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## Understanding Tourism Demand: A Tree-Based Analysis of Territorial Drivers

We investigate the territorial and structural drivers of tourism arrivals, with the aim of supporting more effective destination planning. Identifying the factors that attract tourists is essential for designing policies that balance development and sustainability across regions.

Our analysis applies a Multivariate Regression Tree (MRT), a flexible and interpretable method that allows to uncover both key determinants of tourism demand and homogeneous groups of destinations. Compared to traditional regression approaches, MRT captures complex interactions and non-linear relationships, making it particularly suitable for heterogeneous territorial contexts.

The empirical study focuses on 307 municipalities in Sardinia (Italy). Tourist arrivals, disaggregated by nationality, are considered as multiple response variables. Explanatory variables include geographic characteristics, demographic structure, and transport accessibility.

Results indicate that the density of accommodation facilities is the main driver of tourism attractiveness. Additionally, a clear coastal–inland divide emerges: coastal areas benefit from a stronger combination of accommodation supply and accessibility, leading to higher tourist concentration. Inland areas, in contrast, show more limited performance, even when other favorable characteristics are present.

These findings highlight how interactions between infrastructure and territorial features shape tourism demand across different international markets. The study illustrates the value of tree-based methods for applied statistical analysis in tourism and suggests their broader applicability to other regional planning contexts.

### Special/ Invited session

### Classification

Both methodology and application

### Keywords

Multivariate Regression Tree, Tourism Arrivals, Destination Attractiveness

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