

# Management Information System Framework in Destination Decision Making by Travelers

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The development of tourism in Indonesia has experienced rapid development which can be proven by the increase in foreign and domestic tourists. Tourists often have difficulty deciding what tourist attractions to visit that are in accordance with their interests and are suitable for the allocated number of days and the amount of costs to be incurred. For this reason, it is necessary to develop a tourism management information system to assist tourists in making their choices. This research method is a descriptive method that explains the framework of a tourism management information system for the selection of destinations. To build an information system, the first step is to create a database relating to tourism activities, namely, tourist attractions, transportation, accommodation, restaurants and shopping centers. Based on this data, tourists can determine tourist destinations that are of interest, along with a travel itinerary and estimated costs.

**Key words:** *Tourism Management Information System, decision making, tourists.*

## Introduction

The survey conducted by the Everbrite-Harris Poll in 2014, shows that the millennial generation prefers to spend money on tours to gain experience. For the millennial generation, this is more important than material goods. Millennials are a very important part of the tourism business because of their sheer volume and influencing of power. According to Rizki Handayani, the Deputy for Industry and Institutional Development Ministry of Tourism, in Indonesia, the millennial tourist market has dominated more than 50 percent of the market in 2019. The Asian tourism market is mostly millennial tourists aged 15-34, which is 57 percent. The millennial generation population in China has reached 333 million, the

Philippines 42 million, Vietnam 26 million, Thailand 19 million and Indonesia 82 million (Febrinastri, 2018).

According to the World Tourism Organization (UNWTO), tourism is ‘The activities of people who travel to and live outside the environment where they usually live for no more than one consecutive year for holidays, business and other purposes’. In the period January - October 2018, the number of foreign tourist visitations was 13,240,827 people and its growth was 11.9% compared to the previous year. Despite growth, the target of foreign tourist arrivals has not been reached. For domestic tourists, the target of 275 million tourists can be achieved. Thus, it can be concluded that tourism in Indonesia is growing significantly (Jermisittiparsert et al., 2019).

However, in practice, tourists often have difficulty in determining tourist destinations to be visited. Tourists must consider whether the tourist destination is in accordance with their interests, what facilities are available, access to tourist sites, available accommodation, what transportation can be used, how long it will take and how much it costs. Therefore it is necessary to develop a management information system in the tourism sector so that it can assist tourists in making decisions on tourist destinations that will be visited. This study intends to develop a management information system framework as a basis for decision-making of destinations to be visited by tourists.

## **Literature Review**

### ***Decision Making Process regarding Travel Destinations***

In making purchasing decisions, the steps taken are as follows: (1) determining objectives (2) information seeking (3) evaluating various alternatives (4) product or service selection (5) post-purchase evaluation. This model shows that the decision-making process will begin long before the actual purchase (Kotler, 1998). Similarly, in determining tourist destinations, the first step is to determine the best destination, which is the destination that suits the interests of tourists.

The interest of tourists to visit a tourist destination can be viewed from two aspects, namely extrinsic and intrinsic aspects. The extrinsic aspect is influenced by the need to stay away from the stresses of life or daily routines. The intrinsic aspect is influenced by psychological needs, such as self-confidence. Other factors that also influence interest are social and economic factors (Camilleri, 2018). The next step is to search and evaluate various types of information. This stage is a very important stage in decision making. Tourists seek and use a lot of information before they reach the final decision. In order to facilitate decision making, it is necessary to develop a management information system in the field of tourism.

### ***Tourism Management Information System***

The tourism management information system is a collection, representative of data processing of tourism activities that is useful for tourists and workers in the tourism sector to assist them in making decisions. This system has 3 characteristics, namely, data integration, relevance and dynamicism. The characteristics of data integration indicate that tourism management information systems are a combination of various elements, such as food, accommodation, transportation, shopping and entertainment. The key to integrated data is to compile a database. The characteristic of relevance shows that each element has a certain function, so that each component has a relationship with each other profitably. Dynamic features indicate that the system will experience changes due to changes in tourist information.

In the early stages, the development of a tourism management information system was based on the needs of its users; tourists and managers in tourism. The needs of tourists in choosing destinations are also related to other needs, namely accommodation, transportation, restaurants, shopping and entertainment (Guo and Yan, 2014; Rahayu, 2018) and costs required. The results of the tourism information system data processing that is expected by the user is an itinerary ; which contains tourist activities every day, accompanied by the amount of costs to be spent.

### ***The development phase of the Tourism Management Information System***

The first stage of information system development is the creation of a database by collecting data relating to tourism. The data base covers all the data needed in decision making on tourist destinations. Data that must be available are (1) regional map of tourist attractions, distance that must be travelled and estimated travel time, accessibility (2) tourist destinations and attributes (3) transportation, along with costs (4) accommodation and tariff (5) restaurants, along with estimated prices (6) shopping centers.

Through the data base that has been created, users can enter inputs in the form of tourist destinations, transportation, accommodation, restaurants and shopping centers that match their interests. The input is then processed and the end result is a travel itinerary including estimated cost.

## **Results and Discussion**

### ***Tourism information system database***

- Map of Tourism Destinations

This map shows the available tourist destinations, for example, a map of destinations in North Lombok Regency. On this map are shown several tourist attractions such as: Gili Trawangan, Gili Meno, Tiu Pupus Waterfall, Tiu Teja Waterfall. Based on the map, tourists can also find access to the location, distance between tourist attractions and estimated time to travel. Examples of tourist destination maps are shown in Figure 1.

- Tourist destination attractions and attributes

For each tourist destination, there is an explanation of what type of attraction is found in the destination. Attractions can be in the form of natural tourism, cultural sites, artwork, music and dance, flora and fauna, other facilities available (Camilleri, 2018). In addition, data is also needed regarding ticket prices to enter tourist sites. Examples of tourist attractions and their attributes can be seen in Figure 2.

- Transportation

For each tourist destination, it is necessary to explain transportation that can be used, such as air, sea and land transportation. Then there are also data in the form of public transportation that can be used as well as private transportation that can be used, along with an estimated tariff.

- Accommodation

For each tourist destination, it is necessary to explain the accommodation that is close to the tourist attractions. The accommodation can be in the form of hotels or halfway houses that can be rented from residents around tourist attractions

- Restaurant

For each tourist destination, it is necessary to explain the restaurants around the tourist destination, and the estimated price of food on the menu.

**Figure 1.** Tourism Destination Map in North Lombok Regency



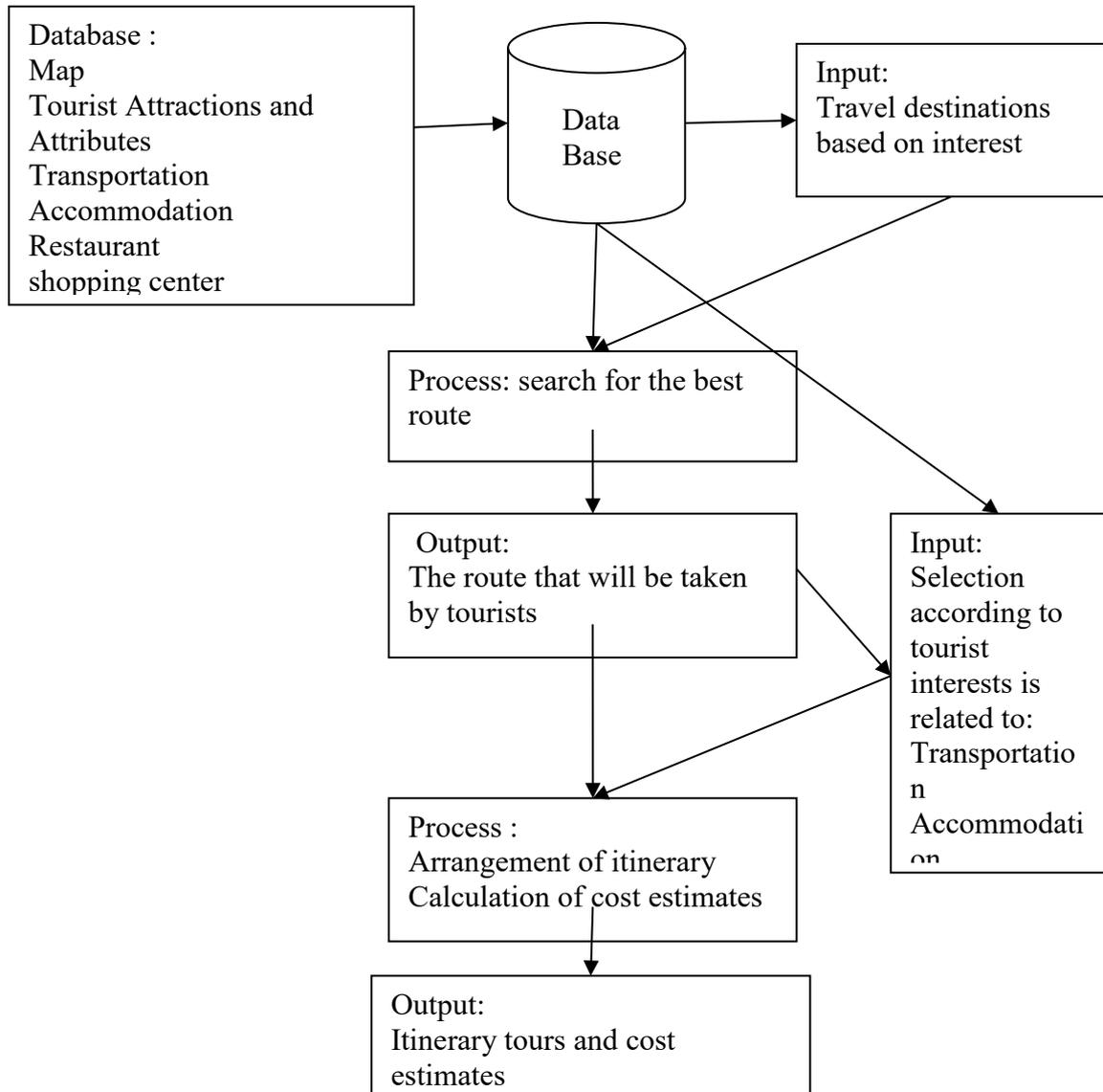
### ***Input and Output of the Tourism Management Information System***

Based on the available data base, users can choose tourist destinations to be visited according to their interests. These selected destinations are input from the information system. Based on these inputs, the output is in the form of a route. After familiarising with the travel route, the user can choose the transportation to be used, accommodation, restaurants and shopping centers that will be visited. In each place that will be visited, the user also enters the estimated time input at that place. Based on this additional information, the results of data processing are output in the form of itineraries and estimated travel costs (Udeh and Bassey, 2018), (Zandi and Haseeb, 2019).

### ***Conceptual Framework for Tourism Management Information Systems***

To compile an information system the first step is to determine the purpose of making the information system. One of the objectives of the tourism management information system is to provide a system that can support the decision to choose tourist destinations based on interest, number of days and available costs. Based on these objectives, the next step is to provide a data base relating to tourism activities, determining inputs and outputs. The conceptual framework of the Tourism Management Information System can be seen in Figure 3 (Rahayu, 2018), (Rahayu, 2018).

**Figure 3.** Conceptual Framework of a Tourism Management Information System



## Conclusion

Tourism in Indonesia is experiencing a rapid development as seen from the number of foreign tourists in the country. In the period January - October 2018, the number of foreign tourist arrivals was 13,240,827 people and for domestic tourists 275 million tourists. This study investigated an identified issue in the Indonesian tourism industry, that tourists often have difficulty in determining tourist destinations to be visited. To make it easier for tourists to make their decisions, it is necessary to develop a tourism management information system. The initial step is to compile a data base related to data relating to tourist attractions,



transportation, accommodation, restaurants and shopping centers. Based on these data, tourists can determine tourist destinations in their interest, along with the itinerary and estimated costs.

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