

# **TOURIST GEOVISUALIZATION DATA OF SOCIAL MEDIA - CASE STUDY: CITY OF BELGRADE (SERBIA)**

PhD Radmila Jovanović<sup>1</sup>, PhD Željko Bjeljac

## **Abstract:**

The data of social media are increasingly used as the source of research in a variety of domains. Big data, which is collected in a huge amount, are useful for the researchers of tourism. Geovisualization of tourist data can be used in the policy of tourism management. These data can provide insights of tourist visit of major events in real-time, thus contributing to tourism studies development. This paper seeks to understand the relationship between social media: rating on TripAdvisor and hashtags on Instagram and Twitter and creating tourism destination on the example of Belgrade City. With the comparative study, we demonstrate how social media characterizes tourist locations differently or confirm it.

**Keywords:** Data, Spatial Analysis, Belgrade, Instagram, Twitter, Tripadvisor,  
Comparative Study

---

<sup>1</sup> Corresponding author: jogurada@yahoo.com

## **Introduction**

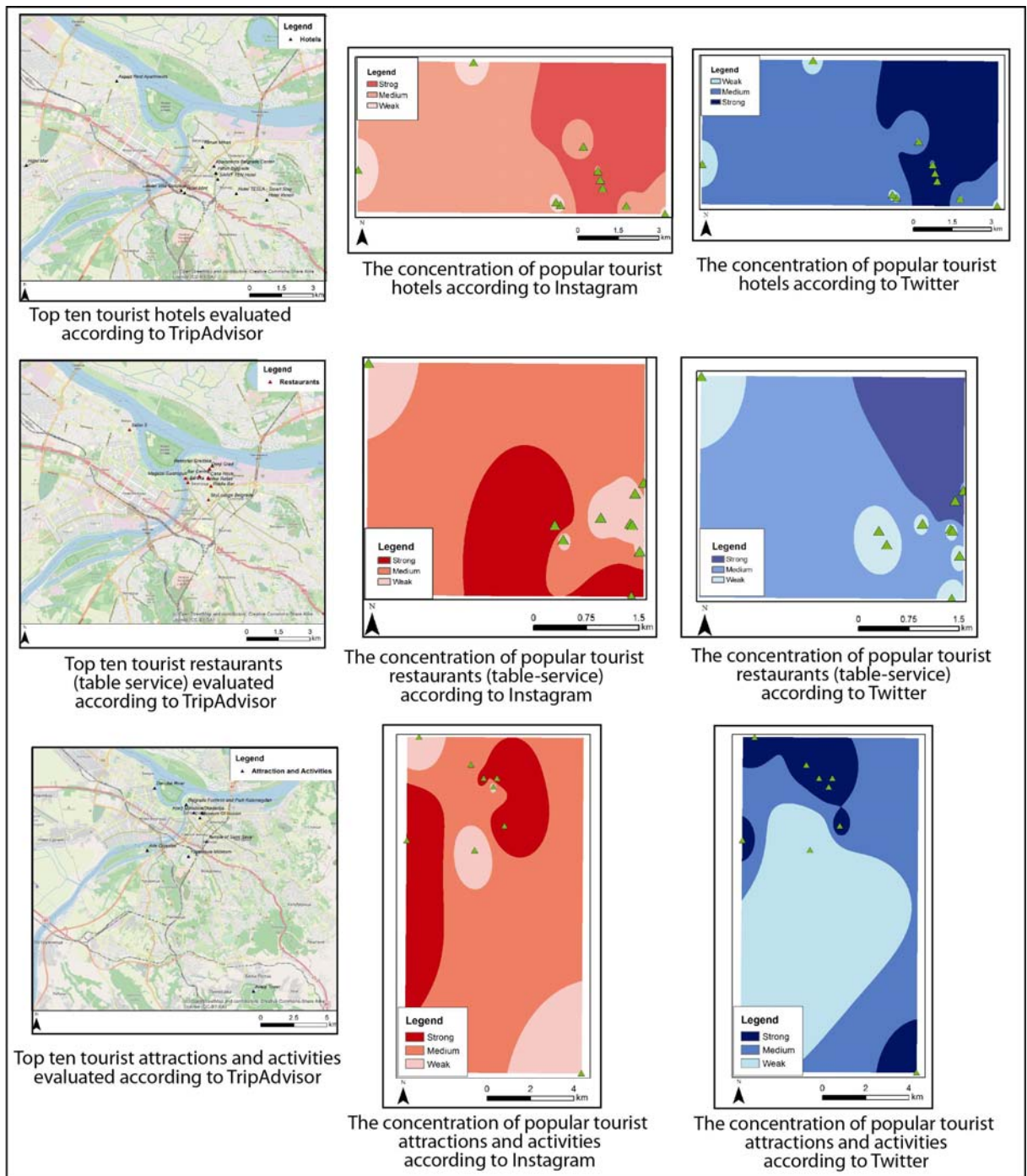
The data of social media are effective for following social (Mathioudakis, Koudas, 2010) and cultural trends (Park, Ciampaglia, Ferrara, 2016). Today, in tourism sector Internet presents a primary source of information of tourism destination (Fatanti, Suyadnya, 2015; Manap, 2013). Depending on online number reviews, the users provide an opportunity to develop and update any information. They have the ability to increase or decrease the tourist visits, and develop expectations of consumer to the tourism destination (Bruyn, Lilien, 2008).

Manap (2013) and Hanan and Putit (2014) consider that the contribution of Internet and social media to develop tourism destination as a push factor to promote destinations.

## **Methods and data**

We chose the top ten tourist locations on TripAdvisor, based on their popularity in Belgrade. The analysis including three groups: restaurants (table service), activities (attractions) and hotels.

**Figure 1.** Spatial distribution and density data of TripAdvisor, Instagram and Twitter



Sources: [www.tripadvisor.rs](http://www.tripadvisor.rs); [www.instagram.com](http://www.instagram.com); [www.twitter.com](http://www.twitter.com); author's data processing

The same groups of TripAdvisor, were observed through Instagram and Twitter based on hashtags. Depending on the concentration of the elements, we are determined classification into three zones: strong, medium and weak. Comparing the popularity of these 3 groups, we can find that they have different popularity.

All evaluated elements, with highest rank, are located in Belgrade's municipalities: Stari grad, Zemun, Surčin, Čukarica and Vračar (Figure 1). The data results of social media was determined by spatial distribution and density. The highest concentration of the mentioned elements (strong zone of concentration), are located in municipalities: Stari grad and Vračar, in which dominate or gravitate next objects: Hilton Belgrade (hotel); SkyLounge Belgrade (restaurants). The analysis of tourist attractions shows different results: maximum density have Stari grad, Vračar and Čukarica with tourist elements: Ada Ciganlija, move of Knez Mihailova – Beogradska Fortress – Kalemegdan Park. Slightly less concentration it is expressed in tourist attractions: Temple of Sant Sava and the Bohemian quarters of Skadarlija.

## **Conclusion**

The social media have a huge impact on the travel and tourism industry. Twitter, TripAdvisor, Instagram and other social media have open

many research in the tourism studies as provide insights of tourist visit of major events in real-time. Along with social media development spatial distribution of tourist can can be monitored using big data in social media.

The aim of this research to extract big data of TripAdvisor, Instagram and Tweeter to produce basic spatial data of tourists and analyze tourist attractions using geovisualization in Belgrade.

### **References:**

1. Mathioudakis, M., Koudas, N. (2010). TwitterMonitor: Trend detection over the twitter stream. *In Proceedings of the 2010 ACM SIGMOD International Conference on Management of data*, pp. 1155-1158.
2. Park, J., Ciampaglia, G.L., Ferrara, E. (2016). Style in the age of instagram. *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*, pp. 64-73.
3. Fatanti, M.N., Suyadnya, W. (2015). Beyond User Gaze: How Instagram Creates Tourism Destination Brand?. *Procedia - Social and Behavioral Sciences* 211, pp. 1089 – 1095.

4. Manap, K.H.A. (2013). The role of User generated Content (UGC) in Social Media for Tourism Sector. The 2013 WEI International Academic Conference Proceedings, Istanbul – Turkey, pp. 52-58.
5. Bruyn, A., Lilien, G. (2008). A Multi-Stage Model Of World-Of-Mouth Influence. *International Journal of Research in Marketing*, pp. 151-163.
6. Hanan, H., Putit, N. (2014). Express marketing of tourism destination using Instagram in social media networking. In Norzuwana Sumarjan, N., Zahari, M.S.M., Radzi, S.M, Mohi, Z., Hanafiah, M.H.M., Bakhtiar, M.F.S., Zainal, A. (Eds.): *Hospitality and Tourism: Synergizing creativity and innovation in research*, pp. 471-474.