

Digital Text Analysis Of Tourists' Sentiments And Spatial Choices In Global Cities

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Abstract

The peer-to-peer rental market has in recent years become a prominent part of the tourism sector world-wide. Its open platform character, supported by digital technology, has not only facilitated choice-making processes by accommodation owners and heterogeneous visitors, but also generated a wealth of accessible data for quantitative tourism research and local tourism management. In particular, the value and preference statements expressed by visitors on the open platform's website contain rich and detailed valuation and perception information, which can nowadays be transformed into numerical data using advanced text analysis (e.g. mood analysis, sentiment analysis) and complementary statistical techniques for analyzing consumers' tastes. This study seeks to identify patterns and drivers of geographical choices and appreciations of visitors to a given city, based on their site-specific preferences and satisfaction

regarding the quality of their accommodation and of the geographic locational attractiveness of the urban area concerned. To distil meaningful and generalizable information from peer-to-peer rental accommodations across multiple tourism destinations, the paper examines the appreciation of users of listed Airbnb facilities in 34 major tourist places in the world. The main focus will be on the heterogeneity in Airbnb attractiveness as perceived by tourists in terms of accommodation characteristics (e.g. quality of the Airbnb facility), locational convenience (e.g. access to public transport), and geographical appeal of the area or city concerned (e.g. cultural amenities or historical ambiance). The spatially differentiated perspective is theoretically framed in a geographical attraction model encompassing the multi-faceted and place-specific perceptions and choices of visitors. This multiscalar sentiment analysis will next be formalized and tested by a spatial-econometric model for tracing geographic perceptions and choices of tourist visitors in 34 global tourist destinations. The database on these 34 places contains both objective location-specific statistical data and subjective visitor information extracted from social media and open-source platforms. The latter type of information is translated into measurable statistical indicators through mood or sentiment metrics and machine learning techniques. The resulting operational model aims to estimate the visitors' choice and satisfaction determinants regarding peer-to-peer accommodation choices and the availability of local services and amenities. will be given to the geographic clustering of tourist perceptions, using K-median metrics to identify patterns of tourist hotspots and areas with high concentrations of visitors' (dis)satisfaction, while also crowding effects in preference formation are taken into consideration. Finally, particular attention is given to tourist heterogeneity (e.g. socio-economic differences) explaining cultural variations in sentiment expressions. This approach also allows to map out how tourists with different backgrounds may evaluate the same urban environment differently. The site-specific information on tourists' perceptions and satisfaction provides a nuanced value picture of the diversified spectrum of geographic perceptions and choices - and their place-specific drivers - by tourists in various big cities in the world. This insight is critical for the effective management of the variety in spatial tourist flows in urban destinations.

Keywords:

digital text analysis, tourist sentiment, spatial choices, peer-to-peer rentals, geographical attractiveness, sentiment analysis, urban tourism management, spatial econometrics