Data Mining in Tourism Data Analysis: Inbound Visitors to Japan

Valeriya Shapoval, Rosen College of Hospitality Management, University of Central Florida

Morgan C. Wang, College of Graduate Studies, University of Central Florida

Tadayuki Hara, Rosen College of Hospitality Management, University of Central Florida

Hideo Shioya, JTB-Foundation

Abstract

Japan is gradually becoming an important tourism destination. Inbound tourism arrivals are dramatically increasing for the past decade. According to the JNTO inbound visitor arrivals to Japan was 4,757,146 people in 2000, the annual inbound arrival was 8,358,105 in 2012 and 10,363,922 arrived in 2013 with a total increase of 24 % from previous year. As tourism becomes more and more important to a Japanese economy, interest is growing among researchers and policy-makers to address questions of motivation, intention to return, positive word of mouth, and satisfaction with Japan as a touristic destination. Nevertheless, research on inbound tourism to Japan appears limited. According to Uzama (2009) Japanese marketing campaign "Yokoso Japan" were mainly unsuccessful in advertising Japan as desirable tourism destination despite the government interest in promoting Japan. Omura and Fukushige (2010) in their research of international tourists to Japan looked into the difference between first time visitors and repeated visitors to the Kansai area of Japan, and they found that first-time visitors were interested in sightseeing, while repeated tourist were more involved and were interested in participating in the events.

However, all limited research about inbound tourists to Japan were either qualitative or using classic statistics with the limited sample size. No research appear to have been done using big data for understanding tourists' behavior through the quantitative analysis of large data set by using mainstream data mining techniques. Only 14 papers have claimed to have used data mining techniques in tourism from 1999 to 2007. Hence, the purpose of this research is to contribute to the general body of knowledge in dealing with large data set collected from inbound visitors to identify useful managerial information for tourism planning. Specifically, we will predict intention to return, satisfaction with Japan as a destination and probability of high expenditures using data mining techniques.

Corresponding author's e-mail: Valeriya.Shapoval@ucf.edu

Methodology

Data were collected by JTB-Foundation on behalf of Japan Tourism Agency during year 2010 at airports and seaports in Japan. Inbound visitors to Japan were approached by representatives of JTB Foundation. Visitors were asked to participate in the survey. Data were collected on the likert scale and resulted in sample size of 6,000 usable observations. Due to the large sample size where classic statistical tools fail, data mining techniques such as decision trees, neural networks and regression will be used for quantitative analysis of large data.

Results of this research is expected to contribute to the future tourism policy making and tourism planning, by identifying helpful solutions that are data-driven rather than theoretically-driven hypothesis.

References

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Corresponding author's e-mail: Valeriya.Shapoval@ucf.edu