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Exploiting the accessibility concept for touristic mobility

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Abstract

Tourism is an important economic sector in many countries. Touristic mobility depends on the availability of touristic assets in different locations, as well as on the access to different activities (bathing, leisure, culture, etc.) at different places. The consumption of different activities, the frequency at which these are accessed, the (active) accessibility to activities of candidate locations for staying , the level and distribution in the region of touristic assets, all of these are variables of an analytical model able to represent in an aggregate way how the opportunities for staying are distributed across the candidate temporary accommodation in the region. The model is based on the random utility theory, in particular on the concept of inclusive value, used in order to compute appropriate accessibility indexes. The proposed model can be exploited by two different points of view. The main is the point of view of the suppliers of touristic services; these could allow the tourist to access a web-based platform to be queried for an aggregate map of the touristic accessibilities of different zones in a pre-selected large touristic region. The map can be different for different tourists with different needs, changing on the base of the desired activities as ranked in input by the tourist during the querying procedure. Another point of view is the one of the public authority responsible for the promotion of touristic activities and the support/planning of touristic facilities. The application of the model and the exploitation of the accessibility concept is presented in the paper with reference to a case of study, the Campania region in the south of Italy, characterised by a large variety of touristic assets and opportunities ranging from cultural heritage to bathing localities, from wine and food to naturalistic assets, et cetera.

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1. Introduction

Touristic mobility depends on the activities carried out for both transferring from their home residence to the touristic region and for moving within the region in order to consume different activities. In order to assist the travellers in choosing and booking for transfer, several and easily accessible DSS (decision support systems) are

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available, the great part of these on the net. These assist the tourist also in case of multi-modal transfers (such as air travel and booking for car hire), possibly choosing the hotel and booking for the stay. Moreover, these web platforms allows for asking for suggested activities and itineraries in the region. Finally, feedbacks can be given, often in a social-network context.

All of these tools assume that the touristic destination has been selected, where the touristic destination is here intended as the zone to elect as temporary residence in the touristic region after the home-based transfer and for the duration of the stay. Moreover, these tools are independent on the mobility the tourist will have on site once the transfer has taken place. The web-platform doesn't give to the tourist any suggestion about where to stay in the region based on the accessibility to different activities he/she wishes to carry out. Indeed, as obvious, the chances of moving on site in order to meet the expected diary of tourist activities can affect in a crucial way the choice of the actual destination within the touristic region, where such a choice is made among all zones of the chosen region. The development of a tools to compute and represent touristic accessibilities and to act as a (personal) DSS is the main topic of this paper.

The frame in which the proposed model is developed assumes that a tourist has decided to visit a given touristic region, possibly for a multi-day staying The impact of the (home-based) transfer trip to the touristic region is here neglected, even if this can be crucial in terms of completion between different regions (Socorro and Viecens, 2013), here not considered. The touristic region supplies different touristic activities (spread over different zones of the region) as well as different touristic facilities. The tourist is interested in consuming several of the activities and to choose one of the residential facilities as is temporary residence in the region. The choice is influenced by the supply of touristic facilities but also by the opportunities the chosen destination offers with respect to the attractive activities and their distribution within the region.

In order to deal with the previous framework, a key role will be played by the accessibility of the different zones of the region with respect to the different touristic activities. The accessibility is able to express effectively, even from the mathematical point of view, the relationship between the distribution of assets and the transportation supply present in a region. This allows to highlight those areas that exhibit a good range of services and activities associated with tourism, and at the same time offer good levels of transportation network services. The concept of accessibility is intuitively connected with the concept of mobility, proximity of destinations, and above all ease of movement. In general, accessibility is a concept with many meanings and connotations, from the purely physical to the geographic one, linked to the opportunities offered by an area. It can be said that accessibility is the advantage that an area has compared to all the others and combines the properties of the transport system with the characteristics of the territory. The indices of (active) accessibility are defined by two types of functions. Attraction, a function of activity that provides the quality and size of opportunities that can be reached from a given zone as an effect of the distribution of assets and facilities in the zone and in all other zones. Resistance, a function of impedance which considers instead the elements that combine to make difficult to move towards such assets and facilities. The indices of active accessibility are therefore created by the correct combination of attraction and resistance. The advantage of using these indices is that the opportunities and the activities accessed by a zone are weighted with respect to their ease of being reached in terms of travel time and transportation costs.

The framework here referred to is not based on the explicit representation of any activity diary, for which an activity-based model should be used (Bhat and Gossen, 2004); nor it is represented the interaction among different members of an household (Timmermans and Zhang, 2009). The accessibility itself and the way it will be extended and employed in this paper are largely based on the random utility theory and, in particular, on the expected value of the maximum conditional indirect utility, often referred to in the econometrics literature as the Inclusive Value Index (McFadden, 1978). The inclusive value index (IVI) will be largely employed in this paper. It is common to use the IVI in order to compute the active accessibility (Fesenmaier et al., 2006). For example, in a destination-choice model the inclusive value of a set of destinations (from a given origin) can serve as a measure of accessibility of that origin (Ben-Akiva and Lerman, 1985). The IVI concept is here applied