Comparative analysis of spatial patterns of tourists' behavior in Japanese cities using Online Geotagged Photographs

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Exploring tourists' spatial behavior and preferences has been one of the most important topics in tourism studies, geography, and geographic information science (GIScience). While it had been difficult to capture the spatial behavior of tourists within a city, new sources of geospatial data derived from social networking services (SNS) provide the possibility of analyzing high-resolution big data to analyze the patterns of human spatial behavior across space and time. By employing the geocoded photos from a photo-sharing service of SNS, this study aims to examine the spatial patterns of tourists' behavior at the main tourist attractions in two major tourist destinations in Japan –Tokyo and Kyoto. The authors employed geotagged photos uploaded by tourists to the photo-sharing social media, Flickr, which is one of the most popular online platforms where people share their travel experiences. The data obtained were geocoded photos from 2018, taken within 1 km from Shinjuku, Ginza, and Asakusa stations in Tokyo and 5 km from Shijo station in Kyoto. Information on the nationalities of contributors recorded in the Flickr data were used to compare the tourist spots by visitors' nationalities. The spatial distribution of places where the photographs were taken (photo location) were analyzed with geographical information systems (GIS). The results indicated the concentration and dispersion of photo locations in each city and their main hotspots. Marked differences in the distribution of photo locations in two cities were observed between Asians and other tourists such as Europeans and North Americans, whereas similarities in the distribution patterns were found for European and North American tourists. The results may be due to the differences in tourists' behavior and their preferences between the countries as well as the spatial structure of tourist attractions in each city.

Keywords: tourist behavior, Flickr, spatial analysis, Tokyo, Kyoto