Mobile Tourist Recommendation Systems Based On Tourist Trip Design Problem For Indonesia Domestic Tourist, An Exploratory Study

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Abstract - Tourism, as social activity, consists of many interactions with other people like asking suggestions from friends and travel agents, connecting with the transportation and accommodation provider, and sharing the experience to others. Face-to-face interaction now is changing because Internet supports it by social networking systems. Tourism information technology is growing very fast; they are not only giving the information, but also providing the recommendation for a tourist personally. Travel recommendation system is using this technology in helping travelers to choose their destination, accommodation, and activities at the destination. Many researches have tried to capture tourist profiles, developed the route algorithms, designed recommendation systems and mobile applications. Indonesia has a lot of potential in tourism industry. There are many various destinations for tourist, and Indonesia has a lot of domestic tourist along with revenue increasing in middle class society. This paper will denote the previous researches in profiling tourist characteristics and preferences continue with progress in algorithms and mobile recommendation systems, then the last is a mobile tourist recommendation systems model that compatible with Indonesia's condition.

Keywords - tourist trip design problem, travel recommendation, recommender system, tourism

I. INTRODUCTION

Tourism as a tertiary needs has a trend to increase now, accordance with the increasing of people earning. While tourism usually relies to foreign tourist, nowadays domestic tourist exceed foreign tourist, in number of people and expense. Based on Laporan Kinerja Kementrian Pariwisata [1] in 2014 from Ministry of Tourism and Creative Economy (now Ministry of Tourism), showed a significance difference between foreign tourist and domestic tourist. In 2015, there were 11.2 million foreign tourists and 259 million domestic tourists. They gave foreign exchange to Indonesia 10.69 billion and it needed more resources in tourism, which increased nation’s economy. Total domestic tourists expense in Indonesia was increasing, from 137.91 trillion in 2009 to 177.84 trillion in 2013 [2].

However, none of those numbers was influencing the Indonesia’s rank in the world. Compare with countries in neighbor, the competitive power of Indonesia still lower even the potential is better. Based on Word Economic Forum [3] in 2015, Indonesia had rank 50th in the world and 11th in Asia-Pacific; with the most potential power was competitive price. Singapore’s rank was 3rd, Malaysia 7th and Thailand 10th. Special note in that list stated that mobile network has already reached all the area in Indonesia, indicated information access will be very easy to do, no matter wherever the tourist will be. In Indonesia according to Badan Pusat Statistik data [1], tourism industry can compete with the natural resources as the main commodity like crude oil, natural gas, palm oil and wood. This condition must be upgraded to increase the rank and foreign exchange revenue.

Tourism competitive factors that already discussed in National Tourism Conference [4] in 2015 showed that some factors were decreasing. For example is national perception that became some researches topics. In Bursan [5], Dwiputra [6], Oktaviani and Riyana [7] and Rahajeng [8] showed that one of the reasons was there is a few information that can be used by the tourists in arranging the itinerary. The technology infrastructure that was going better actually can support faster and more accurate information for the tourists. Rearrangement of information system network infrastructure became strategic target to prepare the facilities for the public use.

Until this time, the information for the tourists has less attention, especially for the characteristic of domestic tourists. Warman [9] stated that domestic tourists were profuse and like to shop, like to go in-group, and like the popular destination. But for the opposite, there is a good growth for the tourists who like a single trip or small group, and try to find out a new destination. The social-demographic factor, geographic and psychographic domestic tourist will affect to tourist profile, and it will be a guidance to predict the length of time in exploring tourist destination. It is the time for Indonesia tourism become king in its country. Marie Elka Pangestu as the previous Minister of Tourism and Creative Economy said domestic tourists has spent more than 8 billion US dollar abroad. We can imagine if only a half of the expense is used in Indonesia tourism, the foreign exchange will be higher. Many studies have already done about obstacles to enjoy Indonesia tourism destination, and many improvements has done. However, to increase the tourists’ interest must be started by easiness to get the destination information, and then follow by trust building for domestic tourists to love the potential of their country.

For years, tourists in Indonesia usually took a travel agent to arrange their itinerary without option to change the destination, route or schedule. They have courage to go in group without travel agent advices, but still they choose the popular destinations, because of influence