the survey in the field, it is known that the maximum cost issued by the respondents is IDR 750,000.00, and the minimum fee issued by the respondent is IDR 140,000,00 to obtain the value of the consumer surplus based on the formula is IDR 29.116.354,00 per person per year. This value is higher than the average actual cost given by the responders IDR 381.550,00. If the two values are compared, visitors will benefit from more excellent environmental services than the costs spent by visitors during the visit.

In a study by Kusdianti (2020), the consumer surplus obtained from the tourism of Pantai Watu Pecak in the Lumajang district amounted to IDR 677.104 per person visit. Batubara et al. (2020) concluded that his research was the result of an analysis of the individual travel costs known as Consumer Surplus (CS), amounting to IDR

23.434.881,91 per person per year or IDR 3.690.532,58 per individual per one visit. So, the Economic Value of the Isle of Pasumpahan is obtained from the point of view of tourists of IDR 103.718.100.344.63 per year.



The graph shows a power curve with equation $y = 2E+06x^{-1,244}$, with y-axis ranging from 0 to 20000000 and x-axis from 0 to 4.
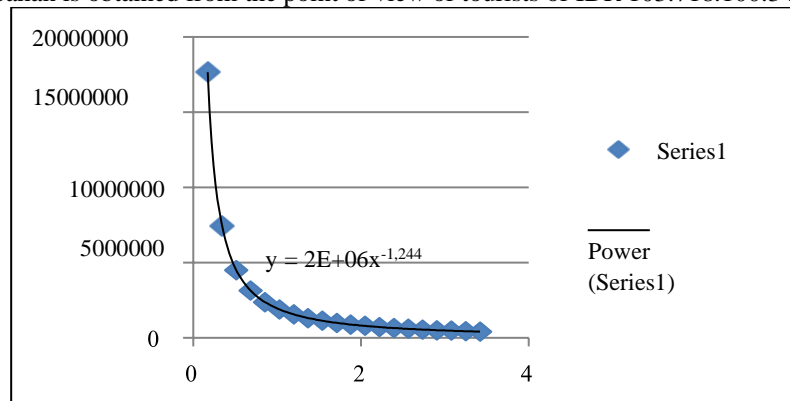
Figure 1. Curve surplus consumption

The consumer surplus value is the indirect value each visitor receives during tourism to the Romantic Beach, with an area of 30 ha. The economic value of the presence of the Romantic Beach is the value from the calculation of the number of visitors coming, i.e., the number of visits in 2022 as 53.800. Then, the economic value is seen from the tourist point of view of IDR 127.418.195.520. This value indicates that when the Romantic beach makes improvements and supports prices, as well as other factors that can interest the visitor, it will be able to enable the economic value of Romantic Beach. The results of this survey are reinforced by research carried out by Kusdianti (2020), where the results obtained from Pantai Watu Pecak in Lumajang district resulted in an economy of IDR 30.363.362.035 per year

## 4. Conclusions

The average travel cost paid by tourists to the Romantic Beach is IDR 322,963 per person per visit. The highest allocation of travel costs for transportation and consumption costs is IDR 10,780,000, and IDR 10,880,000- or 35% of total travel costs. The economic value of the Romantic Beach with the travel cost method approach is IDR 127.418.195.520/year.

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