Tourism destination zoning in rural regions: A Consumer-based approach in Terres de l’Ebre

0. Abstract

This document puts into question the conventional way of delineating tourism destinations. It intends to show a model of spatial analysis, to find new interpretations of the reality, more balanced and more optimized, in comparison with other territorial views most of them based on administrative boundaries. This paper portrays a methodological exercise that aims to structure tourism geographies into new tourism areas on the basis of visitor’s consumption patterns, which would be better fitted to the needs of tourist demand.

Keywords: Patrones de consumo turísticos en las destinaciones – zonas rurales – fronteras de las destinaciones turísticas – clústeres turísticos – planificación territorial del turismo

1. Introduction

Tourism destination is regarded as a defined geographical area toward which people travel to visit certain attractions (Leiper 1995). Tourism destinations have historically been developed by administrations, who often cast an identity through its brand name and that is considered by visitors as a unique entity. Normally destinations, coincide with the administrative boundaries by the administration who handles. Moreover, most of the literature about tourism destination organisation and management is based on the product offer existent in the area and less cases on the tourist gaze. It is true that the tourist come to the area because of its resources, but the important thing is to know if the managers of the destinations can use strategies for its development prioritizing entrepreneurial, product, and market criteria (Blasco, Guia, Prats 2010).

Other study-cases have put into doubt the traditional tourism management. Some international destinations managed by different countries and regions have been analysed. The conclusions of those study-cases were that another type of management and tourism zoning could be beneficial for the destination. The border of the Pyrenees and the border between Mexico and the United States have been studied (Blasco, Guía & Prats, 2011 and 2012). The projects consisted in the categorization and thematic grouping in clusters of the tourism products and resources in boundary destinations, based on the time distance between these tourism resources.

It is well known that most of the tourism consumption patterns of space are affected by the spatial distribution of resources, which includes distance between attractions, their intensity and their specificity. The most common tourists movement within a destination is a hub-and-spoke or base-camp pattern (McKerker & Lau, 2008; Chancellor & Cole, 2008), particularly in rural regions where car-based movements are predominant (Connell & Page, 2008). Basing the study on the affirmation that tourism destinations are the most appropriate analysis unit in tourism research (Haywood, 1986), it could be added that the spatial distribution of the attractions of a destination can determine the potential of a destination (Chhetri & Arrowsmith, 2008); the same way that the type of attractions should indicate the market share that destination should invest for.

As the attractions are the basic elements on which tourism is developed (Lew, 1987: 554), this study is going to provide a way of developing and manage a tourism destination, based on the spatial distribution of the attractions and the tourists’ consumption pattern of these attractions, without taking into account the administrative boundaries.

Combining geographical information based on the distances between attractions and hierarchical cluster analysis techniques, it could be obtained a good method to identify effective consumption-based tourism zones. This study proposes a method to delineate
geographical tourism zones, containing attractions that are closest to each other in time
distance. Furthermore, locations that provide infrastructure for visitors are more likely to
attract a greater number of visitors than those without (Chhetri & Arrowsmith, 2008). For that
reason and in order to determinate the destination base-camp, we have also taken into account
the accommodation hubs as a simplification of tourism infrastructure. These zones and the
containing tourism attractions have been analyzed together, to see the spatial distributions and
the predominant category, in order to facilitate the detection of the market share.

2. Project objectives

The present study aims to follow the same investigation line of Blasco et al (2011 and 2012),
using the same methodology, but with a differential feature from the previous studies. This
study would like to analyse a destination which it is not divided by the international
boundaries but regional, province and local internal boundaries. Departing from an already
existent destination, it is going to be answered the following question: Is there an effective
strategy for tourism development in a destination from the tourist perspective and considering
its tourism resources, without being fragmented by administrative boundaries?

It is perceived that inside the local destinations we can discover the same modus operandi as
in the case of destinations with international boundaries, but in a smaller scale. In the present
case, it is intended to see if in a more local scale, there are also promotional inconsistencies
due to local and regional administrative boundaries, and if so, it should be applied other
criteria to manage tourism in a destination into a local and regional level, than just the
administrative one. The intention is to let bring out combinations between the tourism
resources that are closer to the tourists needs, regardless the existence of intra or inter
boundaries.

This method has been applied in a case-study to the Terres de l’Ebre region, as it is a border
region in a tourism developing process. This case study, in addition to test conceptual
frameworks, could signify an opportunity to target and redirect the tourism development,
based on the resulting zones from this case-study.

3. Methodology and research method

The empirical analysis to consider tourism zoning strategies is conducted in five stages: 1) the
identification of the attractions, their relevance and tourism category 2) identification of the
distances between the attractions themselves, 3) the application of the clustering method, 4)
the identification of the tourism accommodations hubs and 5) the classification of the tourism
areas outgoing from the cluster analysis according to their attractions and their
accommodation hubs.

What is the value of a tourism resource? To obtain a reliable database of the tourism products
and its value, the data has been extracted from secondary sources: markers. The basis of this
study has been the systematic collection of information from tourism guidebooks with the aim
of interpreting the hierarchical organization of the destination tourism resources. The
guidebooks are, despite the recent growth of digital information, a powerful tool of
prescribing in tourism: visitors follow very faithfully the instructions that recommend the
guidebooks. In addition, a tourism guidebook is a very efficient indicator of the tourist gaze of
a given territory and act as an interpreter of the social construction of a destination. Several
tourism guidebooks from different sources and different territorial scales have been examined
in order to extract the products and its relevance. Within the selected guides, a total number of
354 basic attractions have been identified. Tourism attractions have been categorized
according to different criteria. On one hand, according to Lue, et al. (1993), the attractions
have been classified into international attractiveness level (level 1), regional attractiveness
level (level 2) and local attractiveness level (level 3). It has been considered several items to
decide if each Tourism attraction should be classified in level 1, 2 or 3. First of all, it has been considered the own guide classification; such as stars, points or various types of recommendations (stars) and the territorial scope of the guide. But also it has been considered the existence or not of a picture of the attraction and its size, the length of the text dedicated to explain the attraction and the highlighted position of the attraction compared to the rest of the text. On the other hand, each attraction has been classified in regard of their nature, nature-based attractions, culture-based attractions, active tourism attractions, leisure/entertainment attractions, spa & wellness attractions, sun & beach attractions. Each category offered several options to specify the kind of attraction.

In order to create the clusters between the detected attractions on the previous stage, it should be known the distance between each of the tourism attractions. Another database has been created to know the time and kilometres distance between each tourism attraction, using some information obtained in the previous database. The resulting matrix, calculated using Google Maps, contained a total of 3,192 distances, which has been afterwards used to calculate the clusters depending on the proximity of the tourism attractions themselves.

The next step has been the cluster analysis, in order to determinate which of the territories counted on close enough distances between the tourism attractions, to be considered a zone from the perspective of the tourist consumption. As we are dealing with spatial data, considering the use of GIS techniques it was a necessary step; however, some important limitations have been found. The statistical analysis software SPSS, allows a wider range of clustering algorithms than the GIS-based software. It has been used the Ward algorithm hierarchical cluster analysis (Ward 1963), following Ferreira & Hitchcock’s (2009:1927) criteria who argued that for clusters of equal sizes, Ward’s method worked best. On the other hand, SPSS cannot show spatial data; what means that, even so, the results ought to be afterwards represented on maps to an easier interpretation. The previous time distance matrix was exported to SPSS program, to start the clustering process. They have been knit together 57 municipalities which contained 354 tourism attractions.

In order to find out the most important accommodation hubs of the clusters, the number of beds of all kind of lodgement types should be known. The data should be found in beds or accommodation capacity in number of persons, which would enable the comparison between accommodation types. To obtain data about accommodation it has been collected the information from all the towns mentioned by the guides, without considering the local or regional boundaries. It has been used the existing databases from the Generalitat de Catalunya, Generalitat Valenciana and Gobierno de Aragon. The containing data of these databases are the official ones and keep updated every year. These databases distinguish between the different accommodation types and between the different tourism brands and different municipalities. After collecting all the data, it have been extracted the accommodation hubs. By adding all the available bed in each municipality, it has been obtained the total of beds offered in each municipality. It has been considered a minimum of 100 beds by municipality to be an accommodation hub. Moreover, it has been considered three levels of accommodation hubs depending on the number of beds offered in each municipality: level 3 accommodation hubs from 100 beds to 300 beds, level 2 accommodation hub from 300 to 800 beds and level 1 accommodation hub with more than 800 beds.

First of all, the existence or not of attractions with a high relevance has been pointed out, which can determine the capacity of the resulting tourism cluster to attract international tourism. Secondly, the distribution of the attractions within the resulting clusters has been considered, to see if there were enough attractions in the cluster and analyze their distribution. Another thing taken into account was the nature of the attractions within the resulting tourism clusters that can indicate the local and regional tourism managers which should be the marketing strategy.
After the attractions analysis, the accommodation information of each resulting cluster has been analysed. Important information extracted from the attraction analysis has been crossed with the accommodations hubs of each cluster to analyse the possibilities of the base-camp or hub-and-spoke tourism mobility pattern. The number of available beds in each resulting cluster has been considered; but also the lodgement type and the spatial distribution of the beds. Using the time distance database, it has been checked if the accommodation hubs can give service to the resulting tourism zones. This is important in order to really conduct the resulting zones to become the tourism distribution of the future. At this stage, concentric circles from the level 1 and 2 accommodation hubs to the towns which contained attractions have been created. It have been differentiated two types of possible spokes from the accommodation hubs: the half-day trips are supposed as 30 minutes travel time or less, and the day trips of more than 30 minutes travel time and less than 80, taking into account that the maximal distance covered by a hub-and-spoke tourist is between 80 and 100 minutes (Smallwood, Lynnath & Moore, 2012; Chancellor and Cole, 2008).

4. Analysis and results

4.1- Resulting clusters from application of the Ward method

From the application of the hierarchical cluster analysis using the Ward method, a dendogram has been obtained offering a 5 cluster clear solution. Next step has been analyzing carefully the spatial distribution of the municipalities belonging to each cluster, to check the spatial distribution of the new tourism zones. Broadly speaking, there are some rural and mountainous areas in the Terres de l’Ebre region, which directly affect the distribution of the clusters, while there are some well connected points due to the C-12, N-340, AP-7 and N-420; what becomes evident the reason why in rural and nature based destinations is better to calculate the travel distance than the geodesic distance.

No cluster exceeds from the recommended 100 minutes or 105 km maximal distances covered by the rural and nature based tourist taking into account the base-camp movements. Just the cluster number 1 is close to the maximum time distance within two points of the cluster that a base-camper is likely to cover.

*Map 1: The cluster distribution and the including towns*

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<th>Cluster</th>
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*Source: ICC*
The cluster 1 corresponds with the actual Montsià county, but including the Delta and coastal area of the Baix Ebre county and the two border municipalities of Vinaròs and la Pobla de Benifassà from the València regional state. This extension corresponds mainly to the influence area of the N-340 and AP-7 routes.

The cluster 2 includes mainly the riverside and inland towns of el Baix Ebre county from Tortosa up. It also includes some of the left side towns of the Ebre River, which belong to la Ribera d’Ebre county.

The cluster 3 is a conjunction of towns from the Matarranya county belonging to Aragó regional state, and the Terra Alta county belonging to Catalunya regional state. The administrative boundary of these two regions is the Algars River. Historically these two regions have had an important social exchange due to the geography.

The cluster 4 joins most of the towns of the Ribera d’Ebre county. It also comprises some border towns situated in the Priorat county, which belong to the Camp de Tarragona region and the Costa Daurada tourism brand, and a town belonging to the Terra Alta county and a single town of the Terra Alta county situated quite far away from the other towns of the Terra Alta.

The cluster 5 is the most interesting cluster, because of the variables pattern and the number of borders. It includes just three towns; two of them are from outside of the Terres de l’Ebre region and the three of them from different counties.

4.2- Tourism attractions of each cluster

Zone 1 is a nature-based cluster depending on the Ebre delta Natural Park with an important playing role of the sun & beach attractions and the culture-based attractions. Most of the natural attractions were defined as natural areas, interesting landscapes, bird-watching and wildlife tourism and panoramic views. Secondly, zone 1 could be also defined as a culture-based tourism area, due the numerous culture-based attractions of level 2 and 3. Most of those culture-based attractions were defined as religious heritage, civil heritage, archaeological sites and caves paintings, Museums, expositions and projections, festivities and traditions, traditional and rural activities, charming towns and gastronomy. It has to be mentioned the importance of two protected and recognized cultural elements: the Cabra Feixet caves paintings (attractiveness level 1) and the Godall mountains caves paintings (attractiveness level 2), because, as it was noted by the guides, they are recognized as Human Word Heritage.

The sun & beach attractions are important around the coast, as it’s mainly a coastal cluster, but it could be considered as sun & beach attractions with a great importance of the natural characteristics of the beaches.

Zone 2 could be identified as a culture-based area of civil and religious heritage, where most of the attractions are situated in Tortosa city. Nature-based tourism attractions are complementary to the culture-based ones, mainly identified as viewpoints and interesting landscapes. The concentration of attractions in Tortosa and the existence of an international level attraction, indicates that this is the central attraction point of the zone 2 which determine the cluster as culture-based. Benifallet caves although is international attraction, do not offer a nearby concentration of nature-based attractions and active tourism attractions to determine the zone category.

Zone 3 could be distinguished by their natural-based together with active tourism attractions, and culture-based attractions. The two most important attractions hubs of this cluster are first of all Horta de Sant Joan - Arnes, offering more number of natural-based and active tourism attractions, and secondly Gandesa offering more historical and patrimonial culture-based attractions.

Zone 4 Zone 4 is a combination of nature and culture-based attractions. In general most of the attractions are situated mainly by the river and the C-12, which could be explained by geographical and communication reasons. It is important to note that there is not a large number of attractions taking into account the size of the cluster. The first level attractions and
many of the second level attractions are situated really close to zone 2, what could produce interactions between these two clusters. This interaction should be analysed better adding the accommodation hubs information.

Zone 5

Zone 5 is the most critical case. As the guides did not point to attractions with an international, national or regional attractiveness level; this could be a cluster with difficulties to develop long distance tourist flows. Focusing towards local tourism, the most predominant categories of this cluster are the nature, culture and active tourism.

5.3- Tourism accommodation hubs of each cluster

Zone 1 offers up to 14344 accommodation places, following the typical elongated accommodation characteristics of coastal destinations; but including also the Ebre delta, confirming the international attractiveness level of the Ebre delta and the great concentration of secondary attractions within this area.

The inexistence of level 2 accommodation hubs, together with the spatial distribution of the level 1 accommodation hubs, point to clearly to state that tourists in zone 1 lodge along the coast and the Ebre delta, and moves to other close points following the hub-and-spoke or base-camp pattern. The distribution of the accommodation makes possible the hub-and-spoke pattern along the cluster as the time distances from accommodation hubs to the tourism attractions) do not overcome the maximal 80-100 minutes recommended. Nevertheless, the existence of accommodation hubs close to the boundaries of the cluster could imply the existence of hub-and-spoke patterns that combine attractions from neighbouring clusters.

Taking into account the accommodation type, the camping offer is by far the most important type; followed by the hotels. It is interesting to note that most of the rural accommodation offered is situated in the Ebre delta area, which corresponds with one of the attractions with international attractiveness level categorized as a nature-rural area.

Zone 2: In zone 2 there is just one accommodation hub. Tortosa practically centralizes the entire accommodation offer with a total of 712 beds (most of them hotel beds) from a total of 901, what confirms the importance of the Tortosa’s attractions in this cluster. Although the maximal distances within the cluster do not overcome the recommended, the location of the accommodations hub on the corner of zone 2, is not the optimal for the hub-and-spoke pattern, what could signify that the real tourist pattern do not correspond totally with the zone 2. If tourists take as base-camp Tortosa the real pattern could signify visiting the elements of the zone 2, but taking advantage of certain nearby attractions of zone 1.

Zone 3 is the second in accommodation places with a total of 1269 available beds. The distribution of the accommodation beds in relation with the cluster dimensions and the distribution of its attractions are practically optimal. As the accommodations are well placed on the cluster, the real hub-and-spoke pattern of the tourists may agree with the spatial distribution of the cluster. The most offered accommodation type in zone 3 is the hotel, followed very close by the camping. It is also really important the number of rural accommodation, which is the typology better distributed along the cluster.

Zone 4 is the one with more problems to develop tourism from the offer point of view. This cluster is offering just 898 beds. It should be said that the attraction with international attractiveness level is situated in a corner of the cluster, close to zone 2 and zone 3; what could signify that from hubs of Arnes and Tortosa it’s possible to realize a day-trip to Miravet. As it has been said on the attractions analysis, many of the national-regional level attractions in cluster 4 are situated close to Miravet.

Zone 5 may have difficulties to attract international and national tourism, as the tourism attractions do not have international and national attractiveness level. However, there are a total of 1001 beds (mainly camping) offered in this small cluster.
6. Conclusions and implications

This document puts into question the conventional way of delineating tourism destinations. It intends to show a model of spatial analysis, to find new interpretations of the reality, more balanced and more optimized, in comparison with other territorial views most of them based on administrative boundaries. This study portrays a methodological exercise that aims to structure tourism geographies into new tourism zones on the basis of visitor’s consumption patterns on the spatial distribution, which would be better fitted to the needs of tourist
demand. This way, this study contributes to a greater understanding of destination zoning and its boundaries, which to date have received little research attention. The resulting zones are more uniform in time distance, and tend to agglutinate similar attractions due the geographic ties of its attractions.

However, as Terres de l’Ebre region is a tourism developing area, it has been detected big tourism potential difference between the resulting zones. The zone 1, the most populated area, is a zone with a great potential, due the concentration of many regional level attractions concentration along the coast and in the Ebre delta (which is also an international level attraction). It also counts on a lot of accommodations hubs and number of beds, which assure its viability. The zone 2, with a medium potential, is very focused on the cultural attractions and the accommodations of Tortosa, which is the most populated city and the capital of Terres de l’Ebre region. Zone 3, is a really rural and natural mountain area, which also have good tourism perspectives, due the number and distribution of the attractions in relation with the accommodation hubs. Zone 4 is going to have problems to generate tourism flows as do not offer a large number of beds; moreover the distribution of the most important attractions close neighbouring zones, offers the possibility that these attractions act as a spokes from other accommodation hubs mainly of zones 2 and 3. The zone 5, although offers a large number of accommodation, count on attractions valorised as local attractiveness level; therefore, would also have problems to generate tourism flows.

Moreover, while cluster 1, 3 and 5, offer a quite clear geographical solution, there are some doubts concerning cluster 2 and especially to cluster 4. The distribution of the attractions and the position of the accommodation hubs in relation to the attractions could offer other interpretations and thus different delineation of the tourism zones

To check that the resulting zones are the best solution, the resulting zones from the clustering could be compared with the tourists’ real patterns. The use of Global Positioning System (GPS) devices, here in combination with questionnaires and overview camera (Pettersson & Zillinger, 2011) and representing it using GIS with the method of Van der Knaap (1999), should be taken into account for further research which aims to test the real tourists’ patterns.

Another important point found to take into account in further analysis, is the territorial extension of this methodology to the neighbouring destinations, what also will check if the border towns included in this analysis are really better fitted in the identified zones, or another tourism zoning is possible expanding or reducing the resulting zones.

Further research could also focus on analysing possible multiple destinations patterns due drive tourism, with the help of a network analysis between all the resulting tourism zones (Shih, 2006).

For further research, it should be also considered some limitations found on the methodology. The tourism attractions identification of this study is based on the analysis of nine guides, which means that it have been used a limited number of sources. Furthermore in this case-study the same type of sources has been analyzed. Although the tourist guides are an accurate source to use for extracting the tourism attractions, for future analysis, it could be interesting the use of other sources types, like Tour Operator and Travel Agencies catalogues, tourism web pages, and local tourism office brochures; to see if deeper and a higher number of details could be obtained. It could be conclude this way: the more number and type of reliable sources we had, the more reliable would be the interpretation of the reality.

Another limitation found, is the impossibility of the use of the GIS-oriented software by its limitation on the cluster analysis. The statistical analysis software SPSS which cannot show spatial data, in contrast, allows a wider range of clustering algorithms than the GIS-based software; for instance the Ward algorithm.

Finally, a limitation was found on the focus of this study. The clustering process of this study, only takes into account, tourism pattern criteria based on the geographical distribution of the accommodation and the attractions. It doesn’t take into account socio-cultural premises and
the linkages between attractions themselves and their images when defining the new tourism destination, what could lead on functional destination without identity. Saraniemi & Kylanén (2011) introduce an alternative view to destinations grounded in cultural geography and the cultural approach to marketing that forms their cultural critique.

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