

Analyzing the tourism behavior patterns in Sardinia. A Markov chain approach to investigate the movements of the tourist inside the Island.

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Studying the movement of tourists inside a destination can be useful to comprehend the spatial-temporal behavior of tourists, and to investigate the existence of specific paths followed by the tourists. Moreover, comprehending which elements can impact on the movement can support the government to identify the existence of a specific target and, consequently, create adequate services to support the tourist during the time spend in a destination.

This paper aims to investigate the movement of tourists inside Sardinian Island using the data of tourist information points. The Sardinian tourism office managed by the regional government has introduced a new system to record information related to the tourists that visit the tourist information points.

The recorded information allows knowing for each tourist that visits the tourist information point: the nationality, the transport main used to arrive in Sardinia and used to move around the different places, and the typology of accommodation. Additionally, the tourists communicate the destination visited before to come in Tourist information point and the next destination.

We use the recorded information to identify firstly the main paths chosen by the tourists in Sardinia, secondly to estimate the probability that a tourist chooses a specific tourist destination given he/she has been to another destination before; thirdly to comprehend which elements can impact on the choice of the next destination.

Two different methodologies have been used. The first is the complex network approach useful to investigate the path between the destinations and to identify the cities most visited inside the Island.

The second is the Markov chain approach to investigate the probability that a tourist chooses a specific destination after he/she has been at another destination.

The first results show the presence of specific tourist paths inside the Island and the main movements is recorded in the south of the Island.