

Integrating Social Media Insights with Official Statistics for Enhanced Cultural Heritage Management

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Abstract

This study explores the possible integration of big data analytics, specifically user-generated content on social media, with traditional statistical methods to enhance cultural heritage management. The project, executed under Istat's Laboratory for Innovation assesses the feasibility of combining the data on tourist satisfaction collected by the Istat household sample survey 'Trips and Holidays' on tourism demand with user reviews from social networks and digital platforms, with a particular focus on the Colosseum as a case study. Our methodology employs Text Data Mining techniques, notably Latent Dirichlet Allocation (LDA), to analyse the textual content of reviews on Google Maps. This approach enables a detailed, qualitative assessment of tourist satisfaction, extending the existing quantitative measures produced by the statistical survey. The analysis captures the emotional dimension and practical aspects of cultural experiences, delving deeply into tourists' expectations and satisfaction. The study's results indicate that integrating social media analytics with official statistical methods offers a multidimensional understanding of tourist satisfaction. This synthesis of qualitative and quantitative data provides actionable insights for the effective management of cultural heritage sites, enhancing visitor experiences and administrative efficiency. Additionally, the project demonstrates the potential for almost real-time, scalable analysis that can reduce survey respondent burden and offer broader thematic coverage. Looking forward, we propose a more extensive application of this methodology across varied cultural sites and regions. A pilot project, complementing the "Trips and Holidays" survey with large-scale Text Data Mining, could systematically enrich official tourism statistics, providing a comprehensive framework for understanding and enhancing tourist satisfaction in Italian cultural heritage management.

Keywords: trips, cultural tourism, tourist satisfaction, reviews, social network, cultural heritage.