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Destination competitiveness and competitiveness indicators: Illustration of the Portuguese reality

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Abstract   The gradual importance devoted to policies focused on new challenges faced locally by destinations, in addition to those policies providing awareness about local stakeholders and their needs, is inseparable from the general knowledge about the potentialities of the surrounding environment, as well as the inevitability of measuring results and impacts (Lozano-Oyola, Blancas, & Caballero, 2012). For these reasons, this paper intends to contribute to the understanding of tourism destination competitiveness, specifically how it can be evaluated, in which indicators it is based on, and what is the open access information available in Portugal. Data resulted from in-depth research in the main Portuguese official open access databases, collected between May and June 2014. Results show that little attention has been given to the operationalisation of strategic and comprehensive information to facilitate tourism development in Portugal or, at least, little attention has been given to ease its access.

1. Introduction

Ruiz and Gândara (2013) systematised several studies on destination competitiveness, highlighting different theoretical models. For these authors, the literature recognises that the theoretical framework is not consensual.

Nevertheless, some approaches are more adequate, allowing better understanding of destinations as integrated units and, furthermore, the creation of a set of indicators to assess them, such as: ''Ritchie and Crouch's Model, Heath's Model, and Dwyer and Kim's Model'' (Ruiz & Gândara, 2013, p. 266). The conditions facilitating destination competitiveness are associated with the characterisation of resources, making a distinction between inherited, created and support resources, destination management and cyclical conditions. The great added value of these models is the aggregation of a set of factors in key areas of assessment of destination

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competitiveness, which, given their scope, allow comparable assessment at a global level, even if the importance attached to each of these dimensions may vary according to the culture of each country (Ruiz & Gândara, 2013).

Dwyer, Forsyth, and Rao (2000) argue that destination competitiveness is a general concept which deserves in-depth analysis. Park and Jamieson (2009) believe that competitiveness results from the understanding, on the part of stakeholders, of the different dimensions of the tourism system. Estevão and Ferreira (2015) consider that the challenge which tourism competitiveness faces is associated with the ability that destinations have to secure a strong market position, because they combine a mix of different resources with a cluster organisation of the region where they are located. Tourism clusters appear as an added value strategy for tourism competitiveness, since they allow the consolidation of relationships between stakeholders that share common identity, problems and challenges, often specific of a certain geographical area. For Crouch and Ritchie (1999), there is a growing concern with the well-being and the quality of life of citizens, resulting from the management of complex systems, in which there are various interests at play, often contradictory, in economic, social, cultural, political and environmental terms.

This work aims at contributing to the insight on destination competitiveness, more specifically on how to assess it, the indicators in which it is based on, and the information available in Portugal to help tourism companies and organisations to conduct diagnoses on the status and evolution of the sector. In other words, it aims to present a framework of indicators, which includes tangible and intangible information, and is sufficiently objective to collect accurate and reliable data, being, at the same time, comprehensive to include the economic, social, cultural and environmental dimensions of tourism, given that studies of this nature are scarce in the literature (Dwyer & Kim, 2003; Park & Jamieson, 2009). For this purpose, tourism performance indicators, proposed by Lozano-Oyola, Blancas, González, and Caballero (2012), are used and applied to the Portuguese context at the national level. Data collection was based on information searches conducted on the main official open access Portuguese databases. The decision to use only these databases is supported by the fact that small and medium enterprises (SMEs) dominate the tourism sector in Portugal, mostly in the form of family-owned businesses (Breda, Costa, & Costa, 2008). These companies play an important role in the economy and in the development of destinations

(Buhalis & Peters, 2006). However, the irreversible process of globalisation, where international standards are high and competition is fierce, is forcing them to strive for increasing competitiveness. The key to that lays in knowledge, which is sometimes out of their reach, in paid databases. The idea behind the use of open access databases is to unveil what is the data freely available to these companies, which often lack the resources to acquire paid information.

Results show that much of the necessary data for the calculation of indicators is not available on the accessed databases, therefore, it is not available for most organisations, especially small-sized ones. Consequently, these organisations may find it difficult to base their strategic development plans on objective and reliable data, which would facilitate the inclusion of innovation in supplying tourism services and products. This difficulty in collecting data, which allows the characterisation of the external environment, hampers tourism activity, in the sense that it decreases the ability to anticipate, which is so important for efficient strategic management and planned supply development.

2. Models of tourism destination competitiveness

Ritchie and Crouch (2010) present five components which influence the competitiveness of destinations, namely, the global environment, the competitive framework, and planning and development policies (at macro level); and, basic resources, attractions, and support resources (at micro level). For these authors, destination management and the quality of determining factors are influenced by the previous dimensions. The first combine the factors related to economy, technology, ecology, political, legal, social and cultural conditions, as well as demographic evolution. The second focuses on the relationship with suppliers and customers, for which promotion and dissemination channels take on a particularly relevant role in the stimulation of competition between destinations that offer similar products, boosting the development of relationships between tourism organisations, both competitive and collaborative (cf. Fig. 1).

It is here that public entities play an essential role, as intermediaries of the type of relationship built between competitors, which may evolve in one direction or another, according to the culture of each destination and the way in which such culture transforms the destination into a meta-entity, namely:
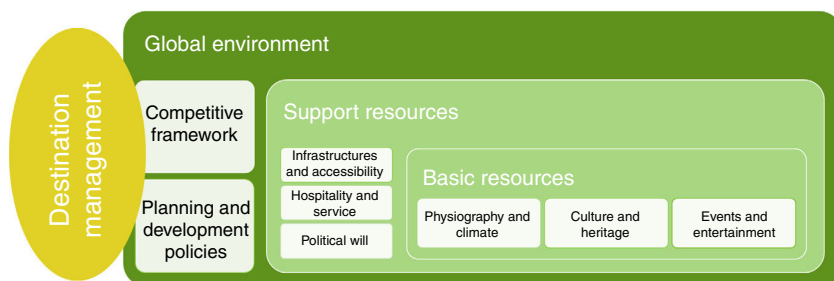

Figure 1 Ritchie and Crouch Model.
Source: Adapted from Ritchie and Crouch (2010).

a) basic resources and attractions, consisting of physiography and climate, culture and heritage; and special events and entertainment. These should be supported by a marketing structure which promotes good relations with markets, as well as management models which stimulate the systematic assessment of the attractiveness of the products offered and how they work together;

b) support resources include infrastructures, destination accessibility, hospitality and service, and the political will necessary for the implementation of a tourism development strategy. This strategy is based on planning and the effective collaboration of all stakeholders;

c) destination planning and development policies are envisaged in the agreements between tourism agents on the strategies to be implemented, strategies which increase the economic, social and environmental sustainability of the community, supported by a common vision of the positive and negative aspects of the destination, as well as agreements on the actions necessary for the strengthening of its position in relation to that of its competitors. For this purpose, monitoring and assessment, of both policies and their results, are pivotal to boost the competitive, and collaborative relationships are essential to the development of destinations, since they reinforce the joining of forces at internal level, and the competitive capacity at external level;

d) destination management establishes the management model at micro, meso and macro levels, focusing on human resources, service quality, marketing policy, investment attraction, crisis management, research, and information collection;

e) finally, the factors which contribute to the increase in destination attractiveness, according to this model, are associated to location, safety, proximity to other destinations, image, cost-benefit ratio, and carrying capacity.

Heath (2003) designed a model for the strategic and sustainable development and competitiveness of destinations, at macro level, having shown the importance of strategic planning in destination competitiveness, and using the analogy of the construction of a house (cf. Fig. 2). The author refers to the dimensions as the basis or foundations which provide the essential support for competitiveness; the cement provides cohesion; the building blocks are the main tourism activities, without which it does not exist; and the roof represents strategic vision, development and pro-activity indispensable to boost the competitiveness of destinations.

What the author refers to as the foundations combines the management of key-factors, which include, inherited and build attractions, critical competitiveness factors, which are comprised of safety, health support, political stability, and security forces, as well as support resources. In turn, these have to do with: the existence of basic infrastructures, airports, transports and communication routes, and telecommunication, among others; the capitalisation of added value, at the level of destination location and proximity to other destinations; economic and social relationships with markets; and cultural and religious issues, as well as language and historical relevance of the destination. The author also considers that destination competitiveness is based on the existence of proper facilitators, such as,
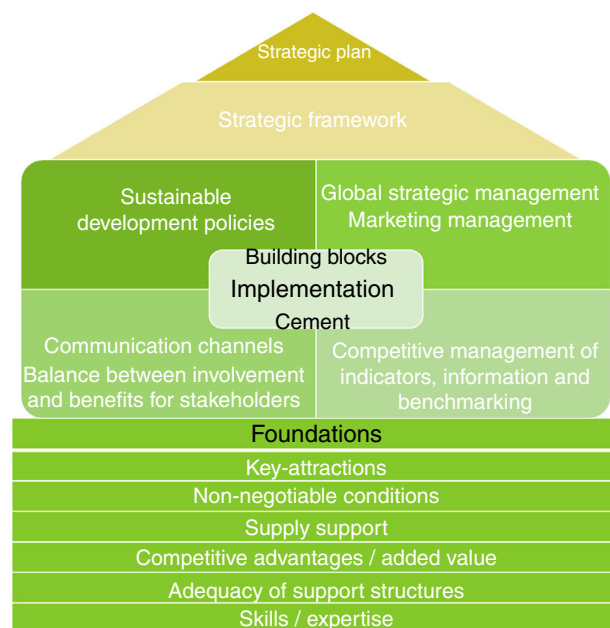

Figure 2 Heath Model.
Source: Adapted from Heath (2003).

distribution channels, quality of tourism operators, and tourism complementary services, which boost the quality of the tourism experience, as long as they are associated with positive hospitality, on part of the residents, towards tourists.

The cement, being what grants unity and coherence to destinations, is related to the efficient management of the active participation of all stakeholders, reflected on the formalisation of collaborative partnerships between the public and private sectors, for which research, information management, and an alliance with mass media are pivotal. Nevertheless, without the pillars of competitiveness – which the author refers to as integrated development policy, in other words, a strategic vision which stimulates innovation and marketing, promotes entrepreneurship, and sets a vision shared by all stakeholders of the path to be followed towards the sustainability and continuity of the destination. However, leadership which inspires the transformation of private motivations and interests, with the collective will to collaborate in a joint project, is the mainstay of this entire process.

Dwyer and Kim (2003) highlight the key determinants of competitiveness, including them in a systematic perspective that provides them with an integrating and interdependent bond. This model stresses resources, destination management, the international context and demand. The ultimate objective pertains to social and economic prosperity, measured through quality of life indicators, regarding both tourists and residents (cf. Fig. 3).

Dwyer, Cvelbar, Mihalic, and Koman (2014) emphasise that destination competitiveness depends on the existing resources of a given region, as well as the ability to use and manage them, ensuring its attractiveness. Nevertheless, these authors defend the existence of some consensus on this issue in the literature, when related to the ability destinations have to offer a set of products and services which ensure an original and quality tourism experience.
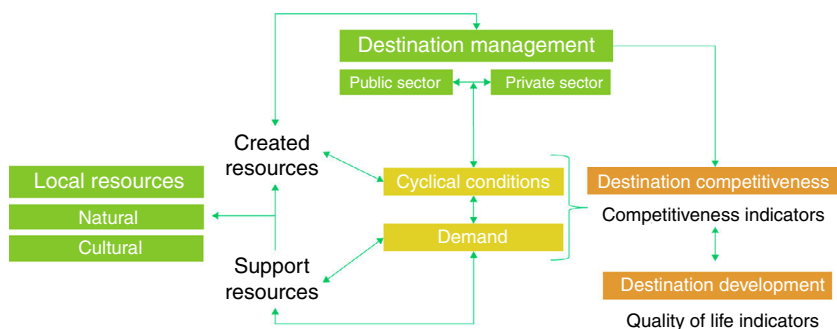
Figure 3 Dwyer and Kim Model.
Source: Adapted from Dwyer and Kim (2003) and Dwyer, Cvelbar, Mihalic, and Koman (2014).

For these authors, the assessment of the level of destination competitiveness results from the comparative analysis of prices through exchange rates, the productivity levels of the tourism industry, and the qualitative factors associated to destination attractiveness. These are the areas that should be monitored when the objective is to ensure the sustainability of destinations, and their ability to add value alongside the competition. Nevertheless, these authors organise the destination competitiveness model according to demand reasons, therefore, they highlight the factors associated with the social and demographic conditions of tourists, with the qualitative factors resulting from the assessment of destination image and perception of service quality, among others, and with the importance tourists give to the quality/price ratio of destinations. On the other hand, reducing the issue of destination competitiveness merely to price, especially that associated to travelling, accommodation, and exchange rates (Dwyer et al., 2000), does not translate the complexity of this entire process, nor does it allow us to understand the issue of destination competitiveness as a whole. These authors' perspective also evolved, having recognised, in subsequent publications (Dwyer, Cvelbar, Edwards, & Mihalic, 2012; Dwyer, Forsyth, & Spurr, 2003; Dwyer, Mellor, Livaic, Edwards, & Kim, 2004; Dwyer et al., 2014), that destination competitiveness results from a complex political and social process, a trigger of institutional change and organisational contexts. As shown by the main three areas in which they included the different perspectives on the determinants of destination competitiveness: ''comparative advantage and/or price competitiveness perspective, strategic management perspective, and, social and cultural perspective'' (Dwyer & Kim, 2003, p. 371). The comparative advantage or, in other words, price competitiveness is, without question, a strong determinant of destination position in terms of the ability to attract tourists. However, there are factors worth analysing, such as the skills of human resources, the financial conditions and investment opportunities, company organisation and development, and resource planning and customer-oriented services, as well as the social and cultural variables of each territory.

Omerzel (2006) states that destination competitiveness includes the basic elements present, both in comparative advantage and competitive advantage, in other words, considering the resources available, as well as the destination's ability to efficiently use such resources in the long run. Therefore, sharing values, objectives and actions has an effect on the harmonious development of destinations. It is important not to overlook the role of information systems, which are truly useful to understand problems and needs, as well as to collect data essential for decision-making. However, in order for the information collected to be efficiently integrated into strategic management, it must be generated within the scope of a result monitoring and assessment system, by the implementation of said strategy. For Faulkner (1997), assessing the efficiency of the policies and strategies defined is the most reliable way to make consistent decisions which lead to expected results.

Barbosa, Oliveira, and Rezende (2010) report a study conducted by the World Economic Forum (WEF), in 2007, which defined 13 key-factors for destination competitiveness. Which are: public and regulatory policies; environmental legislation; safety; health and hygiene; importance given to tourism sector; air transport infrastructures; land transports; communications; tourism infrastructures; tourism prices; human resources; country or region's perception of tourism; and natural and cultural resources. These competitiveness facilitators are grouped in three main areas: tourism regulatory model; favourable cyclical conditions; and infrastructures, and natural, cultural and human resources.

In addition, the World Travel and Tourism Council (WTTC) defined, in 2015, a travel and tourism competitiveness index which measures ''the set of factors and policies that enable the sustainable development of the Travel & Tourism (T&T) sector, which in turn, contributes to the development and competitiveness of a country'' (WTTC, 2015, p. 7). These indicators are developed around four major competitiveness areas: (i) enabling environment, regarding business environment (12 indicators); safety and security (5 indicators); health and hygiene (6 indicators); human resources and labour market (9 indicators); information and communications technology (ICT) readiness (8 indicators); (ii) policy and enabling conditions, concerning prioritisation of travel and tourism (6 indicators); international openness (3 indicators); price competitiveness (4 indicators); environmental sustainability (10 indicators); (iii) infrastructure, specifically air transport infrastructure (6 indicators); ground and port infrastructure (7 indicators); tourist service infrastructure (4 indicators); and (iv) natural and cultural resources, as natural resources (5 indicators) and cultural resources and business travel (5 indicators).

Also, Dupeyras and MacCallum (2013) conducted a study, responding to the challenge set forward by the Organisation for Economic Cooperation and Development (OECD), resulting from this organisation's concern over the difficulty in measuring destination competitiveness, and how said problem affected the definition of tourism policies. Therefore, these authors identified what they consider to be the pivotal key-factors for assessing tourism competitiveness, which are: tourism governance model, product development, quality of tourism services, price competitiveness, accessibility and connection to other destinations, brand, natural resources, cultural resources, and the development of human resources.

3. Destination competitiveness indicators

Destination competitiveness is achieved when destinations are able to guarantee a quality tourism experience for visitors, and quality of life for residents. For this purpose, it is pivotal to have indicators to measure destination performance, allowing the collection of valid information, both for destination promotion and development. The information collected by this system of indicators, if properly disseminated, will allow tourists to compare different travelling options and make an informed decision. Indeed, destination performance assessment indicators are a valuable tool in identifying aspects which influence tourists' decisions. They also allow the identification of weaknesses, strengths, opportunities and threats to the development of a certain tourism context. These are often identified by the public structures responsible for destination management, but also by private operators and residents, through the direct contact with tourists.

The creation of indicators to measure the economic, social and environmental effects of the tourism system is a growing concern, since tourism affects other activity sectors of a given region, such as public services, infrastructures and cultural dissemination, among others (Estevão & Ferreira, 2015). From this economic and social interaction arises the concern over destination management, regarding carrying capacity and resulting environmental and social disadvantages. Tourism planning, in the sense it seeks to reconcile the development of tourism competitiveness with the preservation of natural, social and cultural resources, guarantees its efficiency through the integrated analysis of results, if based on measuring tools and instruments that allow the collection of reliable and pertinent information for decision-making regarding destination development (Castellani, Vala, & Pitea, 2007). Therefore, tourism development takes ever more into account the territorial dimension, and the participation of political leaders and local agents in the joint creation of objective tools that facilitate efficient resource management and destination sustainability, which is why it must include tangible and intangible indicators (Blancas, González, Lozano-Oyola, & Pérez, 2010).

Lozano-Oyola et al. (2012) propose a system of indicators to monitor destination sustainability in terms of their economic, social and environmental dimensions, referring that these are pivotal to ''the identification and prevention of problems, decision-making on planning processes,

and the definition and implementation of corrective measures for deviations'' (p. 674). The authors argue that this set of indicators is quite comprehensive and adapts to the characteristics of any destination, and that it is sufficiently objective to produce information useful for management, since it allows result comparison between destinations, something which is essential to tourism planning. These indicators may facilitate the drafting of global and integrated action plans, at the level of a given territory, which allow the implementation of short and medium term strategies, through the harmonious activity of stakeholders (Lozano-Oyola et al., 2012).

Systematic benchmarking between destination sustainability and competitiveness results may also comprise a planning output, for which data collection tools are indispensable, in order to obtain information comparable between regions, reflected on objective guidelines in tourism policies (Bell & Morse, 2001; Bosh, 2002; Dahkal & Imura, 2003). It, thus, contributes to the multidimensional assessment of tourism, whose goals are achieved through the active participation of all stakeholders. Deviations are the starting point to assess the path chosen, allowing the development of new policies and strategies, and facilitating the route towards improvement. In brief, one of the roles which are usually assigned to the use of destination performance indicators is associated to the prevention of deterioration and aims at ensuring continuity.

Another advantage of this methodology is the possibility for systematic monitoring of destination position, and implementing short term actions which correct, in a timely manner, undesirable effects. The existence of reliable indicators allows the accurate assessment of the impact of tourism activities, both in terms of positive and negative results. Often enough the indicators proposed fall short of expectations, either because they limit themselves to collecting tangible information on the effect tourism, doubtlessly easier to collect and treat, or because they focus on a single dimension of tourism. A table of indicators, which includes tangible and intangible information and addresses the several dimensions of the tourism system, is scarce in the research produced on this matter (Dwyer & Kim, 2003; Park & Jamieson, 2009).

Moreover, destination position indicators must allow the production of information which facilitates communication between the different stakeholders. The literature on the matter is not consensual on the number of indicators and their characterisation.

From an economic standpoint, there are indicators such as: number and qualification of jobs, contribution of tourism to Gross Domestic Product (GDP), and amount spent by tourists per activity sector, among others (Dwyer et al., 2003). However, the reliability and validity of the results achieved through these indicators may be questioned due to the effect of other variables, sparsely measured, such as political, weather and financial conditions.

Literature review indicates that the economic and social prosperity of residents is one of the ultimate objectives of destination organisation and management, and that it determines destination competitiveness. Therefore, it becomes pressing to consider objective indicators for economic prosperity, associated to subjective indicators, resulting from stakeholder, community and tourist perception of the

quality attributes of destinations. Safety, support services, comfort, access facilities, cultural and environmental diversity, and quality of space arrangement, among others, are assessed differently. Consequently, the results achieved through these indicators are not always aligned with economic indicators, they may even be antagonistic.

A system of indicators must allow the identification of problems, as well the development of ways to prevent them, support the creation of corrective measures when necessary, and work as a tool indispensable to planning. Decision-making on development actions to be implemented becomes more consistent when the system of indicators takes into account the characteristics of each region, where some of them are more suited for local application. In fact, information on the opinion of tourists and residents about the quality they perceive must be collected at the level of destination, since information on tourism satisfaction or the perception of service quality in a certain region, among others, provides answers to a set of intangible competitiveness determinants.

4. Methodology

Literature review is a widely used methodology in social sciences, since it provides in-depth knowledge about a certain topic, revealing the perspectives of several authors (Klopper, Lubbe, & Rugbeer, 2007). In this context, it can be considered the cornerstone of scientific development, providing the support needed for new theories (Botelho, Cunha, & Macedo, 2011). Albarello et al. (2005) also add that documentary and bibliographic research ''although, by definition, based on what already exists, can contribute to the production of new empiric material'' (p. 31).

This work resorted to this methodology in order to list new research paths within the scope of destination competitiveness. In order words, systematic literature review was chosen over traditional or narrative bibliographical review (Botelho et al., 2011), in the sense that the methodical sequence of procedures was applied in a standardised and reproducible manner, as described in the paragraphs below.

One of the objectives under analysis regards the relationship between this set of indicators and the competitiveness determinants in the theoretical models already presented. The integrated analysis of the nature of indicators per dimension and per the different competitiveness components, which the authors consider pivotal to the strengthening of destination position in relation to the competition, confirms that the indicators created by Lozano-Oyola et al. (2012) focus mainly on the assessment of tourism infrastructures and of internal destination management, at a more operational level. More specifically:

1. Regarding Heath's model (2003), the indicators under study assess, mainly, what this author calls the foundations and building blocks, in other words, inherited and built tourism attractions, as well as tourism activity. It also becomes clear that the indicators that assess these tourism components focus on the economic and environmental dimensions, proposed by Lozano-Oyola et al. (2012). Another piece of data which stands out relates to the small amount of indicators that allow

the assessment of effective stakeholder participation in destination management, and of the formalisation and efficiency of strategic partnerships and alliances, as well as variables concerning strategic planning.

2. Within the competitiveness components referred to in Dwyer and Kim's model (2003), destination management and cyclical conditions are highlighted. For these authors, destination management is envisaged through responsibilities shared between governments and the industry, and cyclical conditions emphasise demand reasons which depend on the tourists' social and demographic conditions, their qualitative assessment of the destination's image, their perception of the quality of tourism services and products, and the importance they give to quality/price ratio. For these reasons, the indicators presented by Lozano-Oyola et al. (2012) use essentially these two components of Dwyer and Kim's model (2003), distributed over the social, economic and environmental dimensions of the set of indicators in use. On the other hand, there is a lack of indicators to assess the social and economic prosperity of the destination, more specifically regarding the quality of life of residents.

The competitiveness model by Ritchie and Crouch (2010) highlights the surroundings, competition, planning policies, resources, and tourism activity as the real determinants of destination competitiveness. These authors argue that the management model of destinations, and their quality, results from the ability to manage, in an integrated manner, the components referred to in the previous paragraph. Moreover, this model greatly resembles that of Dwyer and Kim (2003), since the latter is inspired by and develops the destination competitiveness model initially presented by Crouch and Ritchie (1999). For this reason, the competitiveness model by Ritchie and Crouch (2010) presents a relationship with the indicators by Lozano-Oyola et al. (2012), which is similar to the one already explained for Dwyer and Kim's model (2003). The components of strategic planning, and the intangible information related to the definition of policies, the intensity and quality of the relationships between stakeholders, and the subjective factors of attractiveness are still the aspects which are not assessed by the set of indicators under study.

Another objective of this study is to apply, to the Portuguese context, the indicators systematised by Lozano-Oyola et al. (2012), because they seem the more adequate to the competitiveness framework, as it is the only indicator battery operationally feasible found for tourism destinations. These authors defined 90 indicators to take into account in the overall assessment of tourism performance of a given region, distributed over the economic, social and environmental dimensions, allowing a comprehensive characterisation of the tourism system (Lozano-Oyola et al., 2012, pp. 662–665). For this purpose, it is important to address the type of impact, positive or negative, resulting from the value obtained for each of the indicators. In other words, the higher the value obtained for each indicator, the greater the positive or negative impact on tourism development and sustainability of a certain region.

The following assessment indicators were identified: 38 for the economic dimension, 28 for social dimension,

Table 1 Number of indicators per type of dimension.

	Baseline aspects	Number of indicators
Economic dimension	Economic benefits of tourism for the host community and destination	11
	Sustaining tourist satisfaction	4
	Development control	1
	Tourism facilities on offer provision of a variety of experiences	6
	Seasonality of tourism activity	3
	Tourism employment	2
	Tourism related-transport	6
	Destination competitiveness	1
	Tourism routes	2
	Cultural investment	1
	Agglomeration	1
Social dimension	Socio-cultural effects of tourism on host community	6
	Local public safety	1
	Conservation of cultural heritage	5
	Effect on local population structure	4
	Social carrying capacity of the destination	4
	Effects on level of well-being in the local population	4
	Improvement of the urban landscape	4
Environmental dimension	Protection of the natural ecosystems	1
	Energy management	2
	Water availability and management	2
	Wastewater treatment	2
	Management of solid urban waste	7
	Atmospheric pollution	3
	Management of the visual impact of facilities and infrastructure	4
	Intensity of use	2
	Environmental management	1

Source: Lozano-Oyola et al. (2012, pp. 662–665).

and 24 for the environmental dimension, organised in 11, 7 and 9 categories, respectively, and distributed as follows (cf. Table 1).

The data was collected between May and June 2014, through official Portuguese databases, with national open access information, such as:

1. Autoridade Nacional de Comunicações (ANACOM);
2. Autoridade Tributária (AT);
3. Banco de Portugal (BdP);
4. Base de Dados de Portugal Contemporâneo (PORDATA);
5. Direção-Geral do Território (DGT);
6. Estradas de Portugal, S.A. (EP);
7. Instituto da Mobilidade e dos Transportes, I.P. (IMT);
8. Instituto Nacional de Estatística (INE);
9. Turismo de Portugal (TP).

The data collected was recorded taking into account type of dimension, indicator, last year available, unit of measure, type of value, source, reference, access date, and description of concept, as typified on the databases accessed.

The data available is mostly from 2012. However, this is not always the case for the three dimensions under analysis. In the social dimension, the reference year is 2012. There is some data from 2013, but for several indicators it was only possible to access data from 2011. The economic dimension is the one with the most updated results, mostly from 2013. In the environmental dimension, the data available is less updated, mostly from 2011 and 2009.

Another important aspect relates to national open access information. For the Portuguese context, easily accessible data pertains to the social and demographic characterisation of the country. Much of the information searched on economic or environmental indicators was not found on the databases accessed. Therefore, in Portugal, either this information exists but is not available through open access, or it does not exist, or it is not available in accordance with how the indicators for this study were characterised.

5. Results

The social dimension produced many results on the open access databases used, allowing the calculation of the indicators under study. In this dimension, it was possible to obtain the results related to the following categories: community, safety, structure of local population, destination sustainability, resident well-being, and urban landscape (cf. Table 2). There was no data to allow the application of all the indicators related to: community, heritage conservation,

Table 2 Open access information available in Portugal, for calculation of the social dimension indicators.

Baseline aspects	Indicator	Formula/assessment	Impact
Socio-cultural effects of tourism on host community	Capacity of health services	(Number of health centres/Total population of the municipality) $\times$ 100	Positive
	Capacity of transport services	(Number of passenger transport vehicles/Total population of the municipality) $\times$ 100	Positive
	Capacity of financial services	(Number of financial institutions/Total population of the municipality) $\times$ 100	Positive
	Capacity of other services	(Number of establishments/Total population of the municipality) $\times$ 100	Positive
Local public safety	Capacity of pharmaceutical services	(Number of pharmacies/Total population of the municipality) $\times$ 100	Positive
	Tourist satisfaction with the safety of the destination	Safety assessment by tourist (local approach)	Positive
Effect on local population structure	Sustaining population levels	(Population in year N/Population in year $N - 10$) $\times$ (100 − 100)	Negative
	Increasing in the young population	(Population under 15 years/Total population of the municipality) $\times$ 100	Positive
	Ageing of the population	(Population over 65 years/Total population of the municipality) $\times$ 100	Negative
	Population density	(Total population of the municipality/Total area of the municipality) $\times$ 100	Negative
Social carrying capacity of the destination	Net migration rate	Immigrants − Emigrants	Negative
	Rate of natural increase	Ageing rate	Negative
	Percentage of foreign population	(Foreign population resident/Total population of the municipality) $\times$ 100	Negative
	Social carrying capacity	(Number of tourist by year/Total population of the municipality) $\times$ 100	Negative
Effects on level of well-being in the local population	Life expectations	Life expectancy at birth (local approach)	Positive
	Household income	[(Household income of year N − Household income of year $N - 1$)/Household income of year N] $\times$ 100	Positive
	Educational level of the population	[School population (non-compulsory levels)/Total population of the municipality] $\times$ 100	Positive
	General demographic dependency index	(Population under 15 and over 65 years/Total population of the municipality under15 and over 65 years) $\times$ 100	Negative
Improvement of the urban landscape	Property value of real estate per inhabitant	(Taxable property value/Total population of the municipality) $\times$ 100	Negative
	Funds for building renovation	(Amount of funds for building renovation/Total population of the municipality) x100	Positive

Source: Adapted from Lozano-Oyola et al. (2012, p. 662).

urban landscape, economic benefits for the community, and tourist satisfaction (cf. Table 3).

By relating these results to the competitiveness components present in the theoretical models addressed, it is possible to conclude, regarding the social dimension, that:

1. There is information to realise what Heath (2003) calls safety in public places, but the same is not true for heritage conservation;
2. For the models by Ritchie and Crouch (2010) and Dwyer and Kim (2003) it is possible to find a match for the categories of indicators related to community inclusion, safety in public places, and structure of local population. However, that is not the case for the categories of

cultural heritage conservation, destination sustainability, and quality of life of residents.

One of the factors which may explain this relates to the nature of the indicators applied. In other words, Lozano-Oyola et al. (2012) denote a concern over objectiveness in the development of this set of indicators, therefore, they focus on the collection of tangible information, neglecting the more subjective aspect of destination competitiveness assessment, as referred to in the theoretical models presented.

Tables 4 and 5 systematise the indicators which assess the economic dimension of destination competitiveness. In the social dimension, it is concluded that the theoretical determinants of competitiveness are in line with the assessment

Table 3 Open access information unavailable in Portugal, for calculation of the social dimension indicators.

Baseline aspects	Indicator	Formula/assessment	Impact
Socio-cultural effects of tourism on host community	Capacity of sports services activities	(Number of sports services activities/Total population of the municipality) × 100	Positive
	Protected cultural heritage	(Number of heritage building/Area of the municipality) × 100	Positive
Conservation of cultural heritage	Voluntary contributions of preservation of cultural heritage	Number of volunteers in cultural voluntary associations/Total population of the municipality) × 100	Positive
	Heritage use intensity	[Total of tourists/365]/(Number of cultural assets (heritage building) × 100	Negative
	Heritage interpretation	Number of expert guides in interpretation (local approach)	Positive
	Protection of cultural traditions	Number of local festivals and traditions of the destination (local approach)	Positive
Improvement of the urban landscape	Percentage of renovated buildings	(Number of renovated buildings/Total number of homes in the municipality) x100	Positive
	Improvement of the urban environment	(Publics funds for the improvement of the physical urban environment/Area of the municipality) × 100	Positive

Source: Adapted from Lozano-Oyola et al. (2012, p. 662).

categories proposed by Lozano-Oyola et al. (2012), but not with how the indicators where realised, while that is not the case for the economic dimension. In this dimension, there is much congruence between indicator typology and the determinants proposed by the theoretical models which support this study, regarding the pertinent information to assess destination competitiveness, from an economic standpoint. Therefore, the little information available on this topic reveals a critical aspect on which we must reflect, regarding tourism development in Portugal (cf. Tables 4 and 5).

Assessment indicators, for the environmental dimension, of destination competitiveness are presented in Tables 6 and 7. Table 6 systematises the information which was possible to collect through Portuguese open access databases. Table 7 presents the information which was impossible to collect, regarding this topic.

Another important aspect relates to updated data. It is in this dimension that either there is no information available or the information reports mostly to 2009, and, in some cases to 2011. As for the economic dimension, there

Table 4 Open access information available in Portugal, for calculation of the economic dimension indicators.

Baseline aspects	Indicator	Formula/assessment	Impact
Economic benefits of tourism for the host community and destination	Total number of tourist arrivals	Total number of tourist arrivals in the municipality by year	Positive
	Average length of stay	Average length of stay of tourists in the municipality	Positive
	Tourists expenditure	(Overnights × Average daily expenditure in the municipality)/1,000,000	Positive
	Proportion of employees in the service sector	Population employed in the service sector/Population employed in the in the municipality) × 100	Positive
Sustaining tourist satisfaction	Global tourist satisfaction	Global satisfaction level of tourist with the municipality (local approach)	Positive
	Tourist satisfaction with price-quality relationship	Evaluation of the price-quality by tourist (local approach)	Positive
	Tourist satisfaction with the visit to cultural sites of the destination	Level of tourist satisfaction with the visit to cultural sites of the destination (local approach)	Positive
Tourism-related transport	Road network for public transport	Number of km of road network/Total area of the municipality	Positive

Source: Adapted from Lozano-Oyola et al. (2012, pp. 663–664).

Table 5 Open access information unavailable in Portugal, for calculation of the economic dimension indicators.

Baseline aspects	Indicator	Formula/assessment	Impact
Economic benefits of tourism for the host community and destination	Investment in real estate	(Taxable property value/Total population of the municipality) × 100	Positive
	Level of unemployment at the destination	Total unemployment rate at the municipality	Negative
	Investment in service sector	[Investment in service sector (industrial registry office)/Number of establishments in service sector] × 100	Positive
	Telephone communications	(Number of telephone lines in service/Total population of the municipality) x100	Positive
	Online communications	(RDSI lines in service/Total population of the municipality) × 100	Positive
	Number of ADSL lines in service	(Number of ADSL lines in service/Total population of the municipality) × 100	Positive
	Available income per inhabitant	(Declared net income/Total population of the municipality) × 100	Positive
Sustaining tourist satisfaction	Tourist demand faithfulness	Percentage of return visitors (local approach)	Positive
Development control	Planning of the tourist area	Existence of land use planning of destination	Positive
Tourism facilities on offer – provision of a variety of experiences	Official tourism accommodation on offer	(Official tourism accommodation on offer/Total population of the municipality) × 100	Positive
	Quality of official tourism accommodation on offer	(High quality vacancies of official tourism accommodation/Total number of places offered) × 100	Positive
	Non-official tourism accommodation on offer	(Unoccupied housing/Total number of housing) × 100	Negative
	Restaurant services on offer	(Vacancies offered in restaurants/Total population of the municipality) × 100	Positive
	Promotion of activities for tourists	(Number of tourist information offices per tourist/Total number of tourists in the municipality) × 100	Positive
	Promotion of tourist experiences	Existence of a website that provides information about the destination	Positive
Seasonality of tourism activity	Seasonality of accommodation on offer	(Accommodation establishments open in low season/Total number of official tourism accommodation establishments) × 100	Positive
	Seasonality of tourist demand	(Number of tourists in the month of lowest demand/Number of tourists in the month of greatest demand) × 100	Positive
	Seasonality of tourism employment	(Low-season tourism employees/Peak-season tourism employees) × 100	Positive
Tourism employment	Volume of tourism employment	Number of employees in the tourism sector, in the municipality	Positive
	Relative contribution of tourism employment to total employment at the destination	(Number of employees in the tourism sector/Population employed in the municipality) × 100	Positive
Tourism-related transport	Capacity of transport services	(Number of passenger transport vehicles/Total population of the municipality) × 100	Positive
	Access to the destination by airport	Estimated access time from the closest airport	Positive
	Access to the destination by highway	Estimated access time from the closest highway	Positive
	Access to the destination by road	Estimated access time from the closest road	Positive
	Access to the destination by railway	Estimated access time from the closest railway station	Positive

Table 5   (*Continued*)

Baseline aspects	Indicator	Formula/assessment	Impact
Destination competitiveness	Occupancy rates for official accommodation establishments	Average occupancy rate for official tourism accommodation establishments, in the municipality	Positive
Tourist routes	Tourist routes created	Number of tourist routes that include the destination in their itinerary	Positive
	Exploitation routes	Number of expert tourist guides (local approach)	Positive
Cultural investment	Cost of cultural protection	Funds for building renovation/Total population of the municipality	Positive
Agglomeration	Spatial distribution of sites that may be visited at the destination	Number of routes and itineraries within the municipality	Positive

Source: Adapted from Lozano-Oyola et al. (2012, pp. 663–664).

is much consistency between the typology of these indicators and the competitiveness determinants proposed in the theoretical models used as reference for this study, regarding this dimension. Therefore, regarding tourism sustainability and competitiveness, the little attention given to assessment is critical, and reflected on data production and availability.

In fact, the protection of natural ecosystems, water saving, wastewater treatment, waste production and recycling, tourist and resident satisfaction with the cleanliness of urban and natural spaces, sound pollution, pollutant emission, impact of construction, abandonment of facilities, in brief, environmental management, and territory planning do not seem to be analysed or assessed, or the resulting data is not available through open access. In other words,

the issues related to cleanliness, and cultural or built-up heritage conservation were, overall, the ones which had no information available (cf. Tables 6 and 7).

Another piece of data regards the assessment of the visual impact of construction, when it is not classified as historical or cultural heritage. However, it merges with urban or natural landscape contributing, positively or negatively, to the aesthetic assessment of territories, influencing overall satisfaction of tourists or residents with a certain destination.

The results obtained show that the data to be extracted through the application of the indicators in the economic and environmental dimensions is pivotal to destination competitiveness, since the information they provide is present in the main theoretical models on this topic. Moreover,

Table 6   Open access information available in Portugal, for calculation of the environmental dimension indicators.

Baseline aspects	Indicator	Formula/assessment	Impact
Energy management	Renewable energy	[(Renewable energy consumption attributable to tourism (Ktep)/Electricity consumption (Mwh) $\times$ (0.086/1000)] $\times$ 100	Positive
Water availability and management	Water use	{Average water consumption/Population $\times$ [(365−30)/365] + (Overnights/365)} $\times$ Overnights/365	Negative
Wastewater Treatment	Separate collection of waste (paper and cardboard)	Number of paper and cardboard recycling bins/Total area of the municipality	Positive
	Recycled waste (paper and cardboard)	Volume of collected paper and cardboard per inhabitant of the municipality	Positive
	Separate collection of glass	Number of glass recycling bins/Total population of the municipality	Positive
Management of the visual impact of facilities and infrastructure	Impact of the road network	(Total length of the road network/Total area of the municipality) $\times$ 100	Negative
Intensity of use	Intensity of tourist use	(Number of tourists received in the month of maximum influx/Total area of the municipality) $\times$ 100	Negative

Source: Adapted from Lozano-Oyola et al. (2012, p. 665).

Table 7 Open access information unavailable in Portugal, for calculation of the environmental dimension indicators.

Baseline aspects	Indicator	Formula/assessment	Impact
Protection of the natural ecosystems	Protection of valuable natural assets	Percentage of the destination's surface considered to be a protected natural area	Positive
Energy management	Energy consumption	{Energy consumption/Population × [(365−30)/365] + (Overnights/365)} × Overnights/365	Negative
Water availability and management	Water saving	{Volume of reused water in the municipality/ Population × [(365−30)/365] + (Overnights/365)]} × Overnights/365	Positive
Wastewater treatment	Treatment	Volume of treated wastewater (equivalent load approach)	Positive
	Treatment installations	Existence of wastewater treatment plans in the municipality	Positive
Management of solid urban waste	Waste production	{Volume of waste/Population × [(365 − 30)/365] + (Overnights/365)} × Overnights/365	Negative
	Recycled waste (glass)	(Volume of recycled glass/Total population of the municipality) × 100	Positive
	Tourist satisfaction with cleaning services	Evaluation of the cleaning services by tourists (local approach)	Positive
	Treatment installations	Existence of solid-waste treatment installations (or other treatment facilities), in the municipality	Positive
Atmospheric pollution	Noise pollution	Daytime noise levels	Negative
	Noise pollution	Night-time noise levels	Negative
	Pollutant emissions	[Annual emissions in tons/(Resident population + Tourists)} × 100	Negative
Management of the visual impact of facilities and infrastructure	Impact of construction	(Number of constructions/Area of the municipality) × 100	Negative
	Erosion	Percentage of surface with erosion problems (local approach	Negative
	Landscape conservation	Percentage of municipality's surface of natural landscape	Positive
Intensity of use	Unoccupied buildings	(Number of unoccupied housing/Total number of housing) × 100	Negative
Environmental management	Environmental managers	Existence of an environmental administrative unit	Positive

Source: Adapted from Lozano-Oyola et al. (2012, p. 665).

it is mostly for these dimensions that the existing open access data is scarce or outdated. This realisation questions whether Portugal has tourism strategic planning, regarding the implementation of a comprehensive and integrated process for the systematic assessment of tourism results, and if said planning considers the different dimensions comprised in the tourism system. And if the model for the assessment of tourism results, in Portugal, is in line and updated in terms of the scientific literature on the matter, regarding the assessment of destination sustainability and competitiveness determinants.

6. Conclusions

This work aimed at ascertaining which tourism indicators and dimensions are susceptible of being used to assess destination competitiveness, which models are associated to those indicators and serve as reference for their creation,

as well as at determining the related data available on the Portuguese context. In view of this objective, a literature review on tourism dimensions and indicators was conducted, and the information collected was summarised in tables. Moreover, the information available on the tourism sector in Portugal was accessed and collected, and the article was completed with the presentation of the research results obtained on the topic.

Certainly, there are some limitations to the research developed that should be highlighted. First, the need to analyse other source data bases beyond those in open access and also to obtain additional information about stakeholders perception of destination competitiveness, through qualitative and quantitative methods. Secondly, the importance to diversify the indicator systems, seen that the main parts of indicators are adapted only from Lozano-Oyola et al. (2012) and some of the topics are not enough to analyse competitiveness of destinations.

Ascertaining the extent to which the indicators considered relevant in the literature exist in the Portuguese context, and, if so, if they are available and if access is facilitated, seemed a pivotal stage to advance knowledge on this topic. Knowing what open access information is available is important, since such information influences or conditions decision-making for the different stakeholders of the tourism sector. Knowing to act is decisive for all stakeholders, as well as for the development of projects which, in order to be efficient, must take into account the legitimate interests of said stakeholders and their access to relevant information. Destination competitiveness, organisation and management, as well as the assessment of quality imply the use of indicators considered pertinent and reliable. Furthermore, the internationalisation of this activity – in which the ability to attract tourists and investors is included – requires and recommends the use of common and shared indicators, resulting in the possibility of conducting comparative studies. Internationalisation, competitiveness and quality are intertwined concepts. As mentioned, competitiveness comprises an internal aspect but also an external one, and strategic management for the tourism system must take both into account. The existence of a destination management organisation (DMO) is important for that same reason – internal and external or international management. This organisation has a relevant role in the development of a strategic management model, which can define objectives and action plans, recognising the community as a valuable resource, and applying a result assessment and monitoring system. According to the literature reviewed, this a critical factor for success, when the objective pursued is the development of tourism destinations. Success is more easily achieved when destinations are able to guarantee a quality tourism experience for visitors, and quality of life for residents. For this purpose, it is pivotal to have a set of indicators which collect valid information, and measure destination performance.

Within this context, despite the importance the several theoretical models give to the assessment of the economic and environmental dimensions of destinations, the research conducted shows that open access data available for the Portuguese context reflects lack of assessment of these dimensions, or, at least, little concern in facilitating access to this information, as follows:

1. The different theoretical models on destination competitiveness highlight the importance of resource management, the destination's management models, and the cyclical conditions as main determinants of competitiveness. The assessment of these factors must produce information to define and support tourism policies, territory planning, efficient involvement of all stakeholders to form strategic alliances, design and implementation of marketing strategies, product and service quality, and investment attraction.
2. The study presented reveals that it is precisely at the level of tourism policies, territory planning, and protection and management of natural resources that there was no open access data available, to characterise the national context.
3. The same is true for the categories related to natural and cultural heritage conservation, especially for the

categories pertaining to visual quality of conservation, arrangement and cleanliness of natural or built-up heritage, and of buildings and public spaces, in general.

If a large part of this research refers to the importance of the active participation of stakeholders to increase destination competitiveness, then it is urgent to provide information to support tourism stakeholders in the creation of their strategic development and innovation business plans, as well as information which provides them with knowledge on their region and international tourism trends.

In this sense, aware that the limitations set previously may turn into challenges to build greater knowledge and understanding of the present subject, it should be interesting to make some recommendations and research suggestions for the future. The results presented alert to the need for further studies to examine more clearly contextual differences of destinations, as well as specific differences inherent to stakeholders' dynamics. At the same time, and being the study adapted to the Portuguese context it could be also important to conduct comparative, cross-cultural studies with other countries. Finally, the conclusions made us question tourism information policies on destination competitiveness, suggesting greater reflection and more consultation of all interested parties involved: private and public sectors, governments and tourism organisations.

In fact, integrated supply management appears as one of the categories in which data was most difficult to find. Without information, no knowledge can be produced or disseminated. To participate and innovate it is essential to have knowledge. To be competitive it is necessary to innovate, to ensure quality, and network, aiming at optimising resources and establishing commitments between stakeholders, regarding the promotion, development, and preservation of endogenous potential.

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