



Investigaciones Regionales - Journal of Regional Research

ISSN: 1695-7253

ISSN: 2340-2717

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Asociación Española de Ciencia Regional  
España

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Investigaciones Regionales - Journal of Regional Research, no. 47, 2020, pp. 161-178  
Asociación Española de Ciencia Regional  
España

DOI: <https://doi.org/10.38191/iirr-jorr.20.015>

Available in: <https://www.redalyc.org/articulo.oa?id=28965214009>

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ISSN: 1695-7253 e-ISSN: 2340-2717  
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## Analysis and comparison of tourism competitiveness in Spanish coastal areas

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Asociación Española de Ciencia Regional, España

Available on the website: <https://investigacionesregionales.org/numeros-y-articulos/consulta-de-articulos>

### Additional information:

To cite this article: Iamkovaia, M., Arcila, M., Martins, F., Izquierdo, A., & Vallejo, I. (2020). Analysis and comparison of tourism competitiveness in Spanish coastal areas. *Investigaciones Regionales - Journal of Regional Research*, 2020/2(47), 161-178. <https://doi.org/10.38191/iirr-jorr.20.015>

## Analysis and comparison of tourism competitiveness in Spanish coastal areas

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Received: 14 June 2019

Accepted: 10 February 2020

### ABSTRACT:

Spain is one of the four world leaders in coastal tourism. To keep the top position in such a highly competitive market, coastal managers in Spain need to constantly monitor the social, ecological, and economic components of 'sun and sea' tourism. Thus, the main goals of the present study are to analyse the most visited Spanish coastal destinations and to evaluate their competitiveness relative to each other. Indicator analysis was applied to evaluate seaside destinations pursuant to socio-economic and physico-geographical parameters. Results show that the most competitive destination is the Canary Islands, followed by Catalonia, the Balearic Islands, Valencia, Andalusia and Murcia.

**KEYWORDS:** coastal tourism; competitiveness; comparative analysis; seaside destinations.

**JEL CLASSIFICATION:** L83; Z32.

## Análisis comparativo de la competitividad turística en las zonas costeras españolas

### RESUMEN:

España está situada entre los cuatro líderes mundiales en turismo costero. Para mantener esta posición en un mercado altamente competitivo, las instituciones públicas con competencia en las zonas costeras necesitan monitorear constantemente los componentes ambientales, económicos y sociales del turismo de "sol y playa". Por lo tanto, el principal objetivo de este estudio es evaluar la competitividad de los destinos costeros españoles más visitados. Para ello se aplicarán técnicas de indicadores utilizando, principalmente, parámetros socio-económicos y físico-geográficos. De una forma global los primeros resultados muestran que los destino más competitivos, aplicando estas técnicas, son, en este orden jerárquico, Islas Canarias, Cataluña, Baleares, Valencia, Andalucía y Murcia.

**PALABRAS CLAVE:** turismo costero; competitividad; análisis comparativo; destinos marítimos.

**CLASIFICACIÓN JEL:** L83; Z32.

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## 1. INTRODUCTION

Spain is one of the leading countries in the tourism industry. Tourism is vital to Spain because the total contribution of Travel & Tourism industry to Gross Domestic Product (GDP) was 158.9bn Euro in 2016. The forecast shows a 15.0% rise of GDP by 2027. In addition, the Travel & Tourism sector provided 2,652,500 jobs, which represents 14.5% of national recruitment. The referred number is expected to rise by 0.9% to 2,981,000 jobs by 2027 (World Travel & Tourism Council, 2017). Moreover, it is the third most visited country in the world, with approximately 60.6 million visitors per year (Crotti & Misrahi, 2017).

Spanish tourism is mainly based on leisure and holiday activity called 'sun and sea' product. In 2016, the majority of tourists both domestic (63.7%) and international (87.3%) chose beach destinations to spend their vacations (Plumed Lasarte et al., 2018). Thus, the highest tourist focus is among the coastal zones of Spain.

According to historical statistics and forecasts of the report 'Travel & Tourism, Economic impact 2017', Spain's tourist inflow will increase up to 111 million people by 2027 (World Travel & Tourism Council, 2017). Annually increasing human pressures on the fragile marine and coastal ecosystems compromise favourable future development for both coastal tourism and littoral settlements in the long term.

The current severe threat for the Spanish coast is climate change impact besides enhancing anthropogenic intrusion. Adverse consequences of climate change impacts on coastal zones can be implemented by changing tourism location geographically, inundation of low-lying coasts, temperature and sea-level rise (Hein et al., 2009). Such cardinal changes may totally modify 'sun and sea' tourism activities in Spain. According to the forecast of Hein et al. (2009) made by Tourism Climate Index (TCI) over the next 50 years the number of foreign visitors in Spain will decrease between 5% and 14% due to air temperature increase. Moreover, the projection of TCI demonstrated that inbound tourism to north-western Spain might increase during summer seasons, meanwhile, the total number of international travellers to the southern part might sharply decline. Furthermore, the Spanish coast is highly susceptible to flooding and erosion. The European Commission (2009) estimated that the coastlines of Andalusia, Catalonia, and Valencia are mostly affected by erosion.

'Sun and sea' tourism is one of the coastal stakeholders, which creates significant anthropogenic impacts on seaside zones. Undoubtedly, a survey is needed in the most popular beach destinations related to mitigation actions to climate change impact, coastal erosion, and maintenance of 'sun and sea' product as one of the key economic drivers in Spain. Consequently, here occurs the first research question such as: which coastal regions are more popular and more competitive? The coastal resorts are not equally developed along the Spanish coast. They are divided into more visited and less popular seaside destinations. As a rule, the most visited beach destinations experience stronger anthropogenic pressures, especially during summer seasons. Here occurs the second exploratory question: which management tools have to be applied in the most competitive beach destinations to prevent environmental depletion, provide well-being of local citizens and increase economic benefits?

The aforementioned environmental issues, social and economic significance of seaside tourism require continuous monitoring of socio-economic and ecological conditions of beach destinations to assure a prosperous future of 'sun and sea' product in Spain. The permanent monitoring will allow destination managers to timely and properly reorient policy actions, prevent environmental decline and to meet dynamic changes of the high-level tourism standards in the worldwide scene. Thus, the main objective of this scientific study is to analyse the most demanded coastal destinations of Spain, to compare their competitiveness in relation to each other and find benchmarking sites in studied regions.

### 1.1. STUDY AREA

Pursuant to statistical data, the most visited Spanish coastal regions and their provinces are engaged in the present investigation (Plumed Lasarte et al., 2018). Thus, selected areas include: Andalusia (Huelva, Cadiz, Malaga, Granada, and Almeria provinces); Murcia; Valencia (Alicante, Valencia, and Castellon provinces); Catalonia (Tarragona, Barcelona, and Girona provinces); the Canary Islands (Las Palmas and Santa Cruz de Tenerife provinces); the Balearic Islands (Mallorca, Menorca, and Ibiza-Formentera Islands) (Figure 1).

The largest touristic centres along the Spanish coasts are located in Barcelona and Tarragona provinces of Catalonia region (Costa Dorada); Alicante province of Valencia region (Costa Blanca); Murcia region (Costa Cálida); Malaga province of Andalusia region (Costa del Sol); the Canary and Balearic Islands (Barragán, 2004).

FIGURE 1.  
The map with the signed and highlighted studied seaside areas



Source: Author's elaboration.

Geographical characteristics of the seaside areas of study are shown in table 1. The largest coastal region is Andalusia with the longest coastline (not including the Islands) followed by Catalonia, Valencia and Murcia. Whereas, Catalonia has the highest tourists' density per km<sup>2</sup> of the coast, and Murcia has the lowest one.

TABLE 1.  
Description of the regions under study

Coastal regions of Spain	The surface area (km <sup>2</sup> )	Coastline (km)	Tourists per km of the coast
Andalusia	87,268	917	8,344
Catalonia	31,930	597	19,696
Valencia	23,305	474	10,393
Murcia	11,369	274	2,939
Canary Islands	7,273	1,545	6,436
Balearic Islands	5,014	1,342	7,072
Spain	504,781	7,883	9,147

Source: Adapted from Barragán, 2004.

## 2. LITERATURE BACKGROUND

### 2.1. THE CONCEPT OF COMPETITIVENESS

The concept of competitiveness takes central attention in investigations of different industries due to economic benefits of the most competitive businesses. Specialists in the field working on the definition and description of the concept of competitiveness, however, there is still no unique definition or approach to estimate it (Medina-Muñoz et al., 2013). Ritchie and Crouch (1999) argued that the problem in the definition of competitiveness arises because this concept is comparative (competitive to what?) and multidimensional (includes many different parameters).

Tourism competitiveness is a powerful economic source for many countries and regions (Kayar & Kozak, 2010). A specific task of tourism areas is to consistently attract a tourist inflow, whilst coping with capacity problems, especially in fragile coastal zones. The global tourism market demonstrates that the success of a tourist destination is defined by its competitiveness (Enright & Newton, 2004). Meanwhile, tourism destinations can be defined as a product of local goods, services and experiences for tourists (Perna et al., 2018).

Competitiveness of tourist destinations is intensified due to the intention to increase tourist inflow annually. Due to these circumstances, analysis of competitiveness level among competitors is in high demand to see which tourist destination better performing tourism activities (Croes & Kubickova, 2013). In 2003, Ritchie and Crouch gave a definition of destination competitiveness as the “ability to increase tourism expenditure, to increasingly attract visitors while providing them with satisfying, memorable experiences, and to do so in a profitable way, while enhancing the well-being of destination residents and preserving the natural capital of the destination for future generations”.

Improving the competitiveness of tourist destinations increases the competitive position of a country (Krstić et al., 2014). Consequently, it is advantageous to enhance the competitive position of tourist destinations. Ritchie and Crouch (2003) highlighted that ‘nature of competitiveness and sustainability is in constant evolution’. Furthermore, ‘there is an urgent need for sustainable competitiveness. The consideration of the internal public in tourism destination development and marketing leads to the preservation of the natural environment and the cultural identity of the destination’ (Vodeb, 2012). Development of sustainable competitiveness is especially important in coastal destinations due to increasing ecological issues, erosion, climate change impact, and anthropogenic intrusion (Pintassilgo et al., 2016).

To augment competitive positions, experts in the field are estimating what kind of experience tourists search for and which factors are the most important for tourists worldwide. Enright and Newton (2004) declared that the most competitive destinations identify modern world trends and adopt them. Other authors stated that the most important in successful tourism competitiveness is proper management, creativity, and maintenance of competitive positions (Bornhorst et al., 2010). At the same time, it is crucial to provide high quality and diverse services because tourists have substantial experience and implicitly make comparisons with visited tourism places (Kozak & Rimmington, 1999).

The most recent researchers discussed that the competition between tourist destinations can be enhanced via technology-based mediators such as the Internet, mobile phones, digital cameras, or the creation of smart cities (Tussyadiah & Fesenmaier, 2009; Boes et al., 2016). Modern marketing of tourist destinations is widely formed by videos, images, podcasts, blogs and other communication technologies. Thus, the globalized media representation of tourism resorts allows people to obtain immediate, mental, and emotional experiences and stimulate them to choose a vacation place by received virtual images (Tussyadiah & Fesenmaier, 2009). Meanwhile, smart cities or smart destinations provide improved tourists experience and life quality of local communities via an adaption of technological innovations, and coherent work of all tourism stakeholders (Boes et al., 2016).

Competitiveness is challenging for management in the tourism industry and strongly depends on many factors and various stakeholders involved in organization of tourism services (Ayikoru, 2015). Consequently, measuring tourism destination competitiveness is a complex task, which requires a model adaptation accordingly to specific targets of each investigation (Chien-Minn et al., 2016). In the last two decades, scientists in the field designed various interpretations, models, and methodologies to evaluate tourist destination competitiveness (e.g. Kozak & Rimmington, 1999; Crouch & Ritchie, 1999; Dwyer & Kim, 2003; Enright & Newton, 2004; Strachkova, 2005; Crouch, 2011; Dupeyras & MacCallum, 2013; Croes & Kubickova, 2013).

## 2.2. METHODS TO MEASURE COMPETITIVENESS

Initially, models to measure destination competitiveness were worked out by Porter (1990). Then, the most comprehensive model of destination competitiveness had been developed by Crouch and Ritchie (1999). These authors built up a model that includes four main factors such as fundamental sources to build a successful tourism industry, core resources and attractions, destination management, and qualifying factors. In 2010, Ritchie and Crouch added the fifth factor: destination administration, planning, and improvement. The referred authors made the main accent in their model to provide a high level of living for local residents via the development of tourism destination competitiveness. Dwyer and Kim (2003) worked out a model of competitiveness based on the comparative advantage or price competitiveness, strategy and management perspective, destination resources, historical and socio-cultural aspects.

Three main models of tourism competitiveness assessment can be underlined (Crouch, 2011). The first group of models is devoted to the analysis of competitiveness level via destination comparison. The second group is dedicated to the estimation of specific targets of destination competitiveness or management system. The third group units different theories and general models to adapt them to special targets of destination analysis. The third type of model is used the most frequently in the modern investigations based on the fundamental works of Crouch and Ritchie (1999), Dwyer and Kim (2003), Strachkova (2005), and Sánchez and López (2015).

Generally, methods to assess destination competitiveness are divided into model building or selection of adequate indicator set, corresponding critique, and empirical examinations (Zhou et al., 2015). Consequently, it is essential to encounter an appropriate set of indicators and adapt to special targets of research. In 2015 Sánchez and López designed a model of competitiveness for the Spanish Mediterranean coast based on the core indicators such as tourist inflow, tourist satisfaction, and average tourist expenditures. Accordingly, the highest values of indicators are supposed to provide local people with employment and economic benefits, and to increase the prosperity of a country. Meanwhile, Dupeyras and MacCallum (2013) defined another set of core indicators to measure tourism destination competitiveness, which are a degree of climate comfortability, labour potential, natural resources and biodiversity, cultural resources, infrastructure convenience, number of tourist inflow, tourism direct impact into GDP, ecological condition, and visitor satisfaction.

It is important to mention that the approaches of competitiveness measurements are subdivided into qualitative and quantitative or mixed methods (Dwyer & Kim, 2003; Tseng & Chen, 2013). Evaluation complexity of tourist destinations' competitiveness lies in comparing different parameters (geographic, climatic, environmental, political, social and economic) in one unique way.

## 2.3. BENCHMARKING METHOD

Kozak (2004) stated that benchmarking is a method driving towards stronger destination competitiveness. The Webster dictionary determines benchmark as 'a standard by which something can be measured or judged' (Camp, 1989). Meanwhile, Camp (1989) stated that benchmarking is 'the continuous process of measuring products, services, and practices against the toughest competitors or those

companies recognized as industry leaders'. Watson (1993) outlined three main principles of benchmarking, which are maintaining quality, customer satisfaction, and permanent betterment. Generally, benchmarking is searching for the best practices and adopting them to reach the highest quality of products or services.

The concepts of benchmarking and competitiveness have many common features. 'The concept of destination benchmarking aims to provide international tourist destinations with an opportunity to increase their economic prosperity, protect environmental resources, preserve cultural values and increase the local residents' quality of life on the supply side' (Kozak, 2004). The success in benchmarking provides higher competitiveness due to increasing destination quality. Benchmarking can be used on micro and macro levels. The micro-level is related to benchmarking of an organization and macro-level corresponds to destination benchmarking.

The benchmarking theory is constructed on comparing performance, determining disadvantages and management process changes (Watson, 1993). Literature review of benchmarking methodologies demonstrates that the majority of approaches use performance gap analysis (e.g. Camp, 1989; Watson, 1993; Karlöf & Östblom, 1994). Initially, researchers identify performance gaps with respect to production and consumption, and then managers develop strategies to cover the identified gaps.

Destination benchmarking includes three main types of models, they are internal, external, and generic (Kozak, 2004):

- Internal benchmarking is aimed at analysing the work performance of different departments of the same organization.
- External (comparative) benchmarking is the most frequently used methodology to identify performance gaps of different tourist destinations on national or international levels to find out the best practices (Young & Ambrose, 1999). 'General performance of tourist destinations or their specific areas could be benchmarked against the same or other countries' (Kozak, 2004).
- Generic (or functional) benchmarking is applied to estimate and advance a destination performance engaging national or international standards of best practices, eco-standards, and quality.

In frames of the present study the external benchmarking model is employed to identify competitive positions of mature Spanish coastal tourism destinations relative to each other on the national level.

### 3. METHODOLOGY

Spain took the top position in the Travel & Tourism Competitiveness Index in the last four years from 2015 till 2019 in the regional (Southern and Western Europe) and global ranking. Due to the leading position in the international tourism market, Spain can be considered as a benchmarking country to perform successful tourism development (World Travel & Tourism Council, 2017). Thus, the present study measures the competitiveness of the most popular Spanish beach destinations by core indicators and benchmarks their performance relative to each other. The analysis performed by comparison of physico-geographic and socio-economic indicators of the studied areas (Strachkova, 2005; Dupeyras & MacCallum, 2013; Sánchez & López, 2015). Since physico-geographic and socio-economic indicators contain different formats of information, it is appropriate to evaluate each group of indicators by one of the following methods: method of scoring, method of primary data, and method of expert judgment (Strachkova, 2005).

*The method of scoring* was implemented to assess the level of climate comfort. The parameter measurements of climate conditions and their scoring values are shown in table 2 (Strachkova, 2005). The climate comfortability of coastal regions was evaluated by an averaging data of relevant meteorological parameters throughout the year and the corresponding scores to this data, which are presented in table 2.



Score 10 was assigned to the studied areas, where the climate conditions are very comfortable and vice versa, score 1 mirrors uncomfortable weather conditions.

**TABLE 2.**  
**Scoring values of meteorological parameters**

Air temperature		Water temperature		Relative air humidity	
°C	score	°C	score	%	score
12-14	1	8-10	1	40-45	7
14-16	2	10.1-12	2	45-50	8
16.1-18	4	12.1-14	3	50-55	9
18.1-20	5	14.1-16	4	55-60	10
20.1-22	8	16.1-18	5	60-65	6
22.1-24	10	18.1-20	6	65-70	5
24.1-26	9	20.1-22	7	70-75	4
26.1-28	7	22.1-24	8	75-80	3
28.1-30	6	24.1-26	9	80-85	2
≥ 30,1	3	≥ 26,1	10	85-90	1

**Source:** Adapted from Strachkova, 2005.

*The method of primary data* was applied to socio-economic and physico-geographic parameters. This method assumes creating an individual scale of intervals for each parameter. To construct the individual scale, maximum ( $\Phi_{\max}$ ) and minimum ( $\Phi_{\min}$ ) values were chosen among the obtained data for all observed provinces. Here,  $\Phi_{\min}$  should be subtracted from  $\Phi_{\max}$  and divided by 10 yielding a 10-point score scale.

*The method of expert judgment* was employed for parameters, which were not measurable according to the approaches described above. The expert judgment evaluations are based on a structured process. Primarily, data is collected for the studied areas. Then, several experts consider the obtained information, make their conclusions, and give scores for parameters according to their own scientific experience and knowledge (Crouch, 2008; 2011).

### 3.1. ASSESSMENT OF THE PARAMETERS

Initially, nine indicators have been selected to reach the study's purpose. These indicators cover key aspects of competitiveness of tourism destinations on national level: *Transport accessibility*, *Degree of climate comfortability*, *Recreational potential*, *Infrastructure convenience*, *Labour resource potential*, *Tourist inflow*, *Average daily cost of tourist services*, *Economic data*, and *Ecological condition* (Table 3) (Dupeyras & MacCallum, 2013). Each indicator has been broken down into a number of parameters (the total number is 22). The aforementioned parameters supplement the indicators in detail and allow a comprehensive assessment of social, economic and ecological spheres of the seaside areas of study (Table 3).

**TABLE 3.**  
**Distribution of 22 parameters into 9 indicators**

Indicators	Parameters
1. <i>Transport accessibility</i>	'Transport accessibility'
2. <i>Degree of climate comfortability</i>	'Yearly thermal regime', 'Yearly solar regime' 'Sea temperature', 'Air humidity'
3. <i>Recreational potential</i>	'Curative centres and mineral resources', 'Protected territories and landscape diversity', 'Beaches description', 'Number of beaches with blue flag status'
4. <i>Infrastructure convenience</i>	'Health care', 'Catering and gastronomic tourism', 'Accommodation facilities', 'Travel agencies', 'Infrastructure convenience'
5. <i>Labour potential</i>	'Labour potential', 'Educational institutions in tourism field'
6. <i>Tourist inflow</i>	'Inbound tourism', 'Tourists per km <sup>2</sup> of province'
7. <i>Average daily cost of tourist services</i>	'Average daily expenditure of tourist for services'
8. <i>Economic data</i>	'Economic contribution of each province in formation GRP', 'Main types of economic activities of provinces'
9. <i>Ecological condition</i>	'Ecological condition'

The aforementioned twenty two parameters were selected due to their measurability, analytical soundness, comparability, availability of reliable statistic data and relevance to analysis of touristic destinations on a national level (Strachkova, 2005; Dupeyras & MacCallum, 2013). Equally significant criteria was applied to choose the parameters to complete the survey, which were split out into two conditionally divided groups of indicators:

- (i) The first group of indicators is devoted to an analysis of ecological, economic and tourism infrastructure facilities of the observed areas. The analysis of social, economic, and ecological parameters forms the main base and attraction to the 'sun and sea' product in the studied areas (Dupeyras & MacCallum, 2013). Consequently, this group includes the following indicators: *Recreational potential*, *Infrastructure convenience*, *Labour potential*, *Economic data* and *Ecological condition* (Table 3);
- (ii) The second group of indicators is supporting the competitive analysis of the studied areas via analytical surveys of the tourists' preferences for choosing their vacation spots. The tourist destination choice is a complex behavioural process, which depends on internal and external factors (Um & Crompton, 1990). Rutty and Scott (2016) justified the importance of the weather and climate comfort as one of the main factors impacting on the tourists' decision to select their areas of vacation. The second important factor is transport accessibility, which determines the time period of travel and comfortability to reach a holiday place (Crouch, 2011). The third decisive factor is the cost of recreational services. Travel budget plays one of the key roles in choosing resort destination (Dwyer et al., 2002). Thus, the second group includes the following indicators: *Degree of climate comfortability*, *Transport accessibility*, and *Average daily cost of tourists' services* (Table 3) (Medeiros Barbosa et al., 2010).

### 3.2. CALCULATION OF PARAMETERS

Every parameter was calculated with one of the above considered methods. A method to calculate each parameter was selected according to logic and possibility to estimate it by the chosen approach (Table 4). Estimation of the parameters was accomplished by a scale from 1 to 10, whereas score 10 mirrors the best tourist circumstances and 1 is the worst (Strachkova, 2005).

**TABLE 4.**  
**Description of the parameters' estimations**

Methodology	Name of parameters	Explanation of calculation
The method of scoring	'Sea temperature'	Evaluation of the parameter 'Sea temperature' was made according to table 2 and average data of sea temperature during summer periods in the studied provinces.
The method of primary data	'Yearly solar regime', 'Curative centres and mineral resources', 'Protected territories and landscape diversity', 'Beaches description', 'Number of beaches with blue flag status', 'Health care', 'Catering and gastronomic tourism', 'Accommodation facilities', 'Travel agencies', 'Inbound tourism', 'Tourists per km <sup>2</sup> in a province' 'Average daily expenditure of tourist for services', 'Economic contribution of each province in formation GRP', 'Main types of economic activities of provinces'	This group of parameters was evaluated pursuant to the fact that the seaside resorts with the highest number of restaurants, tourists' inflows per year, hotels, beaches, and relevant tourism facilities are more competitive and have higher tourism potential. Consequently, the coastal provinces with the highest number of the tourism capacity were evaluated with score 10 and vice versa.
The method of expert judgment	(I) 'Infrastructure convenience', (II) 'Educational institutions in tourism field'	*This group of parameters were calculated by the methods of expert judgement.
The mixed methods	1. 'Yearly thermal regime and Air humidity', 2. 'Transport accessibility', 3. 'Ecological condition'	**Initial evaluations of these parameters were calculated by the methodologies described above. However, they provided ambiguous results. Consequently, the mixed methods were applied to obtain precise outcomes.

\*Description of the parameters' calculations by the method of expert judgment:

- I. Supporting infrastructure such as transportation system, government services, health care arrangement, reliable water supply, financial system and likewise elements are an essential base to provide economic and social needs for both the local population and tourists. The indicator 'Infrastructure convenience' was assessed by score 10 for all analysed areas as the Spanish tourist destinations. Recent researchers in the field discussed the problem of overdevelopment of Spanish coastal regions and a high need for adopting sustainable practices to control environmental depletion (Piñeira Mantiñán & Santos Solla, 2010; Crouch, 2011).
- II. The parameter 'Educational institutions in tourism field' was assessed by score 10 to all observed areas. Since each province has its own universities with curriculum and degrees in the tourism field. Universities of the studied seaside zones provide an opportunity to obtain an education for the locals without moving to nearby provinces. As a result, such a system provides each coastal destination with high-level specialists locally (Crouch, 2011; Delgado, 2014).

**\*\*Explanations of the parameters' evaluations calculated by the mixed methods:**

1. Parameters 'Yearly thermal regime' and 'Air humidity' were evaluated by the method of primary data on the basis of monthly/annual absolute datum of air temperature and air humidity in the observed coastal areas. Consequently, the summarized monthly/annual absolute data of air temperature and air humidity were calculated, taking into account that the ideal mean monthly air temperature is +23.5 °C and air humidity is 55% (Matzarakis, 2006).
2. Parameter 'Transport accessibility' was evaluated from two points of view, where from one side it is a presence of airports, railway stations, seaports and their passenger's turnover per year and from another side, it is potential time spent to reach a destination. The stated data reflects the core information about transport availability of the studied areas (Crouch, 2011).

Air transport accessibility in the analysed destinations was calculated by the ratio of the total annual air passenger turnover of a province to the sum of local population plus the number of tourists per year in a province. The scores for each province were assigned on the basis of the obtained ratio and the method of primary data. The higher ratio of air passenger flows relative to the local population and tourist inflow means the higher the ratio the better the air transport accessibility of a province.

Sea transport accessibility in the observed regions was assessed by annual passenger turnover in seaports of the coastal provinces. Higher passenger traffic in a seaport provides greater opportunity for a direct journey and consequently cuts travel time. Subsequently, provinces with higher annual passenger turnovers were given score 10; those provinces which do not have a seaport were given significantly lower scores due to the necessity of using a seaport or another mode of transport in nearby areas.

Railway and road links to the seaside zones were evaluated by Accessibility Problem Index (API) from both national and European perspectives (ECORYS Nederland BV., 2006). The provinces with better connections to other parts of Spain and Europe were assigned score 10 and vice versa.

3. To get a comprehensive picture of environmental conditions in the analysed destinations, the following reports were considered: "Quality of bathing waters in Spain 2016", "Black flags 2016", and "The quality of water in Spain. Study by basins 2005" (Ministerio de Sanidad, Servicios Sociales e Igualdad, 2017; Banderas Negras, 2016; Greenpeace, 2005).

Environmental assessment of the studied regions was made based on three above listed reports with application of the Beach Quality Index (BQI) method (Semeoshenkova et al., 2016). The BQI is a single summarized index, which contains the Environmental Quality (EQ) component formed by three indicators ('Quality of bathing waters', 'State of inland water bodies', and 'Cleanness of beaches'). The indicators were assessed on 1-10 scale, whereas, the estimations approaching score 10 represented excellent environmental quality and the evaluations close to 1 reflected the poor ecological conditions (Strachkova, 2005).

## 4. RESULTS

Primarily, all regions and their provinces were estimated by 22 parameters. Secondly, arithmetic averages were calculated for each coastal region among its provinces. Finally, the average scores of the parameters were computed according to their indicators division for each coastal region (Table 3). The rating of the coastal regions as competitors is shown in table 5, where the indicators with scores equal to 10 reflect the highest coastal tourism competitiveness and the ideal conditions of 'sun and sea' tourism. The indicators with lower scores approaching 1 reflects existing problems and the lowest competitiveness.

**TABLE 5.**  
**Average scores of indicators for the six studied coastal regions**

Indicator	Andalusia	Murcia	Valencia	Catalonia	Balearic Islands	Canary Islands
1. Transport accessibility	3.1	3.3	3.6	5.6	2.2	2.7
2. Degree of climate comfortability	7	5.8	7.4	4.6	6.2	7.5
3. Recreational potential	4	4	3.6	5.6	3.5	7.4
4. Infrastructure convenience	4.3	4.2	4.3	5.7	4.6	6.8
5. Labour potential	6.9	7	7.2	7.3	6.2	6.8
6. Tourist inflow	1.4	1.5	2.8	4.8	4.7	3.5
7. Average daily cost of tourist services	7	7	6	3.3	2.7	1
8. Economic data	2.6	2.5	2.5	3.7	4.7	4.3
9. Ecological condition	6.9	7.3	7.3	7.4	8	8.3
<b>Final average scores</b>	<b>4.8</b>	<b>4.7</b>	<b>5</b>	<b>5.3</b>	<b>4.75</b>	<b>5.4</b>

According to the final average scores of the indicators in table 5, the most competitive coastal destination is the Canary Islands, followed by Catalonia, Valencia, Andalusia, the Balearic Islands, and Murcia.

Catalonia and Valencia's regions got the highest scores of the indicator 'Transport Accessibility' because they have the most favourable geographical position and the most convenient transport accessibility by air, land, and sea. Consequently, these regions can be considered as benchmarking sites. Andalusia region has a lower score due to its lowest assessment of railway and road accessibility in comparison to Catalonia, Valencia, and Murcia regions. The Islands have the smallest scores due to remote locations from mainland Spain and the impossibility to reach them by car or train.

The most advantageous level of climate comfort around the year were the Canary Islands, acceptable as a benchmarking spot. The Canary Islands are followed by Valencia, Andalusia, The Balearic Islands, and Murcia. Catalonia has the smallest score due to the coldest weather conditions relative to its competitors.

The Canary Islands and Catalonia have the highest recreational potential and can serve as benchmarking regions. The mentioned touristic areas have the highest number of recreational capacity to make various tourism activities around the year, richer cultural and natural heritage, more beaches with blue flag status, and a prevailing number of curative centres compared to the other studied regions.

Touristic infrastructure is the most convenient in the Canary Islands and Catalonia. These destinations have the highest number of accommodation facilities, restaurants, hospitals, and travel agencies in comparison to the other seaside destinations and can serve as benchmarks.

The indicator 'Labour resource' of Catalonia takes the first position, followed by Valencia, Murcia, Andalusia, the Canaries, and the Balearics. Catalonia has the highest population employed in the tourism sector and the highest number of educational institutions connected with tourism education. Thus, Catalonia is a benchmark to develop labour potential in the tourism sector.

The highest tourist inflow per year is in Catalonia, followed by the Balearic Islands, the Canary Islands, Valencia, Murcia, and Andalusia. The indicator 'Tourist inflow' contains data about tourists per km<sup>2</sup> in the studied seaside destinations. The highest tourist pressure per km<sup>2</sup> is in the Islands, where the maximum value was found in Ibiza-Formentera, 3,531.9 tourists per km<sup>2</sup>. The minimum number of tourists per km<sup>2</sup> is in Huelva and Almeria provinces, which is 148.86 tourists per km<sup>2</sup>.

The cheapest destinations are Andalusia and Murcia, as a result, they have the highest scores. Meanwhile, the highest daily expenses for tourist services are in the Canary Islands, the Balearic Islands, and Catalonia. Here, we can conclude that authorities and commercial organizations with the highest profit are located in the Islands and Catalonia region.

The Balearic Islands and the Canary Islands have the highest scores of the indicator 'Economic data', because the economy of these Islands strongly depends on the service sector (commerce, transportation, accommodation, catering, tourism) in comparison to the other studied destinations. The monetary contribution to the GRP is the highest in Catalonia, while the Balearics have the lowest.

The cleanest environment is the Canary Islands followed by the Balearic Islands, Catalonia, Valencia, and Murcia. Andalusia got the lowest scores due to the highest number of contaminated beaches with illegal constructions. Murcia has the worst state of inland waters. The worst quality of bathing water is in the Balearic Islands due to the highest number of samples exceeding the pollution threshold.

The Canary Islands take the leading position among the studied regions and can serve as benchmarking sites by almost all indicators. This coastal destination has the most favourable climate conditions, recreational potential, convenient infrastructure, economic benefits and very important these Islands maintained the best environmental conditions beside its popularity among tourists.

## 5. DISCUSSION

Modern researches debate that tourism is dynamic and multivariate discipline, which requires the permanent searching of new methodologies and tools to obtain advanced knowledge and frameworks to analyse and enrich it (Song et al., 2012). Main researches in tourism stated that modern methodologies have to be flexible and intersectorial to evaluate a market structure, tourism demand, economic impact, tourism policies and destination competitiveness (Song et al., 2012). The present study uses indicator analysis to evaluate the impact of tourism on social, environmental and economic areas of the Spanish coastal destinations and compare their competitiveness relative to each other.

Destination competitiveness is an actual topic in tourism research, which is based on fundamental models worked out by Porter (1990), Crouch and Ritchie (1999), Ritchie and Crouch (2010), and Dwyer and Kim (2003). The referred models embrace core elements to evaluate comparative and competitive benefits, micro and macro environments, and fundamental resources. Studies in the field are dedicated to economic, management, ecological evaluations of destination competitiveness (Mangion et al., 2005; Ribes et al., 2011). Meanwhile, one of the main focuses of the present research is the evaluation of ecological conditions and climate comfort in the studied regions. Maintained decline in environmental conditions of tourist destinations is an essential and complex challenge because tourism is not just a stressor (e.g. use of water and energy), but also it depends crucially on the environmental conditions in beaches and parks (Razumova et al., 2009). Consequently, sustainable development of tourism is considered as the main strategy to mitigate climate change impact, protect environmental depletion and enhance competitive positions of tourist destinations (Song et al., 2012).

Environmental conditions impact on tourist demand. The tourism demand is assessed as a factor of the overloading of tourism destinations (Santana-Jiménez & Hernández, 2011), the influence of weather comfort (Rutty & Scott, 2016) and environmental conditions (Huybers & Bennett, 2000) on tourist choice of beach destinations. The referred studies employ models of tourism demand with the inclusion of environmental factors as interpretative variables in a demand function (Song et al., 2012). Whilst, in the frames of the present study, we evaluate tourism demand by indicators 'Inbound tourism', and 'Tourists per km<sup>2</sup> of province'. Meanwhile, ecological conditions and the degree of climate comfortability were estimated by elaborated composite indexes.

Competitiveness is a multidimensional and complex concept with various interpretations and focuses (Mazanec et al., 2007; Medina-Muñoz et al., 2013). Consequently, measurement of competitiveness combines different approaches, where indicator analysis is a widely used technique. Set of indicator depends on targets of concrete investigation, whereas the most common indicators include the following topics:

- economic competitive benefits (Enright & Newton, 2004; Hong, 2009);
- tourism management (Enright & Newton, 2004; Hong, 2009);
- ecological conditions (Hong, 2009);
- contribution to local employment (Enright & Newton, 2004; Hong, 2009);
- tourist satisfaction (Enright & Newton, 2004);
- tourist attractions (Enright & Newton, 2004);
- cultural and natural assets (Lee & King, 2009);
- accommodation, transport and food services (Lee & King, 2009).

The present study engages the most common indicators to measure the competitiveness of tourist destinations, except indicators of tourism management and tourist satisfaction. Moreover, this research applies mixed methodologies to calculate indicators and provides new theoretical and practical findings to make a solid input to the field of the modern investigations of tourism competitiveness. The theoretical findings of the research are related to elaboration and application of an indicator framework to evaluate the competitiveness of coastal destinations. Moreover, the composite indexes were worked out to calculate transport accessibility, environmental conditions, and climate comfort indicators. The practical input is the provision of the competitive analysis of the observed coastal destinations, which can serve for destination managers to see advantageous and disadvantageous sides and design perspective strategies to cover the gaps. Additionally, this research outlined the benchmarking sites of the studied regions.

The study outcome provides the complete analysis of tourism competitiveness in the observed areas, however, to support a permanent control of economic, social and environmental conditions of Spanish coastal tourism it is adequate to apply the Markov regime (Song et al., 2012). The Markov regime implies changing a management model of tourism to the examination of lifestyle concept, which includes the following six stages: exploration, involvement, development, consolidation, stagnation, and decline or rejuvenation. The referred concept implies permanent analysis, control and upgrading of tourism performance accordingly to the latest trends, technologies, and innovations in the world tourism market. Additionally, the application of generic benchmarking will allow Spanish destination managers to compare the performance of domestic tourism management with international standards, the best practices, eco-standards, and quality (Kozak, 2004). The referred benchmarking approach allows destination managers to identify new market opportunities and enhance competitiveness.

## 6. CONCLUSIONS

The research provides a comprehensive description of climate comfortability, transport accessibility, recreational potential, infrastructure convenience, numbers of inbound tourism, labour resources potential, economic features, and ecological conditions of the most popular Spanish seaside areas. Moreover, the outcome of the current work allowed us to answer the first research question about the most competitive beach destinations, which are the Canary Islands and Catalonia. These tourist destinations acquired their own world-famous images. The Canary Islands are revered due to their favourable weather conditions throughout the year. The centre of tourist attraction of Catalonia regions is Barcelona with its worldwide famous historical and architectural sites.

The second research question is related to finding equilibrium between the most popular and less visited coastal provinces. Reorientation of tourists into nearby and less visited tourist provinces/Islands by policymakers would prevent overexploitation of the most visited beach resorts and would increase socio-economic benefits in less popular seaside areas. This balanced development of coastal provinces/Islands as tourist centres alongside the Spanish coast will preserve economic-ecological balance. Moreover, provision of the coastal tourism progress based on the main principles of sustainability will prevent future depletion of coastal, marine, natural, historical resources and will guarantee a high competitive position of Spain on the global tourism market in the long term (United Nations Environmental Programme (UNEP) and World Tourism Organization (WTO), 2005).

The present study can be a base for future investigations connected with the estimation of tourists' satisfaction and frustration about provided services and willingness to return back (Kozak, 2004; Medina-Muñoz et al., 2013). Tourist destination is recognized as the main factor in tourism structure. Each destination has its particular features, various services, and products to attract tourists. Nevertheless, tourists have freedom in choosing a place of vacation, therefore it is important to know their attitude according to provided services (Song et al., 2012). Moreover, tourists' feedback will allow destination managers to betterment services and products quality.

Future investigations should be connected with the evaluation of environmental management, the introduction of taxation and regulatory policy in tourist destinations due to increasing of ecological issues and climate change impact (Sinclair, 1998; Pintassilgo et al., 2016). The referred studies have to monitor the current environmental situation constantly and to adopt the precaution actions to maintain tourism activities and protect natural sites. Sustainable development of tourism destinations is recognized as the most proper way of development (Blanco et al., 2009). The principles of sustainability include the adoption of green practices and the introduction of environmentally friendly management in key tourism sectors such as transportation, accommodation, and food service organization (UNEP&WTO, 2005).

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