

Comparative analysis of foreign tourists' spatial behavior in Tokyo using locational data from the photo-sharing service of Flickr

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These new sources of geospatial data, such as smartphones, global positioning systems, and travel cards, provide the possibility of analyzing high-resolution big data to capture patterns of human spatial behavior across space and time. This study analyzes the geocoded photos from a photo-sharing service to make a comparison of the tourist behavior in Tokyo between countries of foreign visitors.

We selected three places (Shinjuku, Asakusa, and Ginza) as study districts. The data were downloaded from Flickr, one of the most popular online platforms for people to share their travel experiences by uploading photos. We used the data of geocoded photos from 2014, taken within 1.5 km from Shinjuku, Ginza, and Asakusa stations. Information on the nationality of contributors recorded in the Flickr data was used to compare the tourist spots of foreign visitors. To summarize the distribution of the points of photos, we aggregated the point features into a rectangular polygon feature with 100 meter grid square, then we made dot maps and mesh maps to capture the overall distribution of the photos.

The obtained results showed that some tourist spots common to foreign visitors in three study areas, namely, places close to railroad stations. However, spatial patterns of tourist spots varied with the study district in question. In Shinjuku and Ginza, there are differences in tourist spots between Asians and Europeans. Particularly, European tourists' hot spots tend to be more scattered than Asians. However, such differences are not observed in Asakusa, where tourists' hot spots are concentrated around Sensoji Temple and Tokyo Sky Tree. The reason for this is that tourist attractions are concentrated in and around specific facilities in the Asakusa district. Hence, the variations of tourist spots obtained by analyzing the geotagged photographs on Flickr can be explained by the difference in behavior and interest of foreign tourists between countries, as well as the spatial distribution of tourist attractions.

Keywords: social media, Flickr, spatial behavior, mesh map, Tokyo