# From marketing to management: conceptualizing a strategic destination management scorecard (SDMSC)

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Master of Science

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Submitted to Dr. Jason Stienmetz

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# AFFIDAVIT

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# ABSTRACT

The rapid evolution of ICTs and other technological advances, the increasing environmental concerns, and the growth of global tourism are the three main forces of change facing tourism. These emerging issues require new strategies to address them, so DMOs face a paradigm shift between tourism marketing and strategic management. The predominance of the marketing role among the main priorities of DMOs has hindered adaptation and resilience to these forces of change, generating major social, environmental and economic impacts on the world's major destinations. Hence, this research aims to review existing destination management models and propose new performance metrics more aligned with the emerging needs and capabilities of destinations. To this end, existing competitiveness, sustainable development, quality management, stakeholders' management, information systems management and smart destination models and frameworks are analysed in order to suggest an updated integral model based on the needs identified by tourism destination managers. Delphi surveys are used in this study to identify the indicators for measuring destination performance that DMOs consider the most relevant, and to design a strategic BSC with six axes (*social competitiveness*, *infrastructure*, *destination productivity and economic sustainability, social sustainability and stakeholders' management*, and *environmental sustainability*) that destinations can implement in their activity in order to improve their capacity for action and analysis of tourism activity in the territory.

Keywords: destination management, DMO, strategic management, destination performance, BSC.

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# LIST OF ABBREVIATIONS

The following table describes the significance of known abbrevations and acronyms used throughout the thesis. However, self-created abbreviations are not included in this list.

| Abbreviation | Meaning | Page |
|:---:|:---|:---:|
| AI | Artificial intelligence | 2 |
| BCG | Boston Consulting Group | 8 |
| BD | Big data | 2 |
| BI | Business Intelligence | 35 |
| BSC | Balance scorecard | 3 |
| B2B | Business to business | 39 |
| B2C | Business to customer | 39 |
| CPM | Cost per thousand impressions | 98 |
| CRM | Customer relation management | 13 |
| CRS | Central reservation system | 54 |
| CTR | Clickthrough rate | 99 |
| DAR | Destination advertising response | 16 |
| DMO | Destination management organisation | 1 |
| DMS | Destination marketing system | 35 |
| GCR | Gross conversion rates | 16 |
| GDP | Gross domestic product | 19 |
| GDSI | Global Destination Sustainability Index | 55 |
| GRP | Gross rating points | 98 |
| ICT | Information and communication technologies | 1 |
| KPI | Key performance indicator | 1 |
| LAC | Limits of acceptable change | 30 |
| LOS | Length of stay | 16 |
| NCR | Net conversion rate | 97 |
| NFC | Near field communication | 2 |
| NIR | Net influence rate | 16 |
| NTO | National tourism organisation | 11 |
| PPP | Public-private-partnership | 11 |
| P2P | Peer to peer | 39 |
| ROI | Return on investment | 41 |
| RTO | Regional tourism organisation | 11 |
| R&D | Research and development | 42 |
| SEM | Search engine marketing | 42 |
| SEO | Search engine optimisation | 14 |
| SME | Small-medium enterprises | 13 |
| SWOT | Strengths, weaknesses, opportunities and threats | 7 |
| UNWTO | United National World Tourism Organisation | 1 |
| WAI | Web accessibility initiative | 41 |
| VIM | Visitor impact management | 29 |

# 1 INTRODUCTION

It is well known that tourism is a sector that is exceptionally dependent on social welfare and stability. Due to its interdisciplinary character, tourism is a sector that is affected by forces of change that push from many fields: economics, demographics, ecology, technology, politics, sociology, etc. (European Commission, 2022; Pforr, Pechlaner, Volgger & Thompson, 2014). The strongest driving forces of the last decades – among which the most important ones are the arrival and direct application of information and communication technologies (ICT), the growing concern of the sector and the travelling community about climate change or mass tourism (Cave & Dredge, 2020; Moutinho & Vargas-Sanchez, 2018) – rose debates on tourism management models, in which the effectiveness of the classical models have been called into question.

These discussions have also led to major turning points for some European destinations, where the choice has been made to reduce promotion and marketing activities in order to focus on the management and optimisation of existing flows in the destination (Gössling, Ring, Dwyer, Andersson, & Hall, 2016; Hall, 2008; Oklevik, Gössling, Hall, Steen Jacobsen, Grøtte & McCabe, 2019). Hence, Oklevik et al. (2019) claim that new key performance indicators (KPI) should be included in destination assessments to check how destinations are coping with the new global problems; while Pforr et al. (2014) recognize the need to progress towards a proactive destination performance management that increases overall competitiveness.

Therefore, this research aims to review existing destination management models and propose new performance metrics more aligned with the emerging needs and capabilities of destinations, as well as with the new opportunities of the current market and industry. In other words, this research investigates the perceptions of destination management organisations (DMO) on their destination performance measurement systems and reconsiders these metrics towards a better response to the new global forces of change that are driving the sector.

United National World Tourism Organisation (UNWTO) (2007) cites the following as the main advantages of destination management. On the one hand, these processes give destinations the ability to guarantee their visitors quality experiences and a unique positioning, improving the competitiveness of the territory in terms of tourism. On the other hand, it is also considered a tool to promote certain standards of sustainability and to take advantage of the benefits that tourism activity offers to the host community,

including economic benefits for local businesses. However, the dilemma of proper destination management lies in the roles that DMOs should adopt to achieve the greatest possible benefit for the local community, the private sector and society at large (UNWTO, 2007).

Historically, it is the marketing functions that have dominated the responsibilities of DMOs. Destination promotion and image projection have been essential to achieve the levels of popularity of some of today's leading destinations (Ritchie & Crouch, 2003; UNWTO, 2007). But the predominance of this function in the set of actions of DMOs leaves aside other more strategic and long-term issues, such as sustainable management or the increase of competitiveness. The predominance of promotional actions among the priorities of DMOs boosted models of exponential visitor growth, which these organisations are currently trying to manage and control. In short, DMOs are increasingly pursuing the transformation from marketing to management models (Pukah, 2019).

In order to respond to the global changes affecting the industry, the alternative destination performance evaluation model that arises from this research is based on previously developed models for measuring destination activity, such as competitiveness, stakeholder management or new sustainability standards, overlooking the direct economic return metrics of marketing with which DMOs usually measure their work. On that account, this work answers the following question: What new destination performance KPIs would destinations moving from marketing to management strategies need to adopt within their control models to ensure an adequate and effective destination management?

## 1.1 Global forces of change

In addition to the recent damages caused by the COVID-19 pandemic – in which tourism destinations had to be as resilient as possible – the last decades have been characterised in tourism by the emergence of global issues that are altering the way in which tourist flows are received and managed.

### 1.1.1 ICTs and technological advances

Our society is largely driven by the advances generated by ICTs, so the new forms of tourism developed over the last two decades cannot be conceived if not in the context of a technology-mediated society. The internet, mobile technology, social networks, near field communication (NFC), augmented reality, big data (BD) and artificial Intelligence (AI) are some of the clearest examples of disruptive technologies that have altered the

traditional relationships between tourism stakeholders and favoured the generation of real-time data and user-generated information (Boes, Buhalis e Inversini, 2015; Xiang, 2018; Bethapudi, 2013; Nilsson, 2020; Fesenmaier & Xiang, 2016).

The speed of technological advances challenged both the tourism system and society itself, generating a continuous need to innovate in methods of destination management and decision support, especially because the competences and capacities of each of the actors in the tourism ecosystem change with each new technological incorporation. For instance, new tourism information and distribution channels that emerged online are leading the industry towards the disintermediation of tourism (Stienmetz & Fesenmaier, 2013; Xiang, 2018; Femenia-Serra, Perles-Ribes & Ivars-Baidal, 2019).

The various proposals for the development of smart destinations, as well as the 'new value creation' models developed by Gretzel (2010), and Stienmetz and Fesenmaier (2013) can be considered the academic contributions that have given the best response to this global reality of the advance of technologies in tourism.

### 1.1.2  Increase in environmental concerns

There has been a notable increase in environmental concerns also in the practice of travel and tourism globally since the turn of the century. The impact of tourism on climate change or the preservation of the natural environment are some of the indicators that resonate the most among global policies, but social and economic sustainability are also increasingly relevant to sustainable development (Lafferty & Eckerberg, 2013; Moutinho & Vargas-Sanchez, 2018; Stovall, Higham & Stephenson, 2019; Sharpley, 2020). Thus, Kaplan and McMillan (2020) suggest that economic, social and environmental well-being should not be in conflict, and remind that society increasingly demands products and services that are responsible for the physical and intangible environment in which they operate and live.

Therefore, the Balance Scorecard model (BSC) and triple bottom models, growth through optimisation models and approaches to stakeholders' management are considered in this work to address the main problems identified in these terms.

### 1.1.3  Growth of tourism

The exponential growth of travel and tourism destinations is another major global trend. Since the birth of mass tourism in the 1960s, this growth has been increasing and has

become the cause of inflation problems, pressure on housing and social unrest (Hall, 2008; Oklevik et al., 2019).

According to data published by UNWTO (2020), international arrivals increased from around 600 million to approximately 900 million between 1999 and 2009; while the following decade saw an increase of almost 600 million arrivals in the same time period up to 2019. The phenomenon of overtourism – defined as the set of problems that arise from an unbalanced increase of visitors to a destination (Nilsson, 2020) – is, for example, one of the biggest problems faced by the world's most visited tourism destinations. By definition, overtourism is related to the number of visitors a destination receives, but authors such as Plichta (2019) underline in their conception of the problem that overtourism is a consequence of the destination managerial decisions and strategies followed by territories.

The growth of the sector and the emergence of new tourism destinations and players in the system has increased competition in the market, leading to the generation of numerous competitiveness models – i.e., Crouch and Ritchie (1999) – that aim to respond to these particular structural changes in tourism products and services (Oklevik et al., 2019).

# 2 LITERATURE REVIEW

This section includes a review of the literature and the concepts needed for the correct contextualisation of this study. The review begins with the most generic content and is delimited to the field of destination management as the Literature Review progresses. Firstly, strategic management and its application to tourism organisations is presented. Then, management/marketing organisations (DMOs) are introduced as the main figure on which this study is based, and the evolution of their roles is shown. The third part focuses on one of those roles that have been assigned to DMOs: tourism marketing. And finally, alternative models of destination management are presented in order to represent the transition and paradigm shift from marketing to destination management.

## 2.1 Strategic management of tourism destinations

Given the increased competitiveness of the tourism sector as a result of increased visitor flows, competition for tourism destinations is also changing (Oklevik et al., 2019; Murphy & Murphy, 2004). Considering the way in which tourism destinations have previously been defined, the fragmentation of the elements that compose them is a determining characteristic for their management. This is why authors such as De Carlo, Cugini and Zerbini (2008) highlight the importance of an integrated and deliberate strategic management of tourism products and stakeholders as an essential task in destination management. Similarly, Franch and Martini (2002) believe that management is comprised of the strategic and operational decisions made to achieve the objectives of defining, promoting and marketing tourism products that guarantee the arrival of visitors to the territory, which means that although they may consider promotion as one of the tasks to be done, it must be developed from a strategic and holistic point of view.

### 2.1.1 Strategic management

In order to properly understand the adoption of strategic management in destinations, it is first necessary to define the concept of strategy. Mintzberg (1989), Stahl and Grigsby (1992) define it as the series of coherent and aligned decisions that organisations must make between different alternatives, which lead the organisation's activity towards the objectives imposed by the organisation. Therefore, strategic management, which includes efficiency and effectiveness as essential elements for the implementation of such a strategy, is achieved through the following steps: strategy formulation (mission, objectives, specific plans, etc.), strategy implementation (specific plans to create or reinforce the strategy) and evaluation and control (Murphy & Murphy, 2004).

### 2.1.1.1 Key business management functions

According to Murphy and Murphy (2004) strategic management can also be reflected in four key functions of any organisation: planning, organising, leading and controlling; iteratively. Planning is the phase in which the objectives of the project are established, which must be realistic and measurable in order to be properly pursued. Organising, on the other hand, is about distributing the existing resources among the different departments and tasks in order to optimise them in the execution of the organisation's activities. Leading, which in turn could be considered an implicit part of any of the other functions, refers to keeping the team motivated and working towards the objectives. Finally, controlling includes the tasks of monitoring the strategy and more specific actions, in order to identify possible deviations – caused by internal or external factors – and to adapt to them (Murphy & Murphy, 2004).

The importance of planning and controlling in DMOs is considered particularly relevant for the aim of this research, and it is for this reason that some of the concepts visible in these two phases are discussed in more detail below.

### 2.1.1.1.1 Strategic planning

The market segments that they intend to approach, the types of products they want to promote or the type of business they want to encourage in the destination are some of the decisions that a DMO has to make in the strategic planning process; as this will allow the correct identification of opportunities in the destination and will facilitate the correct allocation of resources to each of the established tactics (Moutinho & Vargas-Sanchez, 2018).

The destination's strategic plan should not cater only for the DMO, but also satisfy the entire community of stakeholders involved in the destination's tourism system (Murphy & Murphy, 2004). This requires acquiring an integrated planning model that correctly responds to all the needs that coexist in a tourism ecosystem; not only through stakeholder consultation, but also through their active participation in the design and implementation of the plan (Moutinho & Vargas Sanchez, 2018).

In addition, strategic planning has a number of implicit characteristics, including, for example, long-term thinking. Large-scale planning allows for more general issues to be addressed, with results to be more convenient for destinations, as these general targets can potentially generate major improvements for the destination and the community (Moutinho & Vargas-Sanchez, 2018; Murphy & Murphy, 2004; Kirovska, 2011).

The strategic planning process consists of several steps. The first step starts with a SWOT analysis – which stands for strengths, weaknesses, opportunities, and threats (Moutinho & Vargas-Sanchez, 2018). **Table 1** lists the main questions that tourism organisations should ask themselves in order to complete this analysis, which will give them an overview of where the destination or organisation stands, both internally and externally. Depending on the position in which the destination finds itself, its managers will have to adapt the strategy to the realities they face (Chernev & Kotler, 2014).

TABLE 1

*SWOT ANALYSIS QUESTIONS*

| Internal factors | | External factors |
| --- | --- | --- |
| *Strengths* | | *Opportunities* |
| • Differentiation.<br>• Financial resources.<br>• Competitive strategy.<br>• Reputation.<br>• Market leadership.<br>• Business strategy.<br>• Scale advantages. | • Unique technology.<br>• Competitive advantages.<br>• Product innovation.<br>• Management skills.<br>• Competitive pressure. | • New markets or segments.<br>• Diversification of products.<br>• Vertical integration.<br>• Better strategic group composition.<br>• Contact with competitors.<br>• Growth of the market. |
| *Weaknesses* | | *Threats* |
| • Unclear strategic orientation.<br>• Competitive position.<br>• Ageing facilities.<br>• Insufficient profit.<br>• Lack of management insight, skills and experience.<br>• Bad implementation of the strategy? | • Internal operational problems.<br>• Competitive pressure.<br>• Image in the market.<br>• Disadvantages compared with competitors.<br>• Less-than-average marketing skills. | • New competitors.<br>• Decreasing market growth.<br>• Negative government influence.<br>• Growing competitive pressure.<br>• Recessions and other economic trends.<br>• Changing wants and desires of buyers.<br>• Threatening demographic changes? |

(Moutinho & Vargas Sanchez, 2018)

Secondly, it is necessary to invest time and effort in formulating the plan's objective properly. For this end, it is essential to set measurable, achievable objectives that apply to both the long- and the short-term and give them a priority. Once the major goal has been clarified, tourism managers must consider which of the strategic alternatives they want or should pursue to achieve it. Four possibilities are mainly distinguished: (1) build, which implies an increment in market share over profit margins, (2) hold or maintaining current market shares, (3) harvest, when the product is kept on the market but its support

in reduced, or (4) divest, to get the product out from the market (Moutinho & Vargas Sanchez, 2018; Khairat & Alromeedy, 2016).

The decision on which of the alternatives is the most appropriate for the organisation should be made after assessing different dimensions that facilitate the decision-making process (Murphy & Murphy, 2004). There are different models that provide the necessary information for the most efficient resource allocation, and one of the most predominant is the Boston Consulting Group (BCG) matrix (**Figure 1**). This model classifies an organisation's products on the basis of two axes. On the one hand, market growth or percentage of annual growth of the product, and on the other hand, relative market share, for which the market shares of the closest competitors are taken into account (Moutinho & Vargas-Sanchez, 2018; Murphy & Murphy, 2004; Khairat & Alromeedy, 2016).

**FIGURE 1**

*BCG MATRIX*
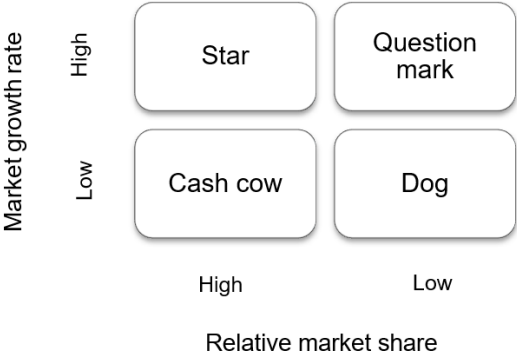


(Khairat & Alromeedy, 2016)

These two parameters distribute the different products into four quadrants, each of which represents a type of product. Stars, in the first place, are those with high values in market growth and market share, i.e. with good projections for the organisation. Cash cows, on the other hand, are recognised for generating notable cash flows due to their relevance in the market but hold or harvest strategies are frequent in these cases because they are not in markets with high growth projections. Question marks are the most uncertain, because they are characterised by high growth, but are still products with a low market share compared to the market as a whole. Therefore, build or harvest strategies are some of the most common reactions to deal with them. Finally, dogs are the poorest products in terms of market share and growth, which is why companies are betting on harvest or divest strategies in cases such as these (Udo-Imeh, Edet & Anani, 2012; Moutinho & Vargas Sanchez, 2018; Khairat & Alromeedy, 2016; Murphy & Murphy, 2004).

It is also worth mentioning that the BCG model is a matrix mainly applied by the business sector, because corporations have direct access to information regarding the parameters needed for the model, and they can apply the model to each of the products that compound the company's product portfolio. In the case of DMOs, its application is not as recurrent. DMOs, as public or public-private management organisations, do not have sufficient competencies or power to remove a privately managed product from the destination landscape. However, authors such as Khairat and Alromeedy (2016) have published studies in which this model has been applied to a destination. Here, historical data on arrivals to the destination functions as a product, and the graphical representation of the matrix allows the DMO to visualise the evolution over the years, and anticipate possible strategies to be undertaken by the organisation. This demonstrates that, without being a model properly aimed at systems as complex as a tourism destination, the BCG model can be useful as an awareness and internal research tool for destination managers.

### 2.1.1.1.2  Controlling: the importance of metrics

The right approach and organisation of the strategy are essential aspects of achieving the set objectives, but they do not guarantee it. This is where the importance of control systems lies, as early identification of problems and opportunities can be an advantage in destination management (Murphy & Murphy, 2004). According to De Carlo et al. (2008), controlling models are also useful to strengthen the relationship between the stakeholders, as well as to stick to the original objectives.

Thus, Bungay and Goold (1991) describe strategic controls to be non-financial performance measurements. Murphy and Murphy (2004) add that this managerial stage is the moment in which the standards and expectations are established, while evaluation systems that assess the situation at each moment are implemented. In view of the increasing competition between destinations, destination performance is seen as the most appropriate way to address control over the activity (Dwyer, Forsyth & Rao, 2000; Dwyer, Mistilis, Forsyth & Rao, 2001; Zhang, Gu, Gu & Zhang, 2011).

When the performance of an organisation is studied, it can be done based on different definitions. On the one hand, some authors mainly study 'behavioural performance', which includes the actions developed and the approach to the established objectives. On the other hand, there is 'result performance', which refers to the study of the gap between the results obtained and the organisation's expectations. And finally, as a combined approach, there is 'integrated performance', which pays attention to both the

process developed to achieve the objectives and the outcomes of the activity (Luo, 2018; Campbell, Mchenry & Wise, 1990).

Furthermore, these performance evaluation systems are composed of indicators that break down complex processes into more measurable and achievable parameters; because what cannot be measured, cannot be managed (Bungay & Goold, 1991; De Carlo et al., 2008). Therefore, the regular review of these indicators is necessary both in tourism planning, in the design of new management policies, and in the application of the management models adopted by DMOs (Hall, 2008; UNWTO, 2004; Murphy & Murphy, 2004; Ivars-Baidal, Vera-Rebollo, Perles-Ribes, Femenia-Serra & Celdrán-Bernabeu, 2021b).

One of the most relevant strategic management tools for the implementation of these measurement indicators in the strategy of organisations is the creation of BSC models (**Figure 2**). BSC is understood as a framework with financial and non-financial KPIs, which facilitates the control of the development of the organisation's strategy towards stability and profitability in the short and long term (De Carlo et al., 2008).

**FIGURE 2**

*BSC MODEL*
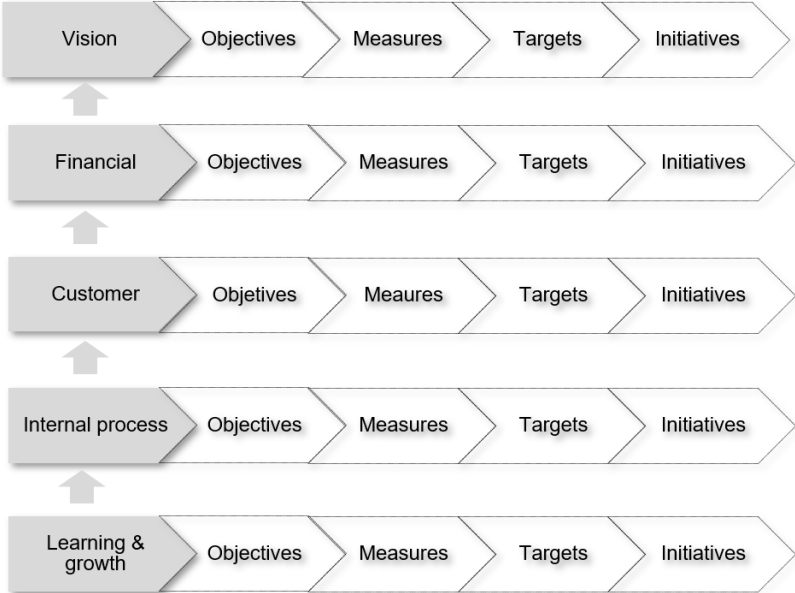


(Kaplan & McMillan, 2020)

The BSC model gathers the objectives and measures of an organisation from four different points of view (financial, customer, internal processes and learning) in order to formulate a strategy in a balanced way. By considering financial and non-financial

objectives, as well as long- and short-term goals, this scorecard aims to turn strategies into actions (Kaplan & McMillan, 2020; Zambrano, López, Rivera & Lino, 2021).

But strategic management is not exclusive to companies. DMOs can also apply numerous techniques in the design and implementation of their strategies, and the contribution of Khairat and Alromeedy (2016) is a good example of this. However, it is necessary that the working direction of the DMO can fit within the strategic vision, and not only short-termism. This is where the different roles that DMOs assumed interfere.

## 2.2 Roles of DMOs

UNWTO (2007) defines a destination as:

> A local tourism destination is a physical space in which a tourist spends at least one overnight. It includes tourism products such as support services and attractions and tourist resources within one day's return travel time. It has physical and administrative boundaries defining its management, and images and perceptions defining its market competitiveness. Local destinations incorporate various stakeholders often including a host community and can nest and network to form larger destinations. Destinations could be on any scale, from a whole country (national tourism organisations, NTOs), a region (RTOs), to a village, town or city, or a self-contained centre (DMOs) (p.1).

Hence, destination management is understood as the processes necessary for the co-ordination of the elements of a destination, aligned towards the same customer value proposal (UNWTO, 2007). Moreover, Howie (2003) reminds that destination management must take into consideration not only the visitors and tourists arriving at the destination, but also the needs of the local community, including residents and the business and entrepreneurial network of the place.

Every DMO is in charge of the design of the plan that represents the common objectives of all the destination stakeholders, but different governance models led into contrasting types of organisations. The number of actors involved in the destination management, the source of the main financial contribution, the different managerial skills applied in the management process, and the diverse needs of the existing stakeholders are considered the main factors conditioning the DMO governance structure (d'Angella, De Carlo & Sainaghi, 2010). Therefore, purely public organisations, public-private-partnership (PPP) organisations, and privately funded destination management entities are distinguished, all of which have different internal characteristics that imply certain limitations or aspects

to be taken into account in the management of the destination (UNWTO, 2007; Nordin & Svensson, 2005).

Whatever their legal form and morphology, it lies in these organisations' responsibility to enhance the value of the destination, and during the last decades several authors have worked on the analysis of the roles that DMOs adopt for this end. Heath and Wall (1992) believe that the formulation of the strategy, the coordination of stakeholders, and the marketing of the territory are the main roles of DMOs. Similarly, UNWTO (2007) classifies all their tasks in three different roles, which are: sustainable environment promoters, destination marketers, and quality guarantors.

Among all these, Dwyer and Kim (2003) consider stakeholders coordination to be the major responsibility of destination managers, and Bercial and Timón (2005) highlight the urge for employing a strategic approach in the management process. However, Ritchie and Crouch (2003) agree that DMOs prioritise marketing and positioning of the destination, and can thus be called destination marketing organisations.

The state of art about the roles of DMOs is very extensive, and it also includes a great diversity of perspectives on the direction DMOs should take. For the time being, the following section takes a closer look at the marketing role of DMOs, with particular reference to existing models of analysis for assessing the return on these activities.

## 2.3  Marketing analysis in tourism destinations

### 2.3.1  The marketing role of DMOs

Farris, Bendle, Pfeifer and Reibstein (2010) suggest approaching the tourism marketing activity following the structure of the marketing mix strategies, and controlling each of the attributes on which the organisation works. These authors recall that marketing mix models aim to assess the marketing objectives settled in every section of the plan, as they influence the decisions of the rest of the marketing areas. For example, the results of advertising initiatives may generate changes in the product strategy followed by the tourism organisation. In their work, Moutinho and Vargas-Sanchez (2018) and Farris et al. (2010) identify product, markets, promotion, advertising and branding, price and distribution to be the main areas of the marketing strategy for tourism organisations.

However, these marketing mix models are not fully applicable to DMOs because of the characteristics that distinguish them from profit-seeking tourism companies. In their case, UNWTO (2007; p.5) establishes the following key functions of marketing:

"destination promotion, including branding and image; campaigns to drive business, particularly to small-medium enterprises (SMEs); information services; operation/facilitation of bookings and customer relation management (CRM)".

Dore and Crouch (2003) consider that DMOs allocate a large part of their work and budget to promotional activities, which include more specific tasks such as advertising, publicity and public relations or the management of direct marketing actions. The list of tasks undertaken by these organisations is also dissagregated by Presenza, Sheehan and Ritchie (2005) in their 'destination marketing wheel' model (**Figure 3**). Within all these categories, the authors also distinguish differences in the predominance of some of them because of their complexity and relevance for all marketing actions;  i.e., advertising and web marketing.

**FIGURE 3**

*DESTINATION MARKETING WHEEL*
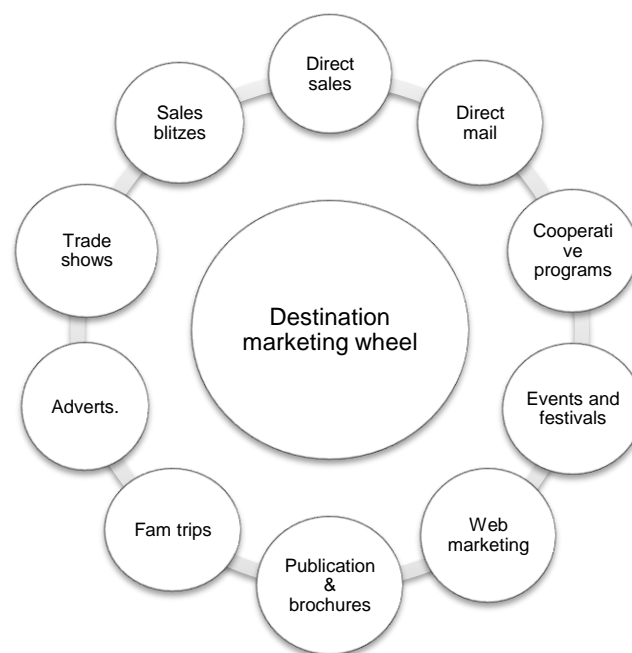


(Presenza et al., 2005)

## 2.3.1.1  Advertising

According to Csapó-Horváth (2021), destination advertising helps the positioning of a territory and promotes tourism in general. But for DMOs it is not enough to highlight the attractions of the destination through advertising campaigns. There is a conceptual and imaginative part with which these actions must be complemented, so that potential visitors change their perceptions of the destination (Held, 2019).

This change in attitude expected from visitors when exposed to destination advertising campaigns can have different objectives. Among them are: (1) to affect destination decision making, (2) to show characteristics of the destination that are not explicitly part of the tangible elements, and (3) to change the perception about a particular attraction or company (Bojanic, 1991).

These changes in attitude towards the different elements of the destination ultimately translate into greater revenue for tourism stakeholders. Hence, it is said that radio, television, online and print campaigns are strong attractors of visitors to the destination, promoting the extension of the average stay or the increase of the expenditure at the destination (Dore & Crouch, 2003; Park, Nicolau & Fesenmaier 2013; Choe, Stienmetz & Fesenmaier, 2017).

### 2.3.1.2 Web-marketing

Taking into account the degree of information available about the destination in the pre-trip stages, web-marketing is considered to occupy a particularly relevant position here. As Presenza et al. (2005) indicate, an efficient and effective channel of communication between the destination managers and the stakeholders and tourists as a whole. Web-marketing is defined as all marketing processes that take place online, including all actions to promote and position the destination that can be done through social media, search engine optimisation (SEO), email and website (Kaur, 2017).

With regard to destination websites, Fryc (2010) believes that an eye-catching site is important to capture the attention of e-tourists. But Lu and Lu (2004) and Woolsey (2010) go further and specify the main functions that a DMO's website should offer: (1) general publicity, (2) destination product and service advertising, (3) e-mail inquiry, (4) e-mail booking, and (5) others, such as call centres, guided tours and partnerships.

For Duggan and Lang (2010), on the other hand, these are the six crucial elements of a destination website: (1) an organisation of the website that optimises the time needed to search for content on the website, (2) the appearance and usability of the website, with special emphasis on the homepage for the first impressions of visitors, (3) the existence of promotions and discounts that encourage the use of the website for shopping and booking, (4) a common storytelling that conveys a unified image of the destination, (5) the possibility of adapting the website to the main languages of the most relevant markets for the destination, and (6) giving visibility to other existing channels of contact with the DMO, such as social networks. These are  both convenient aspects for visitors and very important source of information for managers. In addition, Kim and Fesenmaier (2008)

suggest reinforcing the credibility and inspiration conveyed by these websites, as other aspects to be taken into account when measuring visitor satisfaction with this destination marketing channel.

In addition to all the aspects to be taken into account with regard to web-marketing, it is also considered relevant to clarify the most relevant aspects of branding in destinations. The brand strategy of the destination will condition many of the marketing actions considered, i.e. publications and brochures or advertising (Presenza et al., 2005).

### 2.3.1.3 Branding

For a tourism destination, the branding strategy can start by establishing a common brand name, symbol or design; as well as the definition of a brand/destination philosophy, which represents the image that the destination is expected to project (Moutinho & Vargas-Sanchez, 2018). But for Cai (2002), Keller (1993) and Gartner (2014), this is only one part of the destination brand, as other attributes such as quality, loyalty or awareness are also essential elements to be projected in the destination branding strategy. Keller and Swaminathan (2020) include all these considerations in their brand performance model, which contains the following stages and their corresponding blocks.

1st stage: brand identity.

    1st block: brand awareness.

2nd stage: brand meaning.

    2nd block: performance, product.

    3rd block: intangible imaginary.

3rd stage: response.

    4th block: judgements.

    5th block: feelings.

4th stage: brand development.

    6th block: loyalty, resonance.

Numerous researchers have worked on different proposals for the aspects that define brand performance, and according to Chekalina and Fuchs (2009) these would be the mostly considered attributes that influence brand performance: (1) nature and landscape, (2) culture and built environment, (3) physical and emotional needs, (4) gastronomy, and (5) activities in the destination.

### 2.3.2 Marketing return analysis

Marketing management in tourism destinations and organisations is not static and requires continuous analysis of possible problems and opportunities identified in relation to the defined plan. Thus, Moutinho and Vargas-Sanchez (2018) stress the importance of marketing research as a tool for the correct approach to potential changes in the strategy. More specifically, these authors (2018; p. 79) identify five main activities in which

tourism organisations, among which DMOs could be included, engage in this marketing research process: "(1) determination of market characteristics, (2) measurement of market potentials, (3) market share analysis, (4) sales analysis – or arrivals/length of stay (LOS) in case of destinations – and (5) studies of tourism trends".

Woodside (2010; p.2) considers that there are three key questions that any tourism manager or industry professional wants to know about their marketing strategies. "(1) Is a given marketing program generating visitors who otherwise would not have come? (2) Is the marketing program causing changes in visitor behaviour during their visit? (3) What is the financial return of the investment in the marketing program?" These seem like clear questions, but their calculation can be complicated for tourism organisations, mainly due to the difficulty involved in estimating what percentage of the results obtained is a consequence of the marketing campaign in question (Moutinho & Vargas-Sanchez, 2018).

To simplify this work, several authors have developed metrics applicable to each of the most relevant areas of destination marketing: return on advertising, web metrics, and brand-equity. **Appendix A** and **Appendix B** list the specific indicators for each of these models. Firstly, indicators pertaining to advertising conversion models are included, since studying the return on advertising investments is essential for DMOs to know the effectiveness of their campaigns. Over the years, these conversions – for which DMO visitor survey data is used – have been modified and refined according to the needs of DMOs (Woodside, 2010; Choe et al., 2017). These models developed over time and moved from Gross Conversion Rates (GCR) – that compute the impact of advertising without taking into account decision making timing or influence of visitors – to Destination Advertising Response (DAR) models (Choe et al., 2017; Burke & Gitelson, 1990; Ellerbrock, 1981; Stergiou & Airey, 2003).

The appearance of these indicators in chronological order is a result of the limitations presented by each of them. Thus, as shown in **Appendix A**, DAR models are able to calculate not only the return of advertising in the destination decision making process, but also in the various touchpoints of the value chain that a tourist experiences during their trip (attractions, restaurants, hotels, events); whereas conversion indicators such as the Net Influence Rate (NIR) only take into account the temporality and the possible influence of advertising on the type of destination chosen for the trip (Choe et al., 2017; Stienmetz, Maxcy & Fesenmaier, 2015; Grigolon, Kemperman & Timmermans, 2013; Park et al., 2013; Yilmaz & Bititci, 2006).

Secondly, the indicators proposed by Farris et al. (2010) in **Appendix B** are considered relevant because they encompass specific parameters for both return on advertising and digital marketing. In contrast to the proposal of the authors of **Appendix A,** Farris et al. (2010) focus their indicators on online marketing, because unlike traditional marketing, the digital medium allows a more immediate and detailed monitoring of the profile of visitors and the expected outcomes of the designed campaigns (Kaur, 2017).

Thirdly, Lehmann, Keller and Farley (2008; p.49) studied the factors that condition brand performance, and identified the following categories as the main parameters to be evaluated to control destination brand performance: (1) comprehension, meaning "how much the brand is seen and thought of", and where presence, awareness and knowledge are supposed to be included, (2) comparative advantage, referring to difference, esteem, performance, advantage and acceptability of the brand, (3) interpersonal relations: caring, prestige, service and innovation, (4) history or "past brand-related events, episodes and emotions", (5) preference, including bonding, loyalty, purchase intention, value for money and overall attitude, and (6) attachment or "how strongly consumers connect to and interact with the brand", where aspects such as persistence should be considered.

These models seem to have certain characteristics in common. Most of the indicators that compose these models measure their results economically. Here success translates only into an increase in the revenue obtained by the destination. This is due to the fact that DMOs, in addition to fulfilling their duty to position their destination, also need to justify the benefits of their work to the rest of the public administration, so that tourism can be considered as a sector to be taken into account globally (Moutinho & Vargas-Sanchez, 2018; Higgins-Desbiolles, Carnicelli, Krolikowski, Wijesinghe & Boluk, 2019).

Moreover, Presenza et al. (2005) state that being mere destination promoters is no longer sufficient for DMOs to position a destination at the top of the global market, and a stronger strategic management approach should be adopted by these organisations. For this end, responding to changes in the global tourism would improve the capacity of DMOs to act strategically covering the needs identified in the sector.

## 2.4  Responding to changes in management paradigm

Studies conducted over the last few years established that the driving forces in tourism pushing the sector to feel new needs and opportunities can be grouped into three main categories. As stated at the beginning of this research, on the one hand, there is the technological revolution and its social and industrial contributions. On the other hand, there is the need to reach certain parameters of sustainability that guarantee present

and future social welfare, and finally, the exponential boost in tourism and travel in the last decade (Oklevik et al., 2019; Cave & Dredge, 2020; Moutinho & Vargas-Sanchez, 2018). These global trends are therefore the drivers of changes in destination management paradigm.

These forces of change are the reason why tourism marketing is no longer considered sufficiently appropriate as a synonym for tourism management. Problems that arise in the new realities of destinations require a sensitive and informed planning, decision-making and approach to the problem. Presenza et al. (2005) consider that the way for DMOs to adapt to the new levels and parameters of performance that emerge in these contexts is to strengthen the management and strategic vision of their destination. As a result of the various driving forces (Cave & Dredge, 2020; Moutinho & Vargas-Sanchez, 2018) academia has worked on numerous proposals and models of strategic tourism management that aim to control the activity of the destination and ensure that it is correctly directed towards the new standards of quality, wellbeing and competitiveness of the destination.

### 2.4.1  Models to deal with the growth of the tourism sector

#### 2.4.1.1  Perspectives of destination competitiveness

Competitiveness models are considered useful in this review of academic proposals because competitiveness is widely understood as an indicator of destination performance, as it is considered the background for the economic growth and prosperity of the local community (Hanafiah, Hemdi & Ahmad, 2016; Wilde & Cox, 2008). Also, Presenza et al. (2005) consider that the global issues affecting the tourism sector are promoting the increase of competitiveness requirements; therefore, it is necessary to check whether the existing models meet the new needs of tourism managers.

Since the end of the 1990s, the academic community has proposed many models of competitiveness for tourism destinations, all of them with different parameters and values to be studied (Hanafiah et al., 2016). The only thing on which the different models agree is that the competitiveness of a territory is not based on a single indicator. There are many attributes which, taken together and weighted, reflect the degree of competitiveness of tourism destinations (Crouch, 2011). According to Hanafiah et al. (2016) these are considered the most relevant competitiveness models and attributes on which the competitive value of the destination is computed according to these authors (**Table 2**).

TABLE 2

*DESTINATION COMPETITIVENESS MODELS*

| Sources | Key elements of the model | | |
|---|---|---|---|
| Crouch & Ricthie (1999) | Destination management and supporting factors. | Tourism policy. Planning and development | Basic resources and attractions. |
| Dwyer & Kim (2003) | Endowed resources. Supporting factors. Demand factors. | Situational conditions. Market performance indicators. | Destination management. |
| Gooroochurn & Sugiyarto (2005) | Price. Economic and social impact. | Environment. Technology. Openness. | Infrastructures. Social development. Human resources. |
| Mazanec, Wöber & Zins (2007) | Heritage and culture. Openness. Infrastructure. | Social competitiveness. Education. Price. | Communication facilities. Environ. preservation. |
| Hassan (2000) | Comparative advantage. Demand orientation. | Destination commitments towards the environment. | Industry structure. |
| Assaf & Josiassen (2012) | Tourism and related infrastructure. Economic conditions. | Price competitiveness. Government policies. Environ. sustainability. | Security. Safety and health. Labour skills & training. |
| Croes & Kubickova (2013) | Tourist arrivals. Tourism receipts. | Population Performance. | Gross Domestic Product (GDP). |

(Hanafiah et al., 2016)

Even though it is the oldest, Crouch and Ritchie's (1999) proposal is considered one of the most complex and detailed, but it also has some limitations. For example, this model does not justify the causal relationship between the factors, which limits the explanatory character of the model. Competitiveness models must be able to explain something, i.e., destination performance (Mazanec et al., 2007).

In the context of explanatory destination competitiveness models, Hanafiah et al. (2016) believe that the calculation of destination competitiveness should be based mainly on three elements: satisfaction, productivity and quality of life. This implies that, in order to ensure a wider application of the model, the authors consider it necessary to add the following – purely destination performance – indicators to the competitiveness models: (1) number of visitors and expenditure, (2) how are negative effects of seasonality managed, (3) efficient use of existing capacities, (4) preservation of natural and cultural resources, (5) visitors' overall satisfaction, (6) efficiency of marketing and advertising, (7) level of acceptance of the local community (Mazanec et al., 2007; Butler, 1998; McElroy & de Albuquerque, 1998; Inskeep, 1987; Ritchie, Crouch & Hudson, 2001; Kozak, 2002; Wöber & Fesenmaier, 2004; Bachleitner & Zins, 1999; Williams & Lawson, 2001).

TABLE 3

*COMPETITIVENESS MODELS' INDICATORS*

| Subject | Indicators | | Sources |
|---|---|---|---|
| Productivity | Number of visitors and expenditure. | Efficient use of existing capacities. | |
| | Efficiency of marketing and advertising. | | |
| Quality of life | Management of seasonality negative effects. | Level of acceptance of the local community. | (Mazanec et al., |
| Satisfaction | Visitors' overall satisfaction. | | 2007; Butler, 1998; |
| Openness | Visa Index. | Trade Openness Index. | McElroy & de Albu- |
| | Tourism Openness Index. | Taxes on International Trade Index. | querque, 1998; |
| Heritage and Culture | Number of UNESCO Heritage Sites. | | Inskeep, 1987; |
| Infrastructure | Road Index. | Water Access Index. | Ritchie et al., 2001; |
| | Sanitation Facilities Index. | | Kozak, 2002; |
| | Internet Hosts Index. | Mobile Phone Index. | Wöber & |
| Communication Facilities | Telephone Mainlines Index. | | Fesenmaier, 2004; |
| Social competitiveness | GDP per capita. | Newspaper Index. | Bachleitner & Zins, |
| | Life Expectancy. | TV Sets Index. | 1999; Williams & |
| Price Competitiveness | Hotel Price Index. | Purchasing Power Parity Index. | Lawson, 2001) |
| Environmental Preservation | Population Density Index. | Environmental Treaties Index / Preservation of natural and cultural resources. | |
| | $CO_2$ emission Index. | | |
| Education | Adult Literacy Rate. | Primary, secondary and tertiary gross enrolment ratios. | |

Mazanec et al. (2007) further stress that these destination performance indicators should be treated as dependent indicators, and that the competitiveness factors they propose in their model should also be considered as formative latent constructs; meaning that all attributes considered – whether correlated or not – should be analysed to reach the overall competitiveness value. The model of Mazanec et al. (2007) and the contribution of Hanafiah et al. (2016) are thus considered the most appropriate for the following phases of this study because, as explained in this section, in addition to including the breakdown of parameters to be studied (which facilitates the implementation of the model for DMOs), they also take into consideration destinations' performance and the explanatory quality of the model (**Table 3**).

The fact that Mazanec at al. (2007) consider competitiveness from a performance-based perspective fits the goal of this research of developing a set of indicators for destination management that would be scalable to different destination contexts, and hence, it would be considered for the final model development. However, it cannot be considered the ultimate destination performance model, because this model also awards success based only in growth parameters. However, it is believed that measuring the progress of each destination relative to its objectives and capacities, as well as taking into account the tolerance of change of the destination, would also be necessary in the ideal destination-performance model.

### 2.4.2 Models to deal with the increasing concerns for sustainable development

#### 2.4.2.1 Sustainable development models

Competitiveness models are good measures of economic efficiency, but most of them are not able to define destination performance (Dwyer et al., 2000; Dwyer et al., 2001; Candela & Figini, 2012; Kayar & Kozak, 2010). Gomezelj and Mihalič (2008) and Luo (2018) consider that competitiveness models do not cover essential aspects such as social and environmental enhancements of the territory. Equally, Murphy and Murphy (2004) state that external environmental parameters must also be taken into account when assessing strategic planning opportunities and challenges of the territory.

Tourism is a driver of the global economy, but at the same time, tourism induces adverse side effects and contributes to climate change (Scott, Gössling & Hall, 2012). Therefore, Becken, Whittlesea, Loehr and Scott (2020) and Olcina (2012) consider that new adaptations in the sector should primarily aim at carbon emission reductions and other

sustainable practices. Thus, sustainable development is understood as the way to prac-
tice tourism while protecting natural resources, respecting culture and social welfare, and
striving for long-term economic prosperity (Lozano-Oyola, Blancas, González & Cabal-
lero, 2012). Luo (2018) also claims that destination development cannot be conceived
solely from the perspective of economic growth. The impact of such activity on the terri-
tory and its society is essential in the new conceptions of tourism destination manage-
ment, and hence, adequate sustainability indicators have to be chosen to evaluate the
progress of this impact (UNWTO, 2007).

UNWTO (2007) identifies different methods of managing tourism resources of a destina-
tion in a sustainable way. The organisation mentions, among others, PPP, the acquisition
of sustainable development certifications, or the implementation of sustainability indica-
tors in destination management. In this context, the literature presents various sustaina-
bility models and frameworks that introduce different indicators to measure the progress
of tourism processes and resources. Also, **Table 4** summarizes several guidelines that
would help DMOs to maximise the positive impacts of tourism in a destination according
to UNWTO (2007).

TABLE 4

*UNWTO GUIDELINES TO ENHANCE SUSTAINABLE DEVELOPMENT*

| Guidelines to enhance sustainable development | |
|---|---|
| Economic guidelines | Economic impact assessment before tourism development. |
| | Increase local economic benefits by increasing linkages and reducing leakages. |
| | Promote the involvement of local communities. |
| | Local marketing and product development. |
| | Equitable business and pay fair prices. |
| Social guidelines | Involvement of local communities in planning and decision making. |
| | Social impact assessment of the tourism activity. |
| | Respect social and cultural diversity |
| | Protect the host culture. |
| Environ-mental guidelines | Reduce environmental impacts when developing tourism. |
| | Use natural resources sustainably. |
| | Maintain biodiversity. |
| Other guidelines | Select a portfolio of appropriate responsible tourism practices. |
| | Choose realistic objectives and targets. |
| | Use clear benchmarks to measure and report on your progress. |
| | Work with trade associations, local people and government to achieve your objectives. |
| | Use responsible tourism as part of your marketing strategy. |
| | Show your progress to staff and clients. |

(UNWTO, 2007)

In some cases, the models proposed by researchers are based on frameworks that capture the relationships between the most relevant actors. This is again the case of the VICE model (**Figure 4**). This three-axis model includes the needs of visitors, industry and local community around the central axis of culture and environment.

FIGURE 4

*VICE MODEL*
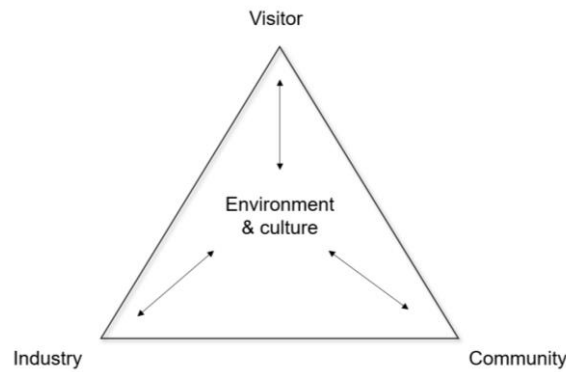


(UNWTO, 2007)

The UNWTO VICE model (2007; p.4) proposes to monitor destination's tourism strategy through four key questions: "(1) how will this decision affect visitors? (2) what are the implications for the industry? (3) How does it affect the community? and (4) What will be the impact on the environment and/or the culture of the destination?".

FIGURE 5

*TRIPLE BOTTOM BSC MODEL*
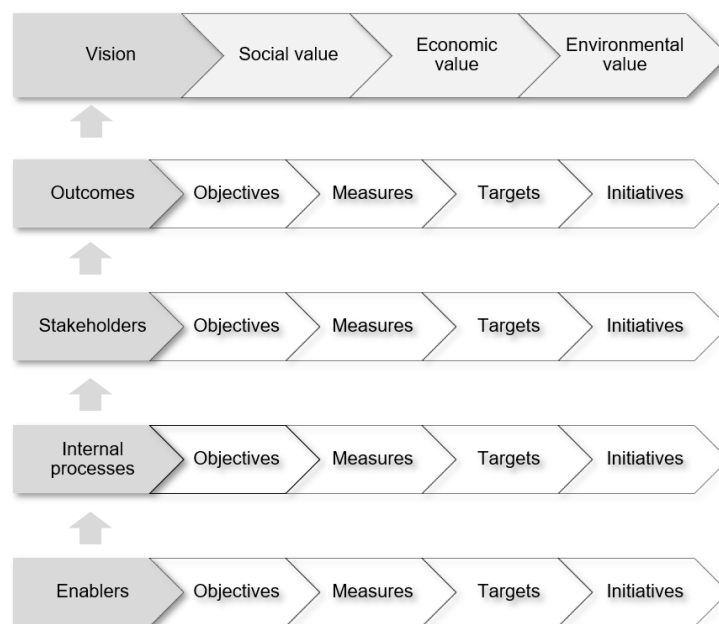


(Self-elaboration, based on Kaplan & McMillan, 2020)

Following a similar axis model, based on the classical BSC model presented in **2.1.1.1.2**, Kaplan and McMillan (2020) propose a strategy tracking model that considers the sustainable development of the organisation in question at the centre of the metrics system. These authors suggested an upgraded BSC model in which social, economic and environmental value are incorporated into the equation (**Figure 5**). Thus, the Triple Bottom BSC (TB-BSC) model considers not only that sustainability parameters do not exclude strategic success, but also that in many cases stakeholders intend to contribute to positive impact in an active way. Therefore, there are many sustainability indicators – social, environmental and economic – that were not included in this model and have been recently added.

A significant characteristic of the TB-BSC is the multi-stakeholder character required for its implementation. In addition to considering it necessary to involve more than one stakeholder to ensure sustainability, it is also essential that these stakeholders form inter-sectoral and inter-organisational ecosystems. This is why the authors suggest coalitions such as trade groups or PPPs. Each of them will play an indispensable role in the value chain, increasing the overall value of the activity or product developed (Kaplan & McMillan, 2020).

Another key element that  could be highlighted in the model is the way in which it promotes the sustainable production and distribution of the products or services designed. Through the indicators proposed, this model does not only aim to reduce the negative impact of the activity, but also to exploit the positive impact, making tourism a promoter of quality of life. That is why some of the KPIs proposed by the TB-BSC are employment, improvements in education and health for the local community, and the reduction of inequality (Kaplan & McMillan, 2020).

Finally, it is also considered relevant to mention that businesses are the main beneficiaries of this TB-BSC model, and hence, its implementation can be difficult for DMOs. Consequenlty, other models that focus more specifically on territories are also considered. For instance, the evaluation model proposed by Luo (2018) represents destination performance on four pillars. In addition to the economic, resource efficiency and process effectiveness pillar, this model has an equity pillar that represents the social and environmental well-being of the community on which the activity exerts pressure.

**TABLE 5**

*SUSTAINABLE DEVELOPMENT FRAMEWORK INDICATORS*

| Subjects | Indicators | Sources |
|---|---|---|
| Economy | Tourism revenues of GDP. <br> Average annual growth rate of tourism outputs. <br> Involvement of local communities. <br> Equitable business and pay fair prices. <br> Number of stakeholder linkages. <br> Percentage of increased sales. <br> Percentage of increased margin. <br> Profitability of customers. <br> Optimisation of resources and assets. <br> Financial flexibility. | (Perez, Guerrero, Gonzalez, Perez & Caballero, 2013; Tyrväinen, Uusitalo, Silvennoinen & Hasu, 2014; Luo, 2018; UNWTO, 2007, Kaplan & McMillan, 2020). |
| Efficiency | Average number of visitors on tourist zone. <br> Annual number of visitors per travel agency. <br> Annual visitors of unit star hotel beds. <br> GDP per capita of tertiary industry employees. | (Perez et al., 2013; Tyrväinen et al., 2014; Luo, 2018). |
| Effectiveness | Number of travel agencies. <br> Number of star hotels. <br> Number of tertiary industry employees. <br> Number of scenic spots above class 2A. <br> Number of complaints. <br> Average stay. | |
| Equity /Environment | Urban paved roads per capita. <br> Air quality. <br> Urban regional environment sound level assessment. <br> Sewage treatment rate. <br> Urban public green space per capita. <br> Eco-efficiency of land use. <br> Tourists' perception of environment value. <br> Responsible behaviour. <br> Biodiversity. <br> Occupational health. <br> Water management. | (Perez et al., 2013; Tyrväinen et al., 2014; Luo, 2018; UNWTO, 2007; Kaplan & McMillan, 2020). |
| Society | Presence of local the local community in the decision-making process. <br> Host culture protection level. <br> Satisfaction of customers. <br> Innovation in products and organisational change. <br> Transparency within the sector. <br> Social impact. <br> Product quality management. | (UNWTO, 2007; Kaplan & McMillan, 2020). |

This section shows the existence of various proposals with different suggestions for sustainable development models. This variety in the models denotes a certain relevance of the subject in the general context of destination management, and for this reason it is believed that sustainable development is an essential domain in the definitive model that is intended to be assembled for destination managers. Even so, all the models presented in this section require a certain treatment that optimises the different proposals by eliminating repeated indicators and classifying these KPIs in an orderly manner (**Table 5**).

### 2.4.2.1.1 Optimisation vs. maximisation

According to Hall (2008), although the growth of tourist arrivals overall has been positive since the advent of mass tourism in the 1960s, recent years have witnessed an exponential increase in this curve. This 'boosterism' pursued by destinations lately, led into communities of the most popular tourism destinations starting to suffer socio-economic effects derived from problems of carrying capacity or inflation of goods and assets such as housing. Hence, due to the increasing interest in sustainable development, doubts have been raised about the advisability of arrivals maximisation growth model followed by destinations so far for being opposite to a sustained and controlled growth of the industry (Hall, 2008). Thus, Oklevik et al. (2019) suggest the implementation of the optimisation model of visitor outcomes in the destination, which consists of the promotion of alternative indicators for measuring the development of the destination, for example by increasing the benefit obtained per arrival.

In their research, Gossling et al. (2016) refer to optimisation as the best way of doing something. DMOs should understand optimisation a as a market segmentation process that managers must develop in order to prioritise the most profitable, most stable, or unseasonal markets for their trips. To this end, these authors believe that it is necessary to review the indicators used by the DMOs, proposing a change in the attributes to be taken into account. Similarly, Oklevik et al. (2019) establish the main difference between the two strategies in the approach from which information managers approach the analysis. The study by these authors concludes that maximisation strategies focus on parameters related to the generation of revenue at the destination, including measures such as (1) the volume of visitor expenditure, (2) price perception, and (3) LOS.

However, Oklevik et al. (2019) recommend prioritising the optimisation strategy, the importance of which lies in the destination's revenue distribution indicators, the environmental impact of visitors, and the tourism activity generated in the territory. In other words, the environmental impact, economic benefits and resilience capacity of the

destination (Dogru, Marchio, Bulut & Suess, 2019). Oklevik et al. (2019) also state that, in order to ensure the correct implementation of this model, data and information are essential elements since optimisation requires a greater and more detailed review of visitor behaviour in the destination. These new indicators will generate an improvement in the perception of the destination's opportunities. But for this to happen, data collection methods used in previous management strategies should be reassessed in such a way that they give an appropriate response to the new monitoring parameters set.

Therefore, optimisation is regarded as the adequate method for DMOs to "better target their marketing efforts at specific markets and segments, to develop new and attractive tourism products" (Oklevik et al., 2019; p. 1820). It increases potentially the economic benefits obtained from the tourism activity, reduces the negative impact of visitors staying in the destination, and promotes destination resilience over market changes (Gossling et al., 2016).

Indicators that have been discovered through the analysis of 'optimisation vs. maximisation' models are crucial for understanding the direction in which destinations pursuing competitive models should work (**Table 6**). However, it is perceived that the set of indicators obtained from these models is short to represent a whole destination-performance model itself, and to a certain extent the indicators presented here are aligned with sustainable development.

TABLE 6

*OPTIMISATION MODEL INDICATORS*

| Subjects | Indicators |
|---|---|
| Environmental impact | Environmental footprint. |
| | Distance between outbound and inbound markets. |
| Economic benefits | Distribution of activities carried out during the visit. |
| | Expenditure by type of accommodation or visitor profile. |
| Destination resilience | Ease of doing business. |
| | Political stability. |
| | Control of corruption. |
| | Rule of law. |
| | Regulatory quality. |
| | Social inequality. |
| | Social infrastructure. |
| | Education level. |
| | Innovation capacity. |

(Oklevik et al., 2019; Dogru et al., 2019)

### 2.4.2.1.2  Internal destination management framework

As mentioned, the roles that DMOs should adopt are generating one of the main debates in the field of destination management. More than a decade ago, Presenza et al. (2005) anticipated a period of transition in the tasks to be focused on. In this context, the authors underline the 'destination developers' profile of DMOs, in which the managers of the territory act as facilitators and promoters of tourism activity and the relationships that occur in their ecosystem. However, to this end, they believe that it is not enough to promote the destination. These organisations must be the main drivers of certain standards of competitiveness and sustainable development.

Therefore, Presenza et al. (2005) developed a model based on a previous study of Ritchie and Crouch (2003), which established two main lines of work for DMOs. On the one hand, external marketing, which is named after the target towards which these actions are directed – located outside the destination – and internal destination management, which refers to the actions to be carried out in the destination and for the destination. However, from this model, it is considered necessary to focus on the second part, i.e. the internal destination management framework. The correct management of its component elements can solve some of the problems that have been identified as major gaps in the new destination management requirements. Based on **Figure 6**, the three main layers of that model are further described: quality management, stakeholders' coordination and tourism information systems.

**FIGURE 6**

*INTERNATIONAL DESTINATION MANAGEMENT FRAMEWORK*



(Presenza et al., 2005, based on Ritchie & Crouch, 2003)

*2.4.2.1.2.1 Experience quality management*

Moutinho and Vargas-Sanchez (2018) distinguish between different types of quality, and therefore different ways of approaching them. On the one hand, the author differentiates between productivity-based quality enhancement – based on the effectiveness and efficiency of the resources employed – and competitiveness-based quality, which takes into account attributes other than the perceived result or growth. It also distinguishes between internal quality, related to the organisation's internal processes, external quality, which includes efforts to manage expectations and perceptions and, finally, the actual quality perceived by visitors or consumers.

Presenza et al. (2005) state that the visitor experience is the set of perceptions that the traveller has had at different stages and touchpoints of the journey, but the authors consider the quality of this experience something that DMOs should measure or evaluate rather than manage per se. Therefore, quality control models of experience are the subject of this section. Murphy and Murphy (2004) identified that visitors are becoming increasingly value and quality conscious, because they are developing into more experienced customers. Therefore, visitors look for quality of experience in the balance between the quality of services offered and price; whereby visitor experience satisfaction and visitor loyalty are shaped (Sasser, Schlesinger & Heskett, 1997).

Related to the processes of measuring the quality of tourism products are visitor impact management models (VIM). VIMs measure the effects of tourists on the territory in order to be able to compare them to the value and perceptions expected by visitors. But VIMs are born as a consequence of limitations perceived in carrying capacity models (Murphy & Murphy, 2004). The first authors who defined carrying capacity recognise this concept as the maximum number of visitors that a destination or attraction can support without lowering the quality of the environment (O'Reilly, 1986; Stankey, 1981; Paskova, Wall, Zejda & Zelenka, 2021). Therefore, carrying capacity is related to the quality of experience and sustainable territorial development. Later authors have criticised this approach of carrying capacity models for ignoring more qualitative parameters related to the context of each destination, i.e. visitor behaviour (Jordão, Breda, Veríssimo, Stevic & Costa, 2021). In response, Paskova et al. (2021) and Wall (2019) recognise that carrying capacity as a measure to guarantee the experience is only valid when it is used in comparison with the objectives and context of each territory.

In an effort to improve this concept, VIM models were developed. These models already assume that tourism activity generates changes on the territory and on the society in

which it occurs; thus encompassing a more realistic view of the impact of visitors on the destination (Murphy & Murphy, 2004; Paskova et al., 2021; Leung, Spenceley, Hvenegaard, Buckley & Groves, 2018; Zelenka & Kacetl, 2013). Likewise, the Limits of Acceptable Change (LAC) methodology was also developed. The LAC model consists of a sequence of steps that analyse the physical and social environment of the destination, and it assesses the level of change that the territory and the local community can or are willing to tolerate (**Figure 7**) (Stankey, Cole, Lucas, Petersen & Frissell, 1985; Murphy & Murphy, 2004; Komsary, Tarigan & Wiyana, 2018).

**FIGURE 7**

*LAC PLANNING SYSTEM*
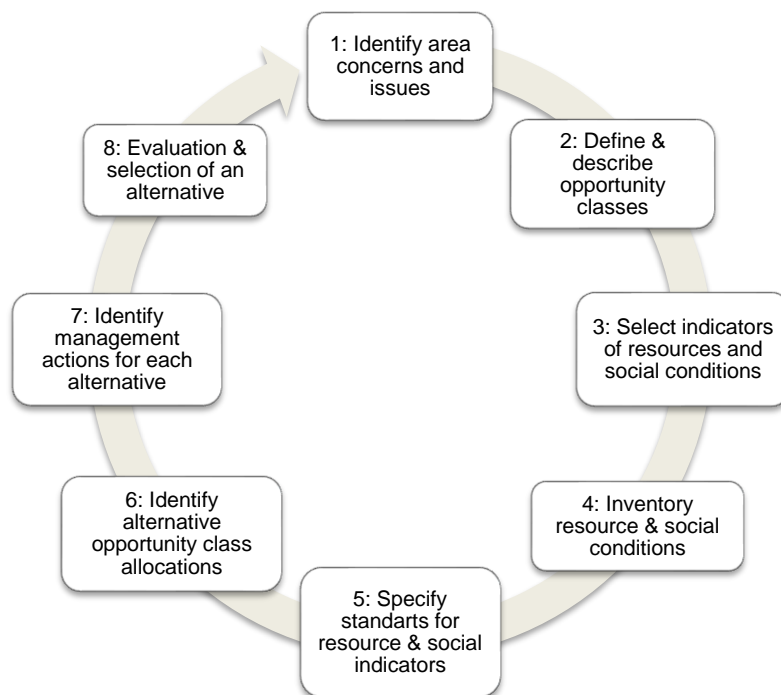


(Stankey et al., 1985)

As the figure shows, the first three steps consist of an evaluation of the situation, since the LAC model must be developed on problems specifically identified at the destination (Jordão et al., 2021). Paskova et al. (2021) consider, on the one hand, 'visitation and visitor characteristics' as independent variables of such an analysis, while 'impacts generated by tourism system actors' would be the dependent variables of the study. The third step refers to the definition of indicators that, based on the analysis carried out, are considered appropriate for the destination. These indicators should be easily measurable in quantitative terms, for subsequent evaluation in the process. Similarly, the fifth step further specifies the objectives or limits to be established for each of the identified indicators (McCool, 2013; Jordão et al., 2021; Ahn, Lee & Shafer, 2002).

it is not possible to establish a single LAC model scalable to all destinations. However, **Table 7** presents the indicators selected by the managers of different destinations who wished to conduct a LAC study in their territories and which can be considered the most representative indicators of LAC models (Jordão et al., 2021). As in the case of the optimisation indicators, the quality management indicators have a similar structure to the sustainability indicators. However, LAC models offer a perspective of analysis of these indicators that is not considered in the sustainable development block. Therefore, it is considered interesting to maintain the 'local community and territory tolerance limits' context within the final destination management model outcome expected from this research.

TABLE 7

*LAC MODEL INDICATORS*

| Subjects | Indicators | Sources |
|---|---|---|
| Environmental conditions | Amount wildlife | |
| | Number of open spaces | |
| | Quality of the natural environment | |
| | Amount of traffic & noise heard | |
| | Amount of pollution in the area & litter | |
| | Amount of erosion | |
| Social conditions | Safety from crime | |
| | Number of jobs | |
| | Community spirit | |
| | Chance to meet people | |
| | Number of people | |
| | Personal income | (Ahn et al., 2002) |
| | Awareness of local culture | |
| | Local taxes | |
| | Attractiveness to invest | |
| Physical environment | Availability of hotels | |
| | Uncontrolled development | |
| | Historical building | |
| | Variety of restaurants | |
| | New buildings | |
| | Quality of transportation | |
| | Variety of entertainment & shopping facilities. | |
| Natural environment | Percentage area lost due to tourism development | |
| | Percentage wild animals roam out of natural habitat | (Komsary et al., 2018) |
| | Percentage of waste discharged into the sea without any purification process | |
| | Percentage of tourists experienced a certain density level | |

| | | |
|---|---|---|
| Social | Percentage change of social livelihood | |
| | Percentage of people who depend on tourism | |
| Built environment | Ratio number of built environment to open space | |
| Environmental conditions | Dirt on the streets | |
| | Noise level | |
| | Congestion of public spaces and transport. | |
| Social conditions | Rent costs | (Jordão et al., 2021) |
| | Population in destination | |
| | Number of residents vs. Tourists | |
| | Violence rates | |
| Physical environment | Traditional commerce | |
| | Long-term properties vs. Short-term rents | |
| | Parking capacity | |

### *2.4.2.1.2.2 Coordinating tourism stakeholders*

The coordination of stakeholders is perceived as the "core competency to achieve success in destination management" (Presenza et al., 2005; p. 10), as the interrelation of destination stakeholders will condition the capacity of the territory to manage crises, the distribution of existing resources, or the financing that the destination will obtain for its activity (Ritchie & Crouch, 2003; March & Wilkinson, 2009). Moreover, Byrd (2007) considers that stakeholders' engagement would condition destinations' success.

But in order to ensure a proper integration of destination stakeholders, it is crucial to first identify them. Murphy and Murphy (2004) show that, due to the complexity and interrelatedness of tourism sector activities, it is no longer sufficient to consider only direct stakeholders as stakeholders. Kaplan and McMillan (2020; p. 11) define a stakeholder as "any individual or entity with interest and agency relative to the activities of the company".

Roxas, Rivera and Gutierrez (2020) developed a stakeholder model that, in addition to identifying the main actors, also names the type of relationship that is created between each of them (**Figure 8**). Thus, international organisations, local and national government, businesses and local community compose the essential elements through which a tourism ecosystem is understood; all of them being actively crucial in all tourism planning and development processes (Mathew & Sreejesh, 2017).

FIGURE 8

*STAKEHOLDERS' STAR MODEL*
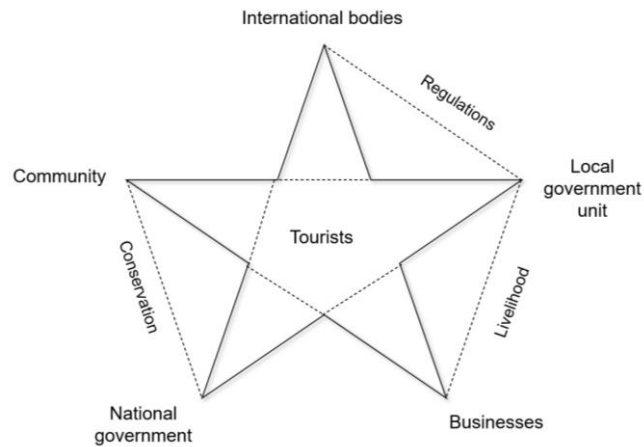


(Roxas et al., 2020)

According to Angelkova, Koteski, Jakovlev and Mitrevska (2012), these interrelation-ships allow addressing more competitive problems and accessing better opportunities at the destination, as well as maximising the benefits and reducing the impacts of tourism activity on the territory. But these benefits do not occur if the actors do not fulfil the roles expected of them.

Several models have been developed to explain the different forms of relationships in which these actors interact. Brandenburger and Nalebuff's (2011) model considers four stakeholder profiles according to their 'value nets': (1) competitors: actors that decrease the value of the main stakeholder, i.e. other DMOs; (2) complementors: actors that en-hance the value of the main stakeholder, i.e. other DMOs; (3) suppliers: materials, tech-nology, financial resources, etc.; (4) customers: visitors and tourists.

**FIGURE 9**

*STAKEHOLDERS' CONNECTIONS MATRIX*



(d'Angella & Go, 2009)

But this model only gives the opportunity to locate on the map the most direct stakehold-ers; those who have a direct relationship with the central objective. For this reason, the matrix proposed by d'Angella and Go (2009) (**Figure 9**), which takes into account the

type of connection that links the stakeholders and the interests of each of the groups, is also considered.

Even though stakeholders' management can condition several aspects of the destination management process, the whole destination performance view cannot be assessed using exclusively these indicators, as aspects such as environmental conditions' evaluation, for instance, would not be considered in that case. Accordingly, parameters named in **Table 8** should be treated as a section of a larger domain of parameters in the destination performance evaluation metrics.

TABLE 8

*COORDINATING STAKEHOLDERS' MANAGEMENT MODELS INDICATORS*

| Subjects | Indicators | Sources |
|---|---|---|
| Stakeholders' connections | Compatibility degree between stakeholders. Degree of necessity of the stakeholder. | (d'Angella & Go, 2009) |
| Roles of DMOs/NTOs | Tools for inter-organisational accountability. Development of global standardized practices. | (Erkuş-Öztürk, 2011; Duffy & Moore, 2011; Morgan & Krueger, 1998; Roxas et al., 2020) |
| | Community empower.: participatory planning. Business empower.: participatory planning. Promoting positive social impacts of tourism. Sustainable development promotion. | (Moscardo, 2011; Björk, 2000; Stoker, 1998; Roxas et al., 2020) |
| | Data collected from stakeholders and research. Creation of tourism training programs & education. Quality control management. Rules and laws reinforcement. Required fundraising. Responsible marketing and positioning. | (d'Angella & Go, 2009). |

*2.4.2.1.2.3 Information and research in tourism destinations*

At the lowest layer of **Figure 6** are the information and research centres of the destinations, which represent the two main information flows that DMOs must manage. On the one hand, there are the 'outflows' as the set of information that DMOs transmit to visitors. On the other hand, the 'inflows' or the information required by the DMO to operate efficiently can be seen (Ritchie & Crouch, 2003). The reason why Presenza et al. (2005) link these information systems to the stakeholder layer is that both of these information collection and transmission tools must be aligned with the interests of all stakeholders (Sigala, 2014).

Destination official websites and destination marketing systems (DMS) are essential tools for outflows because, in addition to providing the information visitors expect to receive, they also promote collaboration between stakeholders to work towards common marketing objectives (Sigala & Marinidis, 2012; Sigala, 2014). Frew and Horan (2007; p. 63) define DMSs as "systems that consolidate and distribute a comprehensive range of tourism products through a variety of channels and platforms, generally catering for a specific region, and supporting the activities of a DMO".

From the user point of view, these platforms must provide, among others, accountability and trustworthiness in the information and content offered (Frew & Horan, 2007; Morrison & King, 2002). Sigala (2014) suggests a series of financial and non-financial parameters that DMOs should assess in order to analyse the performance of the DMS, classified within the following groups: (1) customer-focused marketing and promotion performance, (2) customer life cycle and user behaviour metrics, (3) inter-organisational performance and (4) technical performance metrics. Besides, regarding Sigala's (2014) contribution, it should be noted that her proposal shows certain similarities with some of the marketing metrics models that have been presented in previous chapters of the manuscript and, for this reason, the value of the information inflows indicators is considered further in this section.

In response to the growing amount of data to be analysed and the increasing pressure to provide better and faster responses to destination problems, many DMOs are turning to business intelligence (BI) applications to improve their decision making, which are considered essential to move the destination towards smart destination models (Femenia-Serra & Ivars-Baidal, 2021; Pousa-Unanue, Femenia-Serra, Alzua-Sorzabal & Gómez-Bruna, 2021).

BI is known as the set of technologies, applications and processes that serve to collect, store, access and analyse data in order to make better decisions (Olszak & Ziemba, 2007; Shollo & Galliers, 2016; Vizgaitytė & Rimvydas, 2012; Watson & Wixom, 2007), reducing technology infrastructure costs and the time required to manage data, and thus improving the cost-effectiveness and efficiency of management processes. These tools, although led by the DMO, should enhance cooperation between all stakeholders who may have an interest and a need to know the information published through the tool (Eckerson, 2003; Lönnqvist & Pirttimäki, 2006).

There are many BI systems on the market for tourism destinations, but there is no cohesion between the type of data offered by all of them. For this reason, several authors

have developed studies that list the main groups of data that should be included in these platforms. Fuchs, Höpken and Lexhagen (2014) consider (1) economic performance indicators including prices, sales, occupancy and bookings carried out at the destination, (2) demand behaviour indicators, and (3) tourism perceptions and experiences, whose parameters are analysed through a review of brand recognition or loyalty indexes, as the main information that a BI platform for destinations should offer. Pousa-Unanue et al. (2021) suggest that the data obtained through these platforms should not only serve the purpose of justifying towards higher authorities the fulfilment of positioning and marketing objectives, but should also be integrated into the day-to-day operations of DMOs to lead to informed long-term planning. Also, according to the study conducted by these authors, the visualisations of these data should tend towards adaptability and modulation, in order to be able to make use of the information at any time and at any destination. Finally, due to the COVID-19 crisis, DMOs that have participated in this process ensured that they felt the need to integrate data with a more health-related profile into the more purely tourist data.

**TABLE 9**

*INFORMATION AND RESEARCH SYSTEMS MODEL INDICATORS*

| Subjects | Indicator | Sources |
| --- | --- | --- |
| Customer-focused marketing and promotion performance | Online sales. Online marketing costs. Yield. Freshness and personalisation of website content. Destination awareness indicators. | |
| Customer life cycle and user behaviour | Web site users' reach. Conversion. Retention. Attrition. Frequency and recency of the site visit. Length of the navigation. | (Sigala, 2014) |
| Inter-organisational performance | Cooperation between tourist firms and DMOs. Number and variety of the DMS participating members. Collaboration trust issues. | |
| Technical performance metrics | Effectiveness in providing information. Transaction and CRM functionality. Reliability and ease of use. Integrate DMS with tourism firms' reservation systems. Design and navigation quality. | |
| Stakeholders | Number of stakeholders with access to the tool. Degree of collaboration enhanced with the tool. | (Eckerson, 2003; Lönnqvist & Pirttimäki, 2006) |

| Type of data provided through the tool | Economic performance indicators. | (Fuchs et al., 2014) |
| | Demand behaviour indicators. | |
| | Tourism perceptions and experiences. | |
| | Health-related indicators. | |
| Goals of BI | Use of the data obtained. | (Pousa-Unanue et al., 2021) |
| Data viz. | Adaptability and modulation options of the tool. | |

In contrast to the DMS literature, BI applications within the destination management context are still being studied by academia and the industry. Hence, there are few clear indicators that can already be transferred to the final model suggestion. However, as the use of these technologies is increasing among DMOs, these indicators in **Table 9** parameters must also be considered in the evaluation of destination performance.

### 2.4.3  Models to deal with ICTs and emerging technologies

#### 2.4.3.1  New value creation processes

It is said that the value of the destination is not only in the territory itself. It is the stakeholders that participate in the tourism ecosystem that add up the value chain perceived by the visitor. Therefore, the value of the destination, which is directly related to the quality of the visitor's experience, is largely subjective and dependent on the choices made by visitors throughout the travel process. Hence, it is crucial for destination managers to analyse visitor behaviour and understand their decision-making processes in order to approximate their vision of the destination value chain (Poon, 1993; UNWTO, 2007; Stienmetz & Fesenmaier, 2013).

In order to assist destinations in this process, the UNWTO (2007) launched a framework that captures the main touchpoints between visitors and tourism service providers. It can therefore be understood as a traditional model of destination value creation. This organisation differentiates between two groups of activities on which tourists have to make decisions. Firstly, the primary activities, which would be the core activities of the destination, among which are product development, promotion or destination operation and services. Secondly, indirect activities, which include activities that increase the value of the destination but are not offered directly to visitors. This is the case of destination planning or the education and training of workers in the sector (UNWTO, 2007; Meriläinen & Lemmetyinen, 2011; Stienmetz & Fesenmaier, 2013).

However, researchers also believe that information seeking and travel decision-making have been transformed by the advent of technological systems and the ICT revolution, changing the capabilities and roles of visitors and tourism managers dramatically.

Fesenmaier and Stienmetz (2013) and Gretzel (2010) refer to this phenomenon as 'travelling the network', making a metaphor with the new behaviours that tourists have demonstrated as a result of new sequences of touchpoints occurring during their visits. The authors recognise three main trends that justify the emergence of this new perspective on the destination value chain: (1) the power of co-creation of the experience that visitors have gained by creating and interacting with content in the various networks of people online (Xiang, Wöber & Fesenmaier, 2008); (2) the development of technology-supported networks facilitated the visitors' personal sharing options (Wang & Fesenmaier, 2004); (3) chanding decision-making times due to the ubiquity and speed at which these platforms operate (Stienmetz & Fesenmaier, 2013). Thus, Stienmetz and Fesenmaier (2013) express their idea of the transition of the destination value chain towards a value network in **Figure 10**.

**FIGURE 10**

*DESTINATION VALUE NETWORK*
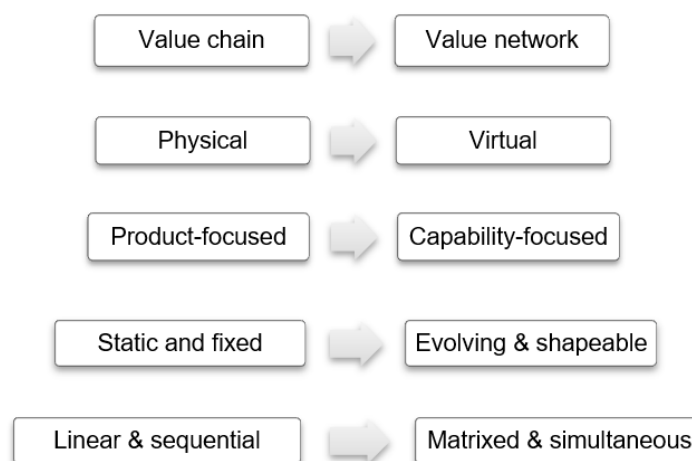


(Stienmetz & Fesenmaier, 2013, based on Freeman & Liedtka, 1997)

Firstly, Stienmetz and Fesenmaier (2013) observe a duality in the spaces in which this value network occurs. They maintain the physical spaces in which most tourist experiences happen. But they also consider the virtual space as a key place where numerous touchpoints occur between various stakeholders: social networks, destination websites, online travel agencies, etc.

**Figure 10** also underlines the trend of the uniqueness of travel. Every traveller ends their trip with a different experience, and that is why DMOs must now focus on providing visitors with the best destination options to ensure a quality experience. For this reason, these authors also underline the variety and flexibility of these tourist experiences, as new technological tools have broken the original linear scheme of pre-planning the trip,

and also gave visitors the ability to plan and experience practically simultaneously or continuously (Hwang & Fesenmaier, 2011; Zach & Gretzel, 2011; Stienmetz & Fesenmaier, 2013; Tax, McCutcheon & Wilkinson, 2013).

Stienmetz and Fesenmaier (2013) have also adapted the set of value activities identified by UNWTO (2007) on the basis of their new model, creating a value network based on four axes: (1) marketing and promotion activities, mainly based on the 'information eco-system' that arise in destinations among visitors or peers (P2P) and businesses (B2B); (2) sales and distribution activities: closer to the traditional model, this layer includes all the transactions between stakeholders; (3) experience-design-related-activities: this point covers the channels through which experiences are shared and information is re-ceived about others – not only do they refer to P2P experiences, but business to cus-tomer (B2C) interactions are also recognised in this section – (4) partnership coordina-tion activities: similar to the previous axis, this includes activities developed collabora-tively, regardless of the type of activity. In other words, those processes in which two or more stakeholders cooperate in the co-creation of a service or a travel experience (Stienmetz & Fesenmaier, 2013).

In addition to the elements of the model suggested by Stienmetz and Fesenmaier (2013), it is important to mention the need they perceive to add new measurement indicators at the destination as a consequence of the changes identified in the new form of the desti-nation value chain. Firstly, Stienmetz and Fesenmaier (2013) consider destination den-sity as a needed measure to define the "overall connectedness of the network, which would be determined by dividing the total number of ties by the total possible number of ties that could occur within the network" (Aggarwal, 2011; p. 180). Therefore, the higher the destination density, the better communication and collaboration capabilities in the destination (Bhat & Milne, 2008). Stakeholders centrality is regarded as a crucial indica-tor, since the capacity to influence or condition the decision-making or behaviour of other stakeholders is relative to the degree of centrality of the stakeholder in question (Stienmetz & Fesenmaier, 2013). Finally, the stakeholders betweenness – which Shih (2006) recognises as the interrelationship between the different stakeholder nodes – should also be incorporated into the destination activity monitoring model.

In general, Stienmetz and Fesenmaier's (2013) proposal considers that the value of tour-ism destinations rests, to a large extent, on the quality and efficiency of the relationships between destination stakeholders in all their forms. Therefore, rather than the ultimate destination management model, the indicators identified for this model destination

density, stakeholders' centrality and stakeholders' betweenness – are considered complementary to the set of indicators identified above in the section dedicated to stakeholders.

#### 2.4.3.1.1 Smart destination metrics as an alternative

The need to develop alternative models of destination analysis has culminated in the creation of a new tourism management model: smart destinations, which have their origin in the concept of smart cities (Huovila, Bosch & Airaksinen, 2019). Unlike smart cities, smart destinations aim to cater for both temporary visitors and residents, and López de Ávila and García (2015) define smart destinations as:

> Innovative spaces consolidated on cutting-edge technological infrastructures, committed to sustainable factors, endowed with an intelligence system that captures information in a procedural way, analyses and understands events in real time, in order to facilitate the interaction of the visitor with the environment by improving the quality of tourism experiences as a result of a better decision-making (p. 62).

The literature on smart destinations is increasingly abundant, but the measurement indicators proposed by academia to assess the achievements of destinations are still limited. In this context, it is worth highlighting the work of Spanish destinations, which under the guidance of organisations such as Segittur (Secretary of State for Tourism) or Invat-tur (Valencian Institute of Tourism Technologies), have managed to work on a framework that has allowed them to become certified smart destinations.

Thus, Ivars-Baidal, Celdrán-Bernabeu, Femenia-Serra, Perles-Ribes and Giner-Sánchez (2021a) offer in their work a review of the system of indicators for smart destinations developed by the Valencian agency. In this case, nine categories are considered in which destinations must work to obtain the certificate: (1) sustainability, (2) accessibility, (3) connectivity, (4) online marketing, (5) intelligence, (6) innovation, (7) information management, (8) evolution of tourism activity and (9) governance (**Table 10**).

## TABLE 10

*SMART DESTINATION MODEL INDICATORS*

| Subjects | Indicators |
|---|---|
| Governance | Implementation of a strategic tourism plan. |
| | Coordination mechanisms between local administration departments for smart destination project development. |
| | Implementation of a smart destination project. |
| | Existence of a smart destination coordinator (responsible technician). |
| | Existence of an annual operations plan for the destination. |
| | Mechanisms to facilitate PPP. |
| | Development of E-Government/open government strategies. |
| | Implementation of quality management systems with a destination approach. |
| | Development of social awareness campaigns on tourism impacts among citizens. |
| | Application of return on investment (ROI) analysis on tourism initiatives. |
| Sustainability | Implementation of urban planning regulations adjusted to sustainability principles. |
| | Implementation of specific plans for a sustainable tourism development. |
| | Public promotion of sustainable mobility. |
| | Existence of enhancement of energy efficiency strategies (public lightening). |
| | Collection and treatment of waste. |
| | Efficiency in water supply, purification and re-use of wastewater. |
| | Implementation of tourism indicators for sustainable destination management. |
| | Development of awareness campaigns targeted at residents about sustainability. |
| | Creation of climate change adaptation programmes. |
| | Use of ethical codes on tourism (regulation of activity, governance, impacts). |
| | Maximum Human Pressure Index and floating population evolution. |
| | Legal provisions and environmental or quality certifications implemented on tourism resources. |
| | Companies awarded with environmental certifications (standards). |
| | Awareness campaigns targeted at tourists about sustainability. |
| | Surface of green areas per de facto population. |
| Accessibility | Accessibility of tourism resources and attractions. |
| | Information services adapted at a technical level to the needs of people with disabilities. |
| | Compliance on content accessibility with the Web Accessibility Initiative (WAI). |
| | Initiatives for promoting accessible tourism. |
| | Public transport system adapted at a technical level to the needs of people with disabilities. |
| | Existence of a dynamic inventory about tourism resources, companies and accessible services for tourists. |

| | |
|---|---|
| Innovation | Existence of support programmes for innovation in the tourism sector. |
| | Implementation of innovation mgmt. systems in companies and public bodies. |
| | Development of innovation projects in collaboration with universities and research and development (R&D) institutions. |
| | Promotion of collaborative innovation between agents. |
| | Local entrepreneurship. |
| | Population educational level and occupation in highly innovative sectors. |
| Connectivity | Internet connection quality at the destination. |
| | Free Wi-Fi availability in tourist information office(s). |
| | Free Wi-Fi availability in tourist points of interest (main attractions). |
| | Proportion of tourism businesses providing free Wi-Fi to tourists. |
| | Implementation of sensors for data collection at the destination. |
| Intelligence | Implementation of a barometer to measure level of confidence of businesses. |
| | Analysis of tourism demand (trends, markets) – BI. |
| | Development of analysis on social media networks and website traffic. |
| | Implementation of a digital platform for data integration and information mgmt. |
| | Existence of community management (professionalised). |
| | Existence of open data on tourism activity (available online to everyone). |
| | Mechanisms for monitorization & evaluation of points of interest situation. |
| | Implementation of georeferencing systems for tourist resources. |
| Information systems | Existence of digitised promotional material. |
| | Existence of a 24/7 information point (touchscreen or similar). |
| | Implementation of virtual assistance. |
| | Adaptation of the DMOs website to any device. |
| | Active presence on social media by DMO to provide information. |
| | Destination certified by "Q quality" (standard about quality of services, including information. |
| | Availability of information on connectivity and public Wi-Fi network. |
| | Implementation of sensors in tourist signage. |
| | Existence of an official destination mobile app. |
| Online marketing | Development of brand monitoring and reputation analysis. |
| | Implementation of social media plan. |
| | Development of SEO positioning and actions. |
| | Investment in online advertising – search engine marketing (SEM). |
| | Implementation of CRM and email marketing strategy. |
| | Existence and application of an online marketing plan. |
| | Investment in social media advertising. |
| | Commercialization through own website (DMO site). |
| Evolution of tourism activity | Tourist satisfaction level among tourism demand. |
| | Evolution of occupancy rate in tourism accommodation. |
| | Evolution of tourism expenditure at destination. |
| | Level of seasonality of tourism demand. |
| | Unemployment level in the services sector. |

(Ivars-Baidal et al., 2021a)

The compendium of indicators summarized by Ivars-Baidal et al. (2021a) makes it possible to measure the progress and improvements of tourism destinations in terms of tourism intelligence and is considered a very appealing tool for the development of future management models and, especially, for the proposal of destination indicators which is intended to be developed in this research. As these indicators show, information management and information sharing are essential aspects for DMOs trying to implement these target models; therefore, information technologies and innovation are essential axes (Hunter, Chung, Gretzel & Koo, 2015). Smart destinations and this set of measurement indicators by Ivars-Baidal et al. (2021a) are built on the idea that a greater degree of information on destination dynamics and visitor behaviour can generate new opportunities for destination managers in terms of policy development, product creation or even marketing and destination positioning (Lamsfus & Alzua-Sorzabal, 2013; Lamsfus, Martín, Alzua-Sorzabal & Torres-Manzanera, 2014).

The smart destination model developed by Invat-tur and presented by Ivars-Baidal et al. (2021a) presumes that all the destinations that intend to certificate themselves as smart destination have a similar starting point in terms of technological skills and capabilities, and this is not true in a global context in which there are more advanced urban destinations than more delocalised rural destinations. However, as the proposal of Invat-tur is already an accepted destination assessment model, its structure and groups of indicators should be considered for the final outcome of this research.

FIGURE 11

*LITERATURE REVIEW CONCEPTUAL MAP*
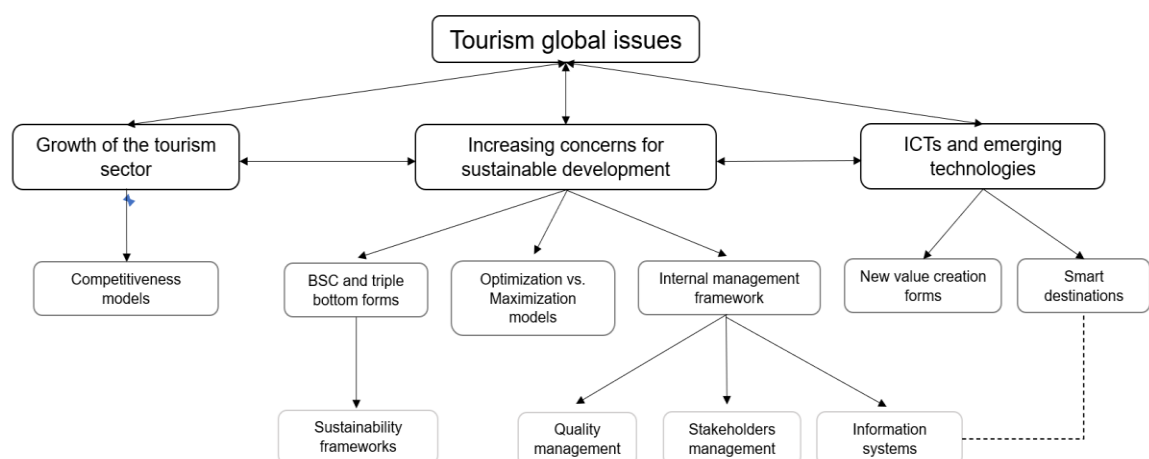
To conclude the Literature Review, the following conceptual map (**Figure 11**) has been designed to show the relationships between the concepts presented in the last section of the Literature Review.

Models of competitiveness, sustainability frameworks, alternative models of growth, or models of value creation in current tourism destinations presented in the previous section are not totally new or innovative models. But they do respond to needs that have recently arisen in a specific social reality, such as, for example, the growth of the sector. Consequently, all these models are considered adequate to form a model of destination performance indicators based on developments in academia, which in the next phase will be contrasted with the opinion and perceptions of DMOs.

# 3 METHODOLOGY

In order to achieve the objective set for this research, the constructivist research has been adopted, as this work aims at understanding the diverse working realities of DMOs that led to the construction of an alternative model of destination performance based on the analysis of diverse experts' perspectives and insights (Creswell & Creswell, 2017; Amos & Pearse, 2008). The present research was intended to be approached from an inductive or interpretive method. This means that from a series of data, is was meant to extract a theory or model. For this reason, the methodology has been designed to focus on the collection of qualitative data (Bhattacherjee, 2012). Similarly, this research has been conducted using a flexible qualitative strategy whose structure is formed as data collection and analysis occurs (Robson & McCartan, 2016).

Interpretive research allows the development of complex investigations whose results cannot be summarised in numerical data. It is particularly suitable for studying the reality of a specific territory, and it allows in-depth exploration of opinions or testimonies of experts and individuals (Bhattacherjee, 2012). For all these reasons, this has been considered the most appropriate approach to understand which indicators European DMO experts consider most relevant in the measurement of their destination performance.

## 3.1 Selection of methodology: Delphi method

The qualitative technique used for the empirical study is Delphi method. Delphi is an iteration of qualitative surveys that aim to bring experts' opinions on a topic closer to consensus (Hasson, Keeney & McKenna, 2000; Linstone & Turoff, 1975). Although it is not the predominant technique in social studies, Fink-Hafner, Dagen, Doušak, Novak and Hafner-Fink (2019) acknowledge an increasing use of this method in theory-building research as well. Similarly, Okoli and Pawlowski (2004) also argue that Delphi is suitable for processes of selecting variables of interest, as is the aim of this work. Indeed, Heiko (2012) also highlights the advantage of sharing the general opinion among participants maintaining anonimity.

Delphi is known to be a slow method because of the need to conduct several rounds to reach consensus, and laborious because of the constant need to liaise with the panellists involved in the process (Fink-Hafner et al., 2019; Hasson et al., 2000). But at the same time, it facilitates communication between experts from different geographical locations on common issues, and also enables discussions on complex or diverse topics (Donohoe & Needham, 2009).

The qualitative study began with the evaluation of the models presented in the Literature Review through content analysis (*see 3.3 **Indicators to be evaluated**)* to get the basis for the questions and issues that would later be applied to the field study is established (Fink-Hafner et al., 2019). Furthermore, content analysis on the responses obtained in preliminar rounds has also been developed to define further questionnaires. Even though Delphi is considered a qualitative research method due its open-ended questions and the main types of analysis conducted (Linstone & Turoff, 1975), quantitative analysis has also been used to compute de consensus degree among experts.

## 3.2 Population and sampling procedures

Composing a destination performance measurement system that is representative for all destinations in the world is unrealistic because, in addition to the different characteristics of each one of them, the contexts in which they operate also condition their activity to a large extent. For this reason, this study is limited to the European region (EU), which allows certain aspects to be assumed at an economic or territorial development level for the whole of the area under study. Thus, the number of DMOs that fall within the subject matter of this work has been clearly delimited.

Taking into account the definition of DMOs (UNWTO, 2007), 27 European NTOs and 292 RTOs were identified and contacted. Considering the time and involvement required in participating in the study, it was assumed that the response rate among the DMOs and RTOs consulted would be low, but unpredictable. Therefore, regarding NTOs and RTOs, the entire population has been consulted in order to achieve the greatest number of responses, and to obtain the most representative results for the territory (Hasson et al., 2000). Hence, no population sampling technique is used in this part of the study.

On behalf of urban tourism, four local DMOs were identified and contacted for each country (108 in total) to represent the EU city destination level, and judgemental sampling has been used for this purpose. This means that, in order to complete the sample for the research, study units have been selected consciously and according to certain requirements (Malhotra, Nunan & Birks, 2017). The criteria applied in this case for the selection of the city DMOs were: city DMO agents from the most populated and largest cities in each country; DMO staff or, failing that, convention bureaux; who currently hold strategic, territorial or marketing management positions in the organisation, and (4) who can be contacted via Linkedin or personal email.

The generic contact emails of these organisations (i.e., info@visitgreece.gr) have not been considered to be the most appropriate means of disseminating the study, because the knowledge and experiences of the experts is where this study focuses. Hence, specially for the lowest levels – regional and city levels – this social network that makes it possible to know the current position held by each agent and to contact them for professional purposes, has been used to contact with the experts (Fink-Hafner et al., 2019). Even so, the use of the organisation's generic emails was unavoidable to ensure that the invitation to participate in the study was being read.

## 3.3  Research instrument: survey design

Delphi technique belongs to the group of flexible research methods. That is, the structure of the three surveys used in this study cannot be pre-established beforehand. Rather, surveys are designed as the process progresses and on the basis of the results obtained in the previous iteration (Hasson et al., 2000; Fink-Hafner et al., 2019). The number of iterations appropriate for Delphi varies depending on the study but taking into account the time and resource constraints of this research, and following the recommendations of Hasson et al. (2000) three rounds of surveys were planned for this study.

The first round (R1) collected, by means of open-ended questions, suggestions from all experts on, in this case, destination performance measurement indicators for the coming years. These answers have been codified and condensed into broader groups of indicators which, in the second round (R2), experts have been asked to evaluate by degree of relevance. Finally, the last questionnaire (R3) repeated the structure and content of R2, including the average values obtained in R2, so that the experts could re-evaluate them and thus measure the degree of stability and consensus of the answers (Xu, Stienmetz & Ashton, 2020; Linstone & Turoff, 1975).

R1 (**Appendix C**) was composed of nine questions that aim to identify which indicators were considered by DMOs to be essential to ensure the correct measurement of the reality of the destination in the coming years. To this end, the following section includes content analysis developed to reach the questions in R1.

### 3.3.1  Indicator models to be evaluated: content analysis

In order to start building the survey based on the existing literature, it has been essential to condense the various groups of indicators collected for each of these axes because, as criticised in the previous section, not all the models presented could be considered equally relevant or consistent for the purpose of this work. **Figure 11** clarifies the main

conceptual axes on which the survey should be built: competitiveness, sustainable development, optimisation, quality management, stakeholders' management, new value creation, and smart destinations. But **Table 11** shows the new compacted distribution of indicators among the definitive blocks and topics that were used in R1, R2, and R3 of Delphi. This suggested new organisation of these models entails a new structure of the indicators presented in the Literature Review.

**TABLE 11**

*REORGANISATION OF INDICATOR MODELS*

| Topics | Group of indicators | | New topics | New blocks |
|---|---|---|---|---|
| Competitiveness | Productivity | → | Destination productivity | |
| | Quality of life | → | Social competitiveness | |
| | Satisfaction | → | Social competitiveness | |
| | Openness | → | Social competitiveness | |
| | Heritage & culture | → | Social competitiveness | Competitive-ness |
| | Infrastructure | → | Infrastructure | |
| | Communication facilities | → | Connectivity & intelligence | |
| | Social competitiveness | → | Social competitiveness | |
| | Price competitiveness | → | Destination productivity | |
| | Education | → | Social competitiveness | |
| Smart destinations | Accesibility | → | Infrastructure | |
| | Innovation | → | Social competitiveness | |
| | Connectivity | → | Connectivity & intelligence | |
| | Intelligence & info. systems | → | Connectivity & intelligence | |
| | Online marketing | → | Destination productivity | |
| | Governance | → | Social sust &stakeholders' mgmt. | |
| | Evolution of tourism activity | → | Social sust &stakeholders' mgmt. | |
| Sustainable development | Economy | → | Economic sustainability | |
| | Efficiency | → | Economic sustainability | |
| | Effectiveness | → | Economic sustainability | |
| | Equity/ environment | → | Environmental sustainability | |
| | Society | → | Social sust &stakeholders' mgmt. | |
| Optimisation | Environmental impact | → | Environmental sustainability | Sustainable development |
| | Economic benefit | → | Economic sustainability | |
| | Destination resilience | → | Social sust &stakeholders' mgmt. | |
| Quality management | Social conditions | → | Social sust &stakeholders' mgmt. | |
| | Envir. conditions | → | Environmental sustainability | |
| | Physical environment/ built | → | Environmental sustainability | |
| Stakeholders' mgmt.. | Stakeholders' connections | → | Social sust &stakeholders' mgmt. | |
| | Roles of DMOs | → | Social sust &stakeholders' mgmt. | |
| New value | Destination value network | → | Social sust &stakeholders' mgmt. | |

**Figure 12**, therefore, explains visually the content analysis process in which the transformation of the different models into two main blocks of indicators has been done: (1) competitiveness, to which a large part of the indicators from the smart destination models are added, and (2) sustainable development, which includes, in addition to its own indicators, those taken from the optimisation, quality management, stakeholder management and new value creation models.

FIGURE 12

*CONTENT ANALYSIS RESULT*

- Competitiveness (C)
- Sustainable development (SUST)
- Optimization (O)
- Quality management (Q)
- Stakeholders' management (SM)
- New value creation (NV)
- Smart destinations (SD)
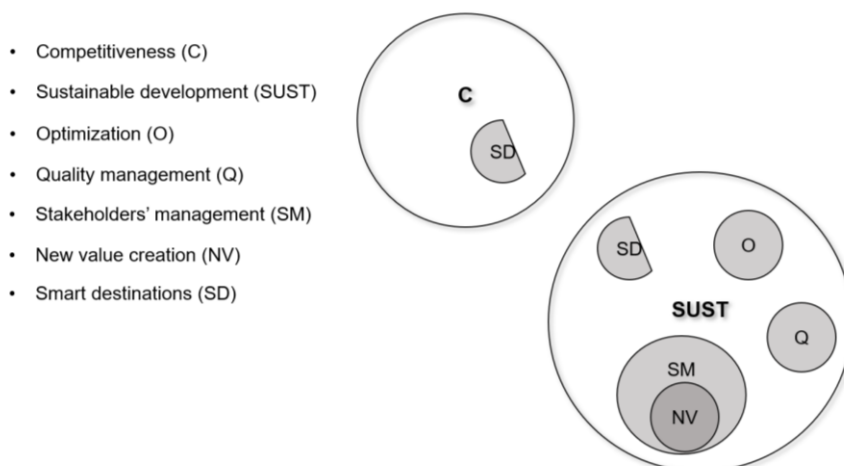


Finally, **Table 12** concisely lists the 7 topics on which experts are consulted in R1, R2, and R3 of the Delphi study.

TABLE 12

*TOPICS COVERED IN DELPHI*

| Blocks | Topics |
|---|---|
| Competitiveness | Social competitiveness |
| | Destination productivity |
| | Infrastructure |
| | Connectivity and intelligence |
| Sustainable development | Social sustainability & stakeholders' management |
| | Environmental sustainability |
| | Economic sustainability |

While R1 was composed of open-ended questions to obtain a first approach to the experts' proposals on the topics reached in Table 12, R2 and R3 were more focused on assessing the proposals in R1. Therefore, R2 and R3 used a rating scale from 0 to 5 (**Table 13**) to assess the degree of relevance of the indicators have been extracted from R1.

TABLE 13

*SURVEY RATING SCALE*

| | | Rating values | | | |
|---|---|---|---|---|---|
| *0* | *1* | *2* | *3* | *4* | *5* |
| Not relevant at all | A bit relevant | Partly relevant | Relevant | Very relevant | Fully relevant |

**Appendixes D** and **Appendix E** show the R2 and R3 surveys respectively, but to understand the structure and content asked about here it is necessary to review the content analysis developed after the end of R1 (*see **4.1. Content Analysis***).

## 3.4  Data collection

Out of the 427 invitations sent via email and Linkedin, 72 people accessed the survey link. But only 17 people completed the R1 questionnaire – and 14 showed interest in participating in follow-up surveys – which has been open for a period of 15 days (28/03/22 – 10/04/22). In the meantime, two reminders were sent; the first one on 04/07/22, and the second one on the last working day when the survey was open (08/04/22).

In order to push experts to complete the survey in R1, this survey has also  been extended to the experts of the City Destination Alliance network (formerly European Cities Marketing), even though most of them had already been contacted individually in the first instance. Another way in which the participation of experts has been encouraged is offering an incentive to those who have taken part in the study. As a reward, the 'White Papers on Destination Performance Management' with the final results of the research prepared for destination managers has been offered.

Using the information obtained in R1 about the experts interested in participating in R2, the next questionnaire was developed and spread from 13/04/22 to 29/04/22 to 14 experts. Three reminder emails were also sent on 21/04/22, 26/04/22 and 29/04/22 trying to increase the response rate in this phase, but only 7 valid responses could be collected. Finally, R3 responses were gathered from 02/05/22 to 11/05/22. 7 invitations to participate were extended and 5 responses were gathered in R3. The sample in this case was already very small, and that is why the response collection time has been shorter than in previous phases. It has been considered that if these experts have not replied within ten days, after having insisted with two reminder emails (09/05/22 and 11/05/22), the missing answers would not be forthcoming.

## 3.5 Ethical considerations

Among the main ethical considerations of the methodology applied is the management of the anonymity of the Delphi experts. On the one hand, the Delphi method allows the anonymity of the responses to be maintained an to benefit from the influence of the group in order to reach the desired consensus. Although the experts may influence the opinion of others in the course of the rounds, it is not a conscious and premeditated pressure that is exerted, but an unconscious influence. Therefore, anonymity is well preserved among the respondents (Goodman, 1987; Hasson et al., 2000; Millar, Thorstensen, Tomkins, Mepham & Kaiser, 2007).

In contrast, complete anonymity has not been maintained by the researcher, who had to check the author of the responses in order to be able to sort the responses from the various rounds; as well as to ensure that the experts have participated in all rounds of the empirical study. Therefore, McKenna (1994) highlights quasi-anonymity as an ethical consideration in Delphi. As developed in the present work, Hasson et al. (2000) recall that the association of a response with an expert is correct as long as the anonymity of the content responded to is maintained.

In line with privacy and anonymity, it is also important to mention that contacting experts via LinkedIn to their personal profile may also generate some ethical debates. As mentioned above, this work sought the individual opinion of each destination management expert, so the use of this social network could be justified. Moreover, taking into account the professional nature of the platform, it has been crucial to contact certain experts.

# 4 DATA ANALYSIS AND RESULTS

Four types of analysis have been conducted on data collected in R1, R2, and R3. On the one hand, R1 data has been summarized by using data content analysis techniques to prepare R2 and R3 surveys. Afterwards, descriptive analysis of R2 and R3 data has been performed independently in order to obtain a first approach to the average relevance values perceived by the experts and the concordance between them. The absence of total consensus (null coefficient of variation) on any of the indicators in R2 meant that the same indicators should be included in R3 in order to reach a higher degree of consensus. Thirdly, the Wilcoxon test has been conducted to compare data from both rounds and the stability of the results. Lastly, the agreement measure has been used to identify the indicators on which the experts agreed that they were the most relevant.

## 4.1 Content analysis

Data obtained in R1 allowed the development of the content analysis of the qualitative part that composed the descriptive statistics of the Delphi surveys (Beiderbeck, Frevel, Heiko, Schmidt & Schweitzer, 2021). To do this, each of the indicators suggested by the experts has been coded using generic keywords that could help to group all the responses and eliminate duplicate indicators for the next phase. Thus, the 357 proposals for indicators suggested by the experts in the R1 have been condensed into 109 indicators, divided into two blocks and seven topics, to facilitate the execution of the second questionnaire.

At this stage several indicators were repeated in different topics, and even in different blocks. In these cases, the number of repetitions of this new indicator – already coded – in each of the topics was counted, and it was kept in the one with the most repetitions. When the number of repetitions was equal, the author's judgement and the literature were used to classify it in a topic. This process is available in **Appendix F.**

Furthermore, **Table 14** contains the results of the qualitative analysis obtained at the end of R1, which has been used to design the questionnaire as concisely and briefly as possible. Following the structure of topics presented in **Table 12**, this content analysis resulted in 14 indicators classified under the 'social competitiveness' topic, 14 under 'destination productivity', 11 under 'infrastucture', 21 under 'connectivity & intelligence', 22 under 'social sustainability & stakeholders' management', 14 under 'environmental sustainability', and 13 under 'economic sustainability'.

TABLE 14

*INDICATORS OBTAINED IN R1 CONTENT ANALYSIS*

| Topic | | Indicators for R2 & R3 |
|---|---|---|
| | 001 | Attractiveness of the destination to attract new citizens (housing opportunities, cost of living, natural areas valorization, surroundings, etc.). |
| | 002 | Human resources working in the tourism industry: implicit/explicit know-how and skills. |
| | 003 | Quality of food. |
| | 004 | Quality of employment in tourism: sustainable and equal opportunities in tourism (gender equality and LGTBQ+ rights, employees' satisfaction, turnover, working environments, salaries, etc.). |
| Social competitiveness | 005 | Residents' satisfaction: feeling of locals of the destination as a place to live. |
| | 006 | Education: access to tourism training and apprentienceships. |
| | 007 | Community involvement: social inclusion and commitment in tourism activities. |
| | 008 | Culture and identity: social identity and the impact of tourism. |
| | 009 | Quality of life. |
| | 010 | Perceived safety and security. |
| | 011 | Openness. |
| | 012 | Carrying capacity. |
| | 013 | Positioning the destination as an attractive destination to visit |
| | 014 | Visitor satisfaction and revisitation rate: perceived accessibility, infrastructure and facilitiees, quality of the touchpoints, etc. |
| | 015 | Average value of DMO promotion campaigns. |
| | 016 | Decision making originality and value. |
| | 017 | Quality management. |
| | 018 | Multi-sectoriality of the destination. |
| | 019 | Companies selling trips to the destination. |
| | 020 | Performance and implementation of plans. |
| Destination productivity | 021 | LOS by season. |
| | 022 | Number of tourist arrivals and distribution: seasonality, crowd index. |
| | 023 | Entrepreneurial attractiveness: new and surviving tourism businesses and start-ups, new investors, etc. |
| | 024 | Future trends identification. |
| | 025 | Value creation through tourism. |
| | 026 | Number of international association meetings, congresses and events: MICE, culture, sports, etc. |
| | 027 | Overnights of tourists in accommodations of the destination. |
| | 028 | Segmentation of products and visitors. |
| | 029 | Heritage and arts planning. |
| | 030 | Public infrastructure: road network, infrastructure system integration, open and pedestrian areas, etc. |
| | 031 | Number and capacity of conference venues . |
| | 032 | Ease of finding attractions and services. |

*INDICATORS OBTAINED IN R1 CONTENT ANALYSIS*

| | | |
|---|---|---|
| Infrastruc-<br>ture | 033 | Destination physical connectivity (inter-destination connectivity and intra-destination connectivity). |
| | 034 | Universal accessibility. |
| | 035 | Sustainable construction. |
| | 036 | Use of destination mobility networks among visitors. |
| | 037 | Public transport systems and other transportation systems: air, bus and train capacity, sustainable and smart transportation models. |
| | 038 | Communication infrastructure and facilities, i.e. telecommunications deployment. |
| | 039 | Number and capacity of accomodation facilities. |
| | 040 | Social media followers. |
| | 041 | Unique visitors on the website. |
| | 042 | Stakeholders' satisfaction with virtual touchpoints. |
| | 043 | Digital literacy among tourism businesses. |
| | 044 | Human interaction. |
| | 045 | Smart visitor management system. |
| Connectivity<br>& intelli-<br>gence | 046 | Digital communication vs. traditional communication. |
| | 047 | Central database. |
| | 048 | Central reservation system (CRS). |
| | 049 | Research. |
| | 050 | WiFi coverage in the destination. |
| | 051 | Automatization of outputs. |
| | 052 | Innovative products and projects. |
| | 053 | Digital transformation of tourism services and experiences. |
| | 054 | Online marketing conversion rate. |
| | 055 | AI: BD, neural networks technologies, sentiment analysis, etc. |
| | 056 | Smartphones and downloads of official apps. |
| | 057 | Adequate digital connectivity. |
| | 058 | Tourism companies with online booking. |
| | 059 | Data collection and diffusion. |
| | 060 | Smart destinations. |
| | 061 | Slow tourism. |
| | 062 | Destination brand recognition among stakeholders. |
| | 063 | Destination resilience. |
| | 064 | Stakeholders' education regarding sustainability. |
| | 065 | Empowerment of locals in decision-making. |
| | 066 | Approval rate and engagement of the DMO. |
| | 067 | Anticipating deviations and developing long-term strategic operations. |
| Social sust.<br>& stake-<br>holders'<br>mgmt.. | 068 | Healthy population . |
| | 069 | Acceptance of tourism by locals: approval rate of tourism in the destination. |
| | 070 | Governance and stakeholders' cooperation and connections. |
| | 071 | Standardisation. |
| | 072 | Stakeholders' satisfaction related to stakeholders' touchpoints. |
| | 073 | Stakeholders' perspectives being considered by authorities. |
| | 074 | Responsiveness of businesses and stakeholders. |
| | 075 | Non-profit engagement in destination management. |

| | 076 | Sustainable products and services matching customers' needs. |
|---|---|---|
| | 077 | Sharing practices/insights among stakeholders: capacity for shared governance. |
| | 078 | Preservation of authenticity. |
| | 079 | Stakeholders' commitment for sust. development: sust. investments & strategies. |
| | 080 | Decentralization strategies. |
| | 081 | Stable DMO, i.e. fundings. |
| | 082 | Social impact: impact of tourism in host communities. |
| | 083 | Commodification. |
| | 084 | Destination sustainability strategy. |
| | 085 | Energy consumption in the destination. |
| | 086 | Material consumption. |
| | 087 | Digitalization. |
| | 088 | Zero emissions. |
| Environmental sustainability | 089 | Use of renewable energy: percentage of green energy used in the destination and by businesses. |
| | 090 | $CO_2$ emissions related to the arrival and movements of tourists in destination. |
| | 091 | Waste management and recycling. |
| | 092 | Global Destination Sustainability Index (GDSI) score. |
| | 093 | Environmental resources control. |
| | 094 | Water consumption in the destination (in events, by businesses, etc.). |
| | 095 | Environmental protection. |
| | 096 | Stakeholders with sustainability certificates. |
| | 097 | Economic viability. |
| | 098 | Social equity. |
| | 099 | Biodiversity. |
| | 100 | Number of new products and average age of businesses. |
| | 101 | Second life of goods. |
| Economic sustainability | 102 | Impact of tourism on the destination's budget. |
| | 103 | Investment outlays for tourism. |
| | 104 | Visitors' expenditure in the destination. |
| | 105 | Average occupancy. |
| | 106 | % crisis resident companies. |
| | 107 | Tourism-driven regional/local development. |
| | 108 | Local/ regional goods and products. |
| | 109 | Economic impact. |

Coding all the answers to identify repeated or overlapping indicators has been complex due to the lack of standardisation among the experts' answers (grammatical and spelling mistakes, difficulties in understanding the proposed idea, etc.). On the other hand, given that the surveys were conducted in English and that none of the participants' first language is English, these complications were considered normal. It is also relevant to mention that the interpretation of the responses in R1, being a qualitative process, has been

conditioned by the experience of the researcher, and therefore, the results in **Table 14** could have some variations if the analysis had been performed by another researcher.

## 4.2  Descriptive analysis

Descriptive statistics are relevant in R2 and R3 to obtain a picture of the agreement between participants by means of calculations that show the distribution and the variability of the responses in R2 and R3 (Beiderbeck et al., 2021; Heiko, 2012).

Before going into the average degree of relevance obtained in each of the 109 indicators, it has been considered relevant to review the average relevance of the topics into which these indicators are grouped. **Table 15** summarizes mean relevance values, standard deviations, and coefficients of variation of the 7 topics that compound R2 and R3.

TABLE 15

*DESCRIPTIVE STATISTICS BY TOPIC*

| Topics | No. indicators | Mean relevance | | Standart deviation | | Coefficient of variation (*) | |
|---|---|---|---|---|---|---|---|
| | | *R2* | *R3* | *R2* | *R3* | *R2* | *R3* |
| Social competitiveness | 14 | 4.0 | 4.1 | 0.7365 | 0.6482 | 0.1820 | 0.1581 |
| Destination productivity | 14 | 3.8 | 3.9 | 0.9214 | 0.7387 | 0.2424 | 0.1894 |
| Infrastructure | 11 | 3.7 | 3.9 | 0.9795 | 0.8514 | 0.2628 | 0.2183 |
| Connectivity & intelligence | 21 | 3.7 | 3.3 | 0.8399 | 0.9067 | 0.2250 | 0.2748 |
| Social sust.&stakeholders' mgmt. | 23 | 3.7 | 3.6 | 0.8110 | 0.8829 | 0.2168 | 0.2453 |
| Environmental sustainability | 14 | 3.5 | 3.3 | 0.9508 | 0.9863 | 0.2689 | 0.2989 |
| Economic sustainability | 13 | 3.6 | 3.6 | 0.7805 | 0.9375 | 0.2112 | 0.2604 |

(*) $CV = \frac{Standart\ deviation}{Mean\ value}$

It could be highlighted that the repetition of the questions in R3 did not bring the experts closer to the average value in all the topics. In 'connectivity & intelligence', 'social sustainability & stakeholders' management', 'environmental sustainability' and 'economic sustainability' opinions were more polarised, although these average values of relevance were not particularly affected.

From **Table 15** it is also possible to extract the general degree of relevance given by the experts to each group of indicators in R3; thus being able to order them according to their priority: 'social competitiveness' (4.1), 'destination productivity' (3.9), 'infrastructure' (3.7), 'social sustainability & stakeholders' management' (3.6), 'economic sustainability'

(3.6),' connectivity & intelligence' (3.3) and 'environmental sustainability' (3.3). Hence, the groups of 'connectivity & intelligence' and 'environmental sustainability' are the least relevant for measuring destination performance in the coming years.

At the indicator level, **Appendix G** contains the descriptive data obtained in R2 and R3. 94 indicators have been rated with an average relevance of 3 (relevant) or more points in R3, while 46 of them have been assigned a value equal to or higher than 4 (very relevant). On the other hand, only 6 indicators achieved absolute consensus among the participating experts in R3 (CV= 0.000) (**Table 16**).

TABLE 16

*R3 LOWEST CVS*

| | Indicators | Mean relevance | | Standard deviation | | Coefficient of variance | |
|---|---|---|---|---|---|---|---|
| | | *R2* | *R3* | *R2* | *R3* | *R2* | *R3* |
| 005 | Residents' satisfaction. | 4.6 | 5.0 | 0.4949 | 0.0000 | 0.1083 | 0.0000 |
| 014 | Visitor satisfaction & revisitation rate | 4.6 | 5.0 | 0.4949 | 0.0000 | 0.1083 | 0.0000 |
| 025 | Value creation through tourism. | 4.7 | 5.0 | 0.4518 | 0.0000 | 0.0958 | 0.0000 |
| 063 | Destination resilience. | 4.7 | 5.0 | 0.4714 | 0.0000 | 0.1010 | 0.0000 |
| 069 | Acceptance of tourism by locals. | 4.8 | 5.0 | 0.3727 | 0.0000 | 0.0771 | 0.0000 |
| 078 | Preservation of authenticity. | 4.8 | 5.0 | 0.3727 | 0.0000 | 0.0771 | 0.0000 |

A peculiarity of these six indicators is that they were the only ones in which there has been a zero coefficient of variation (0.000). In other words, according to the information provided by this descriptive analysis, these six indicators, in addition to being the most relevant, were the only ones on which the experts agree absolutely after R3. The coefficients of variation calculated at this stage have been corroborated by analysing the stability of the responses presented below.

## 4.3 Stability of results

Dajani, Sincoff and Talley (1979) consider that the stability of responses between rounds and the level of consensus among the responses obtained are the most relevant outcomes of Delphi studies. In this context, the Wilcoxon-matched-pairs signed rank test has been used to analyse how the mean values of each indicator changed from R2 to R3; i.e., the stability of the responses. Wilcoxon has been considered an appropriate test for this case because no assumption was made about the distribution of the data a priori (non-parametric), and it allowed the comparison of two equal variables, answered by the

same population in two different phases (Heiko, 2012; Taheri & Hesamian, 2013; Xu et al., 2020). Therefore, **Table 17**, **Table 18**, **Table 19**, **Table 20**, **Table 21**, **Table 22** and **Table 23** represent the values obtained by comparing the same indicator in R2 and R3 with the Wilcoxon test. Before analysing the results, it is important to highlight the following characteristics of the sample. Firstly, considering that n=7 in R2 and n=5 in R3, there were two lost responses in the Wilcoxon comparison of variables. On the other hand, it is worth mentioning that the small sample size may affect the p- and z-values of the analysis (*see **5.2. Limitations***).

TABLE 17

*WILCOXON ANALYSIS: SOCIAL COMPETITIVENESS*

| | Indicator | Negative ranks | Positive ranks | Ties | z value | p value |
|---|---|---|---|---|---|---|
| 001 | Attractiveness of the destination to attract new citizens | 0 | 5 | 0 | -2.12 | **0.034** |
| 002 | Human resources working in the industry | 2 | 2 | 1 | -0.38 | 0.705 |
| 003 | Quality of food | 1 | 2 | 2 | 0.00 | 1.000 |
| 004 | Quality of employment in tourism | 3 | 1 | 1 | -1.13 | 0.257 |
| 005 | Residents' satisfaction | 1 | 0 | 4 | -1.00 | 0.317 |
| 006 | Education | 2 | 2 | 1 | -0.38 | 0.705 |
| 007 | Community involvement | 2 | 1 | 2 | -0.58 | 0.564 |
| 008 | Culture and identity | 2 | 0 | 3 | -1.41 | 0.157 |
| 009 | Quality of life | 2 | 1 | 2 | -0.82 | 0.414 |
| 010 | Perceived safety and security | 1 | 0 | 4 | -1.00 | 0.317 |
| 011 | Openness | 1 | 2 | 2 | -0.58 | 0.564 |
| 012 | Carrying capacity | 2 | 1 | 2 | -0.58 | 0.564 |
| 013 | Positioning the destination as an attractive destination to visit | 0 | 1 | 4 | -1.00 | 0.317 |
| 014 | Visitor satisfaction and revisitation rate | 1 | 0 | 4 | -1.00 | 0.317 |

TABLE 18

*WILCOXON ANALYSIS: DESTINATION PRODUCTIVITY*

| | Indicator | Negative ranks | Positive ranks | Ties | z value | p value |
|---|---|---|---|---|---|---|
| 015 | Average value of DMO promotion campaigns | 2 | 1 | 2 | 0.00 | 1.000 |
| 016 | Decision making originality and value | 1 | 1 | 3 | 0.00 | 1.000 |
| 017 | Quality management | 1 | 2 | 2 | 0.00 | 1.000 |
| 018 | Multi-sectoriality of the destination | 2 | 1 | 2 | -0.53 | 0.593 |
| 019 | Companies selling trips to the destination | 1 | 3 | 1 | -0.56 | 0.577 |
| 020 | Performance and implementation of plans | 0 | 2 | 3 | -1.41 | 0.157 |
| 021 | LOS by season | 1 | 1 | 3 | -0.45 | 0.655 |

| 022 | Number of tourist arrivals and distribution | 3 | 0 | 2 | -1.73 | **0.083** |
|-----|---------------------------------------------|---|---|---|-------|-------|
| 023 | Entrepreneurial attractiveness | 3 | 2 | 0 | -0.28 | 0.783 |
| 024 | Future trends identification | 1 | 2 | 2 | -0.27 | 0.785 |
| 025 | Value creation through tourism | 1 | 0 | 4 | -1.00 | 0.317 |
| 026 | Number of international association meetings, congresses and events | 1 | 1 | 3 | -0.45 | 0.655 |
| 027 | Overnights of tourists in accommodations of the destination | 3 | 1 | 1 | -1.13 | 0.257 |
| 028 | Segmentation of products and visitors | 1 | 2 | 2 | -0.58 | 0.564 |

### TABLE 19

WILCOXON ANALYSIS: INFRASTRUCTURE

| | Indicator | Negative ranks | Positive ranks | Ties | z value | p value |
|-----|-----------|----------------|----------------|------|---------|---------|
| 029 | Heritage and arts planning | 2 | 1 | 2 | -0.58 | 0.564 |
| 030 | Public infrastructure | 1 | 0 | 4 | -1.00 | 0.317 |
| 031 | Number and capacity of conference venues | 1 | 2 | 2 | -0.58 | 0.564 |
| 032 | Ease of finding attractions and services | 1 | 1 | 3 | 0.00 | 1.000 |
| 033 | Destination physical connectivity | 1 | 0 | 4 | -1.00 | 0.317 |
| 034 | Universal accessibility | 1 | 0 | 4 | -1.00 | 0.317 |
| 035 | Sustainable construction | 3 | 2 | 0 | -0.71 | 0.480 |
| 036 | Use of destin. mobility networks among visitors | 2 | 1 | 2 | -0.58 | 0.564 |
| 037 | Public transport systems and other transportation systems | 2 | 2 | 1 | -0.38 | 0.705 |
| 038 | Communication infrastructure and facilities | 4 | 1 | 0 | -0.83 | 0.408 |
| 039 | Number & capacity of accommodation facilities | 2 | 3 | 0 | 0.00 | 1.000 |

### TABLE 20

*WILCOXON ANALYSIS: CONNECTIVITY AND INTELLIGENCE*

| | Indicator | Negative ranks | Positive ranks | Ties | z value | p value |
|-----|-----------|----------------|----------------|------|---------|---------|
| 040 | Social media followers | 1 | 2 | 2 | -0.82 | 0.414 |
| 041 | Unique visitors on the website | 1 | 3 | 1 | -0.56 | 0.577 |
| 042 | Stakeholders' satisfaction with virtual touch-points | 0 | 2 | 3 | -1.41 | 0.157 |
| 043 | Digital literacy among tourism businesses | 1 | 3 | 1 | -1.00 | 0.317 |
| 044 | Human interaction | 1 | 2 | 2 | -0.58 | 0.564 |
| 045 | Smart visitor management system | 1 | 1 | 3 | 0.00 | 1.000 |
| 046 | Digital communication vs traditional communication | 2 | 2 | 1 | 0.00 | 1.000 |
| 047 | Central database | 1 | 2 | 2 | -0.53 | 0.593 |
| 048 | CRS | 1 | 1 | 3 | 0.00 | 1.000 |
| 049 | Research | 0 | 2 | 3 | -1.34 | 0.180 |

| | | Negative ranks | Positive ranks | Ties | z value | p value |
|---|---|---|---|---|---|---|
| 050 | WiFi coverage in the destination | 0 | 1 | 4 | -1.00 | 0.317 |
| 051 | Automatization of outputs | 2 | 1 | 2 | -0.58 | 0.564 |
| 052 | Innovative products and projects | 2 | 1 | 2 | -0.82 | 0.414 |
| 053 | Digital transformation of tourism services and experiences | 1 | 1 | 3 | -0.45 | 0.655 |
| 054 | Online marketing conversion rate | 1 | 1 | 3 | 0.00 | 1.000 |
| 055 | AI | 0 | 3 | 2 | -1.73 | **0.083** |
| 056 | Smartphones and downloads of official apps | 0 | 1 | 4 | -1.00 | 0.317 |
| 057 | Adequate digital connectivity | 1 | 3 | 1 | -1.30 | 0.194 |
| 058 | Tourism companies with online booking | 1 | 3 | 1 | -1.13 | 0.257 |
| 059 | Data collection and diffusion | 1 | 1 | 3 | -0.45 | 0.655 |
| 060 | Smart destinations | 1 | 1 | 3 | 0.00 | 1.000 |

## TABLE 21

*WILCOXON ANALYSIS: SOCIAL SUSTAINABILITY AND STAKEHOLDERS' MANAGEMENT*

| | Indicator | Negative ranks | Positive ranks | Ties | z value | p value |
|---|---|---|---|---|---|---|
| 061 | Slow tourism | 1 | 2 | 2 | -0.58 | 0.564 |
| 062 | Destination brand recognition among stakeholders | 1 | 1 | 3 | -0.45 | 0.655 |
| 063 | Destination resilience | 2 | 0 | 3 | -1.41 | 0.157 |
| 064 | Stakeholders' education regarding sust. | 1 | 1 | 3 | 0.00 | 1.000 |
| 065 | Empowerment of locals in decision-making | 2 | 2 | 1 | -0.38 | 0.705 |
| 066 | Approval rate and engagement of the DMO | 3 | 2 | 0 | -0.71 | 0.480 |
| 067 | Anticipating deviations and developing long-term strategic operations | 1 | 1 | 3 | -0.45 | 0.655 |
| 068 | Healthy population | 2 | 1 | 2 | -0.58 | 0.564 |
| 069 | Acceptance of tourism by locals | 1 | 0 | 4 | -1.00 | 0.317 |
| 070 | Governance and stakeholders' roles and connections for cooperation | 1 | 0 | 4 | -1.00 | 0.317 |
| 071 | Standardization | 0 | 3 | 2 | -1.63 | 0.102 |
| 072 | Stakeholders' satisfaction related to stakeholders' touchpoints | 1 | 2 | 2 | 0.00 | 1.000 |
| 073 | Stakeholders' perspectives being considered by authorities | 2 | 2 | 1 | -0.38 | 0.705 |
| 074 | Responsiveness of businesses & stakeholders | 1 | 2 | 2 | -0.82 | 0.414 |
| 075 | Non-profit engagement in destination mgmt. | 1 | 2 | 2 | -1.09 | 0.276 |
| 076 | Sustainable products and services matching customers' needs | 1 | 1 | 3 | -0.45 | 0.655 |
| 077 | Sharing practices/insights among stakeholders | 2 | 0 | 3 | -1.34 | 0.180 |
| 078 | Preservation of authenticity | 1 | 0 | 4 | -1.00 | 0.317 |
| 079 | Stakeholders' commitment for sustainable development | 0 | 1 | 4 | -1.00 | 0.317 |
| 080 | Decentralization strategies | 1 | 2 | 2 | -0.27 | 0.785 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 081 | Stable DMO | 2 | 3 | 0 | -0.14 | 0.891 |
| 082 | Social impact | 1 | 2 | 2 | -0.82 | 0.414 |
| 083 | Commodification | 1 | 2 | 2 | 0.00 | 1.000 |

**TABLE 22**

*WILCOXON ANALYSIS: ENVIRONMENTAL SUSTAINABILITY*

| | Indicator | Negative ranks | Positive ranks | Ties | z value | p value |
|---|---|---|---|---|---|---|
| 084 | Destination sustainability strategy | 1 | 1 | 3 | 0.00 | 1.000 |
| 085 | Energy consumption in the destination | 2 | 1 | 2 | -0.58 | 0.564 |
| 086 | Material consumption | 2 | 1 | 2 | 0.00 | 1.000 |
| 087 | Digitalization | 2 | 2 | 1 | 0.00 | 1.000 |
| 088 | Zero emissions | 3 | 1 | 1 | -1.13 | 0.257 |
| 089 | Use of renewable energy | 3 | 1 | 1 | -1.00 | 0.317 |
| 090 | CO2 emissions related to the arrival and movements of tourists in destination | 2 | 3 | 0 | -0.55 | 0.581 |
| 091 | Waste management and recycling | 2 | 2 | 1 | 0.00 | 1.000 |
| 092 | GDSI score | 0 | 3 | 2 | -1.63 | 0.102 |
| 093 | Environmental resources control | 1 | 1 | 3 | -0.45 | 0.655 |
| 094 | Water consumption in the destination | 2 | 1 | 2 | -0.58 | 0.564 |
| 095 | Environmental protection | 1 | 3 | 1 | -1.00 | 0.317 |
| 096 | Stakeholders with sustainability certificates | 1 | 2 | 2 | -0.82 | 0.414 |
| 097 | Economic viability | 1 | 1 | 3 | 0.00 | 1.000 |

**TABLE 23**

*WILCOXON ANALYSIS: ECONOMIC SUSTAINABILITY*

| | Indicator | Negative ranks | Positive ranks | Ties | z value | p value |
|---|---|---|---|---|---|---|
| 098 | Social equity | 2 | 1 | 2 | -0.58 | **0.083** |
| 099 | Biodiversity | 0 | 3 | 1 | -1.73 | **0.083** |
| 100 | No. new products & average age of businesses | 1 | 2 | 2 | -0.82 | 0.414 |
| 101 | Second life of goods | 0 | 2 | 3 | -1.41 | 0.157 |
| 102 | Impact of tourism on the destination's budget | 2 | 2 | 1 | -0.38 | 0.705 |
| 103 | Investment outlays for tourism | 0 | 2 | 3 | -1.41 | 0.157 |
| 104 | Visitors' expenditure in the destination | 1 | 0 | 4 | -1.00 | 0.317 |
| 105 | Average occupancy | 2 | 2 | 1 | 0.00 | 1.000 |
| 106 | % crisis resident companies | 2 | 1 | 2 | -0.27 | 0.785 |
| 107 | Tourism-driven regional/local development | 1 | 2 | 2 | -0.58 | 0.564 |
| 108 | Local/ regional goods and products | 1 | 1 | 3 | 0.00 | 1.000 |
| 109 | Economic impact | 1 | 0 | 4 | -1.00 | 0.317 |

Regardless of the direction in which the indicators were shifted – negative or positive – the results showed only one indicator with a significant p-value: [001] *attractiveness of*

*the destination to attract new citizens*, which is the only comparison with a significant change in between the two rounds (0.034). On the other hand, other indicators were detected with marginal values that are close to 0.05. This is the case of the following indicators: [022] *number of tourist arrivals and distribution*, [055] *AI*, [098] *social equity* and [099] *biodiversity*, whose p-value in this case was 0.083. This means that out of the 109 indicators that compose the study, the mean values of 105 remained stable from R2 to R3. Therefore, no large differences were estimated in the calculation of the agreement between experts between R2 and R3. However, as a complement to the descriptive statistics in the previous section, the following section presents in detail the results of the consensus analysis conducted on R3, as it is the final and most representative round of Delphi studies.

## 4.4  Agreement measurement

For the calculation of consensus among the experts in R3, the proposal of Putnam, Spiegel, and Bruininks's (1995) proposal has been followed; where consensus is defined as the agreement of 80% or more of the participants on the sum of two values of the established evaluation scale, i.e., 0-5 in this case (Heiko, 2012). In order to fit this analysis into Putnam et al.'s (1995) methodological proposal, the values of the relevance scale suggested to the experts have been regrouped into three groups representing pairs of values: low relevance (0-1), medium relevance (2-3), high relevance (4-5). The following tables show the redistribution of data for all the indicators in these new groups and the corresponding percentage for each number of responses obtained in each degree of relevance.

TABLE 24

*SOCIAL COMPETITIVENESS AGREEMENT*

| | Social competitiveness | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_001 | Attractiveness of the destination to attract new citizens | 40% | 2 | 20% | 1 | 40% | 2 |
| R3_002 | Human resources working in the tourism industry | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_003 | Quality of food | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_004 | Quality of employment in tourism | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_005 | Residents' satisfaction | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_006 | Education | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_007 | Community involvement | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_008 | Culture and identity | 0% | 0 | 20% | 1 | 80% | 4 |

| | | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_009 | Quality of life | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_010 | Perceived safety and security | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_011 | Openness | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_012 | Carrying capacity | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_013 | Positioning the destination as an attractive destination to visit | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_014 | Visitor satisfaction and revisitation rate | 0% | 0 | 0% | 0 | 100% | 5 |

Eight indicators of the 'social competitiveness' group met the 80% concordance in response proposed by the cited authors. These are: [002] *human resources working in the tourism industry*, [004] *quality of employment in tourism*, [005] *resident satisfaction*, [008] *culture and identity*, [009] *quality of life*, [010] *perceived safety*, [013] *positioning of the destination as an attractive destination to visit*, and [014] *visitor satisfaction and revisit rate* (**Table 24**).

**TABLE 25**

*DESTINATION PRODUCTIVITY AGREEMENT*

| | Destination productivity | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_015 | Average value of DMO promotion campaigns | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_016 | Decision making originality and value | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_017 | Quality management | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_018 | Multi-sectoriality of the destination | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_019 | Companies selling trips to the destination | 20% | 1 | 60% | 3 | 20% | 1 |
| R3_020 | Performance and implementation of plans | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_021 | LOS by season | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_022 | Number of tourist arrivals and distribution | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_023 | Entrepreneurial attractiveness | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_024 | Future trends identification | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_025 | Value creation through tourism | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_026 | Number of international association meetings, congresses and events | 20% | 1 | 0% | 0 | 80% | 4 |
| R3_027 | Overnights of tourists in accommodations of the destination | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_028 | Segmentation of products and visitors | 0% | 0 | 40% | 2 | 60% | 3 |

In 'destination productivity', seven indicators met this minimum degree of consensus: [017] *quality management*, [021] *LOS by season*, [022] *number of tourist arrivals and distribution*, [023] *entrepreneurial attractiveness*, [025] *value creation through tourism*, [026] *number of international association meetings, congresses and events* and [027] *overnights of tourists in accommodations of the destination* (**Table 25**).

**TABLE 26**

*INFRASTRUCTURE AGREEMENT CHART*

| | Infrastructure | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_029 | Heritage and arts planning | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_030 | Public infrastructure | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_031 | Number and capacity of conference venues | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_032 | Ease of finding attractions and services | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_033 | Destination physical connectivity | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_034 | Universal accessibility | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_035 | Sustainable construction | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_036 | Use of destination mobility networks among visitors | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_037 | Public transport systems and other transportation systems | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_038 | Communication infrastructure and facilities | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_039 | No. & capacity of accommodation facilities | 0% | 0 | 60% | 3 | 40% | 2 |

In 'infrastructure', five indicators could be seen with consensus among experts; three of them with 80% agreement and two with 100% agreement. These are: [030] *public infrastructure*, [032] *ease of finding attractions and services*, [033] *destination physical connectivity*, [034] *universal accessibility* and [037] *public transport and other transport systems* (**Table 26**).

**TABLE 27**

*CONNECTIVITY AND INTELLIGENCE AGREEMENT CHART*

| | Connectivity and intelligence | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_040 | Social media followers | 20% | 1 | 60% | 3 | 20% | 1 |
| R3_041 | Unique visitors on the website | 0% | 0 | 100% | 5 | 0% | 0 |
| R3_042 | Stakeholders' satisfaction with virtual touchpoints | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_043 | Digital literacy among tourism businesses | 0% | 0 | 80% | 4 | 20% | 1 |
| R3_044 | Human interaction | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_045 | Smart visitor management system | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_046 | Digital communication vs traditional communication | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_047 | Central database | 0% | 0 | 80% | 4 | 20% | 1 |
| R3_048 | CRS | 20% | 1 | 60% | 3 | 20% | 1 |
| R3_049 | Research | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_050 | WiFi coverage in the destination | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_051 | Automatization of outputs | 0% | 0 | 80% | 4 | 20% | 1 |

| | | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_052 | Innovative products and projects | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_053 | Digital transformation of tourism services and experiences | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_054 | Online marketing conversion rate | 20% | 1 | 20% | 1 | 60% | 3 |
| R3_055 | AI | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_056 | Smartphones and downloads of official apps | 40% | 2 | 60% | 3 | 0% | 0 |
| R3_057 | Adequate digital connectivity | 0% | 0 | 80% | 4 | 20% | 1 |
| R3_058 | Tourism companies with online booking | 20% | 1 | 40% | 2 | 40% | 2 |
| R3_059 | Data collection and diffusion | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_060 | Smart destinations | 0% | 0 | 0% | 0 | 100% | 5 |

Eleven indicators showed 80% or more expert consensus in terms of 'connectivity & intelligence'. Four of them had full consensus: [041] *unique visitors on the website*, [045] *smart visitor management system*, [052] *innovative products and projects*, [060] *smart destinations*; but they were given different degrees of relevance (**Table 27**).

**TABLE 28**

*SOCIAL SUSTAINABILITY AGREEMENT*

| | Social sustainability and stakeholders' management | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_061 | Slow tourism | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_062 | Dest. brand recognition among stakeholders | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_063 | Destination resilience | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_064 | Stakeholders' education regarding sustainability | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_065 | Empowerment of locals in decision-making | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_066 | Approval rate and engagement of the DMO | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_067 | Anticipating deviations and developing long-term strategic operations | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_068 | Healthy population | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_069 | Acceptance of tourism by locals | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_070 | Governance and stakeholders' roles and connections for cooperation | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_071 | Standardization | 40% | 2 | 40% | 2 | 20% | 1 |
| R3_072 | Stakeholders' satisfaction related to stakeholders' touchpoints | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_073 | Stakeholders' perspectives being considered by authorities | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_074 | Responsiveness of businesses and stakeholders | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_075 | Non-profit engagement in destination management | 60% | 3 | 40% | 2 | 0% | 0 |

| | | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_076 | Sustainable products and services matching customers' needs | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_077 | Sharing insights among stakeholders | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_078 | Preservation of authenticity | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_079 | Stakeholders' commitment for sustainable development | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_080 | Decentralization strategies | 20% | 1 | 80% | 4 | 0% | 0 |
| R3_081 | Stable DMO | 20% | 1 | 20% | 1 | 60% | 3 |
| R3_082 | Social impact | 0% | 0 | 60% | 3 | 40% | 2 |

100% of the experts agreed on the high relevance of the following indicators of 'social sustainability & stakeholders' managements: [063] *destination resilience*, [069] *acceptance of tourism by locals*, [077] *sharing practices/insights among stakeholders* and [078] *preservation of authenticity* (**Table 28**).

**TABLE 29**

*ENVIRONMENTAL SUSTAINABILITY AGREEMENT*

| | Environmental sustainability | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_083 | Commodification | 0% | 0 | 100% | 5 | 0% | 0 |
| R3_084 | Destination sustainability strategy | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_085 | Energy consumption in the destination | 20% | 1 | 20% | 1 | 60% | 3 |
| R3_086 | Material consumption | 20% | 1 | 60% | 3 | 20% | 1 |
| R3_087 | Digitalization | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_088 | Zero emissions | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_089 | Use of renewable energy | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_090 | CO2 emissions related to the arrival and movements of tourists in destination | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_091 | Waste management and recycling | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_092 | GDSI score | 20% | 1 | 40% | 2 | 40% | 2 |
| R3_093 | Environmental resources control | 0% | 0 | 80% | 4 | 20% | 1 |
| R3_094 | Water consumption in the destination | 0% | 0 | 60% | 3 | 40% | 2 |
| R3_095 | Environmental protection | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_096 | Stakeholders with sustainability certificates | 20% | 1 | 40% | 2 | 40% | 2 |

The following 'environmental sustainability' indicators obtained 80% agreement among experts: [084] *destination sustainability strategy*, [087] *digitalization*, [088] *zero emissions* and [089] *use of renewable energy*. In contrast, only the indicator referring to [083] *commodification* obtained the full consensus of medium relevance (**Table 29**).

TABLE 30

*ECONOMIC SUSTAINABILITY AGREEMENT*

| | Economic sustainability | Low relevance | | Medium relevance | | High relevance | |
|---|---|---|---|---|---|---|---|
| R3_097 | Economic viability | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_098 | Social equity | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_099 | Biodiversity | 25% | 1 | 50% | 2 | 25% | 1 |
| R3_100 | No. new products & average age businesses | 60% | 3 | 40% | 2 | 0% | 0 |
| R3_101 | Second life of goods | 40% | 2 | 20% | 1 | 40% | 2 |
| R3_102 | Impact of tourism on the destination's budget | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_103 | Investment outlays for tourism | 20% | 1 | 60% | 3 | 20% | 1 |
| R3_104 | Visitors' expenditure in the destination | 0% | 0 | 0% | 0 | 100% | 5 |
| R3_105 | Average occupancy | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_106 | % crisis resident companies | 0% | 0 | 80% | 4 | 20% | 1 |
| R3_107 | Tourism-driven regional/local development | 0% | 0 | 20% | 1 | 80% | 4 |
| R3_108 | Local/ regional goods and products | 0% | 0 | 40% | 2 | 60% | 3 |
| R3_109 | Economic impact | 0% | 0 | 0% | 0 | 100% | 5 |

[097] *Economic viability*, [098] *social equity,* [104] *visitors' expenditure* and [109] *economic impact* have been the four indicators with the highest consensus under the 'economic sustainability' topic; all of them coinciding in the highest degree of relevance of the study (**Table 30**).

This expert consensus analysis concluded with 53 indicators in which experts agreed on their degree of importance. Moreover, 44 of them – 83% of the total – were classified as very relevant. These are the key indicators for the development of the indicator model suggested in this work to reinforce destination performance management among tourism managers. These indicators are set out in **Table 31**.

**TABLE 31**

*HIGHLY RELEVANT INDICATORS (4-5)*

| | Topic | Indicators | Consensus |
|---|---|---|---|
| R3_002 | | Human resources working in the tourism industry | 80% |
| R3_004 | | Quality of employment in tourism | 100% |
| R3_005 | | Residents' satisfaction | 100% |
| R3_008 | | Culture and identity | 80% |
| R3_009 | | Quality of life | 100% |
| R3_010 | Social competitiveness | Perceived safety and security | 100% |
| R3_013 | | Positioning the destination as an attractive destination to visit | 100% |
| R3_014 | | Visitor satisfaction and revisitation rate | 100% |

| R3_017 | | Quality management | 100% |
|---|---|---|---|
| R3_021 | | LOS by season | 80% |
| R3_022 | | Number of tourist arrivals and distribution | 100% |
| R3_023 | Destination | Entrepreneurial attractiveness | 80% |
| R3_025 | productivity | Value creation through tourism | 100% |
| R3_026 | | No. international association meetings, congresses, events | 80% |
| R3_027 | | Overnights of tourists in accommodations of the destination | 100% |
| R3_030 | | Public infrastructure | 80% |
| R3_032 | | Ease of finding attractions and services | 100% |
| R3_033 | Infrastructure | Destination physical connectivity | 100% |
| R3_034 | | Universal accessibility | 80% |
| R3_037 | | Public transport systems and other transportation systems | 80% |
| R3_044 | | Human interaction | 80% |
| R3_045 | | Smart visitor management system | 100% |
| R3_046 | Connectivity | Digital communication vs traditional communication | 80% |
| R3_049 | and intelli- | Research | 80% |
| R3_052 | gence | Innovative products and projects | 100% |
| R3_060 | | Smart destinations | 100% |
| R3_063 | | Destination resilience | 100% |
| R3_068 | | Healthy population | 80% |
| R3_069 | | Acceptance of tourism by locals | 100% |
| R3_070 | | Governance & stakeholders' roles & connect. for coopera- | |
| | Social sust. | tion | 80% |
| R3_076 | & stakehold- | Sustainable products & services matching customers' | |
| | ers' mgmt. | needs | 80% |
| R3_077 | | Sharing practices/insights among stakeholders | 100% |
| R3_078 | | Preservation of authenticity | 100% |
| R3_079 | | Stakeholders' commitment for sustainable development | 80% |
| R3_084 | | Destination sustainability strategy | 80% |
| R3_087 | Envir. sus- | Digitalization | 80% |
| R3_088 | tainability | Zero emissions | 80% |
| R3_089 | | Use of renewable energy | 80% |
| R3_097 | | Economic viability | 100% |
| R3_098 | | Social equity | 100% |
| R3_104 | Economic | Visitors' expenditure in the destination | 100% |
| R3_105 | sustainability | Average occupancy | 80% |
| R3_107 | | Tourism-driven regional/local development | 80% |
| R3_109 | | Economic impact | 100% |

# 5 DISCUSSION AND CONCLUSIONS

## 5.1 Discussion of findings

The first aspect to consider when interpreting the most relevant indicators is that the wording of each of the indicators was taken from the suggestions of the experts. Thus, it has been perceived that the degree of specificity of each one of them is not the same. Some are very specific indicators, while others are very general titles; i.e. quality of employment in tourism. Therefore, the treatment of these indicators must be proportional to the set of sub-indicators that may be implicit under this heading.

After having identified the most relevant indicators for the elaboration of the new model to measure destination performance, the extent to which the indicators proposed by the experts in the empirical phase coincided with the authors' proposals in the Literature Review has been analysed. This comparison between the DMOs' experts' and academics' suggestions is available in **Appendix H**, but the most relevant findings of this contrast are exposed here.

Positively, the vast majority of the experts' indicators do have a theoretical basis justified and supported by academia, which could mean that, to a certain extent, the needs of destinations are already covered by the destination performance measurement models developed so far. Examples of this are, among others, the indicators of [005] [014] *visitor and resident satisfaction*, [030] *public infrastructure*, [034] *universal accessibility* or [052] *innovation*, which are present in both academic and empirical opinion. In contrast, other indicators such as [023] *entrepreneurial attractiveness of the destination,* [032] *ease of finding attractions and services*, and [044] *human interaction* are not explicitly represented in the theoretical models identified in **Table 11**.

Similarly, there are several groups of indicators proposed by academia that experts have not been able to identify, and also, some priorities of destinations that the literature analysed in this research has not addressed. The groups of indicators that experts did not seem to perceive as necessary in their destinations are 'openness' and 'price competitiveness'. It is said that these were not identified by the experts because they were not considered within the 43 most relevant indicators extracted from the data analysis. However, it is possible that DMO experts understand both concepts as intrinsic to other more global topics, such as 'social competitiveness'. Nor have experts directly identified indicators related to efficiency and effectiveness, which in the Literature Review are framed within sustainable development models.

### 5.1.1 Reassessing the 44 most relevant indicators

Before deepening into the structure of the designed model, there are some aspects that should be mentioned in order to facilitate the understanding of the framework. Firstly, between the results obtained in the agreement measurmente and the final model, some alterations in the structure and order of the suggested final indicators can be perceived. This is because, in order to facilitate the application of the model, these 44 indicators of high relevance for experts have been revisited and some changes have been proposed.

Among others, the grouping of two topics or sets of indicators could be highlighted: 'destination productivity' and 'economic sustainability'. The union of these indicators in a single block is due to the similarity of their indicators and their focus on economic results. The result is therefore a model for measuring destination performance based on six axes: 'social competitiveness', 'destination productivity & economic sustainability', 'infrastructure', 'connectivity & intelligence', 'social sustainability & stakeholders' management' and 'environmental sustainability'.

Secondly, it has been considered appropriate for destination managers to alleviate the burden of measuring indicators by setting aside, for the time being, indicators that are not strictly tourism indicators from the main scorecard. Seven indicators out of the 44 identified in **4.4.** have been considered to be of a generic territorial nature: [005] *residents' satisfaction*, [009] *quality of life*, [030] *public infrastructure*, [037] *public transport systems and other transportation systems*, [068] *healthy population*, [088] *zero emissions*, and [098] *social equity*. It cannot be ignored that all of these are indicators with a high impact on visitors' perception of the destination and on the functioning of the local or regional tourism system. However, this study seeks to develop a model which, as realistically as possible, destinations can implement in their agenda and strategy.

On the other hand, it can be mentioned that the objective of this model is not only to calculate indicators. But also to ensure progress and improvements in the destination. Incorporating these non-tourism indicators in the model could be detrimental to the analysis of the work of the DMO because the improvements that may arise in the destination in terms of quality of life of the residents are not proportional to the efforts of this tourism organisation. For all these reasons, these indicators have not been deleted from the model, but they have been given a separate space from the rest of the tourism indicators.

Moreover, two indicators considered relevant in the agreement measurement of **4.4.** have been extracted from the list because, more than indicators, they become part of the context in which the model is intended to be developed. These are the indicators

[060] *smart destinations* and [077] *sharing practices/insights among stakeholders*. None of these indicators imply something that the destination should actively seek to achieve or improve. Although there is always room for improvement, the use of the destination performance measurement tool introduced in the following section will already contribute considerably to the destination that uses it to move closer to a smart destination model and to the coordination of stakeholders for the transfer of knowledge and best practices.

Another considerable change between the experts' proposal and what was selected for the final model is the merging of similar indicators to reduce, as much as possible, the final computation of indicators to be measured. For example, [023] e*ntrepreneurial attractiveness* has been incorporated into [052] *innovative products and projects*. Another example of this regrouping has been the union between [008] *culture and identity* and [078] *preservation of authenticity*. **Appendix I** contains the final list of indicators, and explains these new indicators grouping that has reduced the list from 44 to 21 indicators to be considered in the model (**Table 32**).

TABLE 32

*NEW INDICATORS DISTRIBUTION*

| Topic | Number of indicators |
| --- | --- |
| Social competitiveness | 5 |
| Infrastructure | 2* |
| Destination productivity & economic sustainability | 6 |
| Social sust. & stakeholders' management | 4 |
| Environmental sustainability | 2* |
| Connectivity & intelligence | 2 |

*(\*) The lack of infrastructure and environmental sustainability indicators is largely due to the fact that these are mainly non-tourism indicators.*

## 5.1.2  Shaping the Strategic Destination Management Scorecard (SDMSC)

To start structuring the indicators obtained in **5.1.1**, attention has first been paid to the mean relevance value of each indicator topic (**Table 15**), which represents the degree of priority of each topic according to experts' judgement. Thus, 'social competitiveness' (4.1) and 'infrastructure' (3.9) would be at the top of the framework of indicators suggested; whereas 'destination productivity & economic sustainability' (3.7), 'social sustainability and stakeholders' management' (3.6), 'environmental sustainability' (3.3), and 'connectivity & intelligence' (3.3) would follow.

Regardless of the order given to the model in this case, the 6 axes or blocks included are equally essential for DMOs. That is, none of them can be overlooked in the measurement of destination performance. The numerous content analyses conducted throughout this work have served to discard irrelevant or non-applicable destination indicators. Therefore, in order to ensure the correct use of the tool, all the proposed indicators should be evaluated.

This indicator model is conceived as a BSC for tourism destinations rather than a list of indicators to be just considered by DMOs. Designing this tool as a scorecard makes it possible to better focus the objectives and better distribute responsibilities among the destination's stakeholders, for whom the breakdown of indicators and parameters is clear. Kaplan and McMillan (2020) advocate the ability of BSCs to control multi-stakeholder and multi-axis strategies, and that is why this tool has been considered to be the most appropriate to achieve the objective settled for this research.

To do this, the indicators extracted from the final analysis (**Appendix I**) have to be implemented on the axis structure shown (**Figure 13**). As can be seen, the indicators are reflected in the BSC in the form of a keyword (target). This is because, within each of these targets, several KPIs can be distinguished that operationalise the indicator in a more specific way. The different components of the SDCSC and certain aspects to consider in its implementation are explained below.

FIGURE 13

*SDMSC MODEL*



| Goal structure | | | Indicators | | |
|---|---|---|---|---|---|
| Major goal | Measures | Actions | Targets | KPIs | Non-tourism |

**Social competitiveness**
- Human resource — Implicit/explicit know-how and skills, higher education, etc.
- Employment — Full time jobs, salary increase, employees' satisfaction, etc.
- Safety and security — Perceived safety, security in tourism facilities and infrastructures.
- Destination positioning — Perceived destination attractiveness, destination reputation.
- Visitors satisfaction — Revisitation rate, general visitor satisfaction, experience quality.

Non-tourism: Residents' satisfaction / Quality of life

**Infrastructu-re**
- Physical connectivity — Ease of finding attractions, connectivity with destinations, etc.
- Accesibility — Universal accesibility, WAI, promotion of accesible tourism.

Non-tourism: Public infrastructure / Public transport systems

**Destination productivity & economic sust.**
- LOS — LOS by season, overnights, average occupancy.
- No. arrivals & distribution — Arrivals, crowd index.
- MICE & events — International events and congresses, cultural and sport events.
- Digitalization — Web marketing, online booking, CRS, digital communication.
- Economic viability and impact — Growth in gross regional product, tourism revenue, sales, etc.

Non-tourism: Social equity

**Social sust. & stakeholders' mgmt.**
- Acceptance of tourism — Perception of locals about tourism, residents working in tourism.
- Governance — Stakeholders' insights consideration, stakeholders' centrality, etc.
- Culture, identity and authenticity — Projected and perceived image, staged authenticity.

Non-tourism: Healthy population

**Environmental sust.**
- Sustainability strategy — Stakeholders' commitment, compliance with the strategy, etc.
- Renewable energy — % of green energy in tourism businesses, energy efficiency.

Non-tourism: Zero emissions

**Connectivity & intelligence**
- Visitor management systems — Demand behaviour research, destination site performance, etc.
- Innovative product — Promotion of innovation, R&D, entrepreneurial attractiveness.

### 5.1.3  Targets and KPIs

The suggested KPIs for each topic have been mainly drawn from the content analysis conducted between R1 and R2. In this process, many indicators have been grouped together in a concise manner, and the specific parameters collected in the indicators consulted in R2 have been retrieved again to complement this scorecard. In some cases, indicators suggested by authors referred to in the literature have also been used in the modelling of the scorecard. Although all targets should be minimally assessed by DMOs in this process, the same strategy is not suggested for the KPIs. In this case, DMOs, as managers of the tool, should select the most relevant sub-indicators for their territory and develop actions and protocols for action and measurement for each of them that would be accountable for the strategies and goals settled.

In addition to the KPIs identified for each target, **Table 33**, **Table 34**, **Table 35**, **Table 36**, **Table 37** and **Table 38** also provide examples of measurement of these parameters. One specific method of calculation of an indicator may not be applicable to every destination. Therefore, some measurement methods have been suggested to facilitate the process to destinations. For instance, 'accessibility' is one of the two targets addressed in 'infrastructure'. Within it, (1) *universal accessibility*, (2) *WAI* and (3) *promotion of accessible tourism* have been distinguished as relevant KPIs. The following calculation suggestions have been proposed respectively: (1) % of tourism infrastructure full accessibility, (2) level of compliance on content accessibility with WAI and (3) initiatives promoting accessible tourism from/to destination.

**TABLE 33**

*TARGETS AND KPIS: SOCIAL COMPETITIVENESS*

| Targets | KPIs | Calculation suggestions | Data generator or owner |
|---|---|---|---|
| Human re-sources | Implicit/explicit know-how and skills. | No. tourism school graduates working in destination. | Local/ regional authorities and educa-tion institutions. |
| | Tourism higher education options in destination. | No. tourism higher education programmes in the region. | |
| | Access to skills training | Periodicity of continuous training offered to employees. | Tourism businesses. |
| Employment | Full-time tourism jobs. | No. of full time employees in tourism industries. | Local/ regional authorities & tourism businesses. |
| | Salary increase. | Evolution of salaries of tourism employees. | |
| | Employees' satisfaction. | Tourism employees' turnover rate. | Tourism employees. |
| | Gaps in job opportunities (gender, LGTBIQ+, etc.) | Salary gap. | Tourism employees. |
| Safety & se-curity | Perceived safety in the destination. | Visitors consultation. | Visitors. |
| | Security of tourism facilities and infrastructures. | No. crimes in tourism facilities and points of interest. | Visitors. |
| Destination positioning | Perceived destination attractiveness. | Visitors consultation on pull factors. | Visitors. |
| | Destination reputation. | Online user-generated content analysis. | Visitors, to be analysed by DMOs. |
| Visitors sa-tisfaction | Revisitation rate. | Loyalty programmes' users and subscribers. | Tourism businesses & DMO. |
| | General visitor satisfaction. | Level of satisfaction with tourist attractions and facilities. | Visitors. |
| | Experience quality management. | Satisfaction with human & virtual interactions in touchpoints. | Visitors. |

**TABLE 34**

*TARGETS AND KPIS: INFRASTRUCTURE*

| Targets | KPIs | Calculation suggestions | Data generator or owner |
|---|---|---|---|
| Physical connectivity | Connetivity with other destinations | No. destinations that can be reached from the destination. | Local/ regional authorities & DMO. |
| | Spread in time/ locations within the destination. | Relation between distance & arrival time of points of interest. | Visitors. |
| | Ease of finding attractions and services | Clarity and usefulness of tourist signage. | Visitors. |
| Accesibility | Universal accesility. | % of tourism infrastructure full accessibility. | Local/ regional authorities & tourism businesses |
| | WAI. | Level of compliance on content accessibility with WAI. | |
| | Promotion of accessible tourism. | Initiatives promoting accessible tourism from/to destination. | Local/ regional authorities. |

**TABLE 35**

*TARGETS AND KPIS: DESTINATION PRODUCTIVITY & ECONOMIC SUSTAINABILITY*

| Targets | KPIs | Calculation suggestions | Data generator or owner |
|---|---|---|---|
| LOS | LOS by season. | Average stay registered by tourist accommodations. | Tourism accommodation businesses. |
| | Overnights. | Total amount of nights registered by accommodations. | Tourism accommodation businesses. |
| | Average occupancy. | Availability of rooms in accommodation over the time. | Tourism accommodation businesses. |
| No.tourist arrivals & distribution | Arrivals. | Total number of persons staying in accommodation in the destination. | Tourism accommodation businesses and tourist information services (DMO). |
| | Crowd Index. | Distribution of tourist arrivals over time; seasonality. | |
| Value creation through tourism | Regional development | External investments in tourism acitivties in the destination. | Local/ regional authorities and tourism businesse. |
| | Local prosperity. | Evolution of the tourism business fabric in the destination. | |
| | Increase added value per visitor | Analysis of non-tangible impacts of tourism. | Local/ regional authorities and DMO. |
| MICE & events | Intern. association meetings, congresses, events | No., impact and return of MICE events | DMOs and Convention Bureaux. |
| | Cultural and sports events in the destination. | No., impact and return of sport and cultural events. | DMOs and local/ regional authorities. |

| | | | |
|---|---|---|---|
| Economic viability and impact | Growth in gross regional product. | Evolution of gross regional product. | Local/ regional authorities. |
| | Revenue from tourism. | Revenue of tourism companies per sale or booking. | Tourism businesses. |
| | Sales of tourism businesses. | Volume and amount of sales and bookings. | Tourism businesses. |
| | Tax contribution of tourism. | Total tax contribution of tourism companies to destination. | Local/ regional authorities & tourism businesses. |
| | Visitors' expenditure in the destination | Average expenditure on accommodation, transport, commerce, attractions, etc. | Visitors and tourism businesses |
| Digitalization | Digital communication vs tradit. communication | ROI on digital marketing vs. traditional marketing: DAR | DMO. |
| | Web marketing | Web metrics: GRP, net reach, impressions, CPM, CTR… | DMO. |
| | Online booking | No. of companies with online booking infrastructure | Tourism businesses. |
| | Destination CRS | Users and return of CRS system. | DMO. |

**TABLE 36**

*TARGETS AND KPIS: SOCIAL SUSTAINABILITY & STAKEHOLDERS' MANAGEMENT*

| Targets | KPIs | Calculation suggestions | Data generator or owner |
|---|---|---|---|
| Resilience | Risk management | Existence and degree of updating of risk management strategies and contingency plans. | Local/ regional authorities and DMO. |
| Acceptance of tourism | Perception of locals about tourism. | % residents that perceive tourism as a threat to liveability | Local communitiy |
| | Residents working in tourism. | % residents working in tourism industries | Local community |
| Governance | Stakeholders' insights considered by authorities. | Stakeholders' satisfaction with governance. | Tourism businesses, local community, local/ regional authorities, DMO. |
| | Roles and responsibility commitment. | Degree of compliance with its organisational objectives | |
| | Stakeholders' centrality. | No. relations that start in that stakeholder. | |
| | Stakeholders' betweenness. | No. connections of each stakeholder. | |
| Culture, identity & authenticity | Projected & perceived image. | Online user-generated content analysis. | Visitors, to be analysed by DMOs. |
| | Staged authenticity. | Level of authenticity of tourism products and services perceived by tourists. | Visitors. |

**TABLE 37**

*TARGETS AND KPIS: ENVIRONMENTAL SUSTAINABILITY*

| Targets | KPIs | Calculation suggestions | Data generator or owner |
|---|---|---|---|
| Sustainabi-lity strategy | Stakeholders' commitment in sustainability. | No. organisations acepting codes of ethics & commitments. | Local/ regional authorities. |
| | Degree of compliance with the strategy. | % objectives of the strategy fulfilled successfully. | Local/ regional authorities. |
| | Adherence to sustainability certifications. | No. tourism organizations with sustainable certifications. | Tourism businesses. |
| Renewable energy | % of green energy in tourism businesses | % of green energy in tourism businesses. | Tourism businesses. |
| | Energy efficiency strategies | Existence of these strategies at destination level, i.e. pub-liclightening | Local/ regional authorities. |

**TABLE 38**

*TARGETS AND KPIS: CONNECTIVITY & INTELLIGENCE*

| Targets | KPIs | Calculation suggestions | Data generator or owner |
|---|---|---|---|
| Visitor man-agement system | Demand behaviour research. | Demand forecasting. | DMO and other information services. |
| | Destination site technical performance metrics. | Ease of use, design and navigation quality. | DMO. |
| | Mechanisms for monitorization & evaluation of points of interest situation. | Attraction popularity rankings. | Tourism businesses and DMO. |
| | Platform for data integration & information mgmt. | Existence, uses & capabilities of an integrated data platform. | DMO. |
| | Customer information needs fulfilled. | Visitor information preferences in pre, during and post-trip. | Visitors. |
| Innovative products & projects | Promotion of innovation in tourism. | Existence of support programmes for innovation in tourism. | Local/ regional authorities. |
| | R&D | Collab. projects with universities and R&D institutions. | |
| | Entrepreneurial attractiveness. | No. of new (tourism) start-ups in the last year. | Local/ regional authorities. |

### 5.1.4  Strategic implementation of the SDMSC

To ensure the strategic orientation of the SDMSC, the contribution of Kaplan and McMillan (2020) to the design of the BSC has been considered. In addition to identifying the indicators to be studied, the strategic objectives, measures and specific actions that support each of the axes stipulated by the model, i.e., 'social competitiveness', are also contemplated in the left columns of the SDMSC in **Figure 13**. In order to try to balance the need to address all axes on the one hand, and the freedom of each destination to reconfigure the SDMSC structure according to its own needs on the other hand, a minimum of one strategic objective, one measure, and one specific action should be identified for each axis.

The responsibility of each stakeholder is different with respect to the SDMSC. The DMO is defined as the main user and manager of the data modules. Its roles include the loading of its own data, the control and periodic restructuring of the data, targets and axes, the analysis of data available in the tool and the corresponding strategic control, and the coordination of the stakeholder system with respect to the SDMSC.

However, any tourism stakeholder in the destination could also have access to this SDMSC. The condition for this is to be able to justify that your organisation can benefit from the content shared there, as well as to provide data relating to their company in return. The benefit is thus reciprocal and the transparency bidirectional. According to Brandenburger and Nalebuff (2011), stakeholders would be considered in this case complementors, as they strengthen the value of the tourism destination system with their insights and data. Tourism businesses would be 'coopetitors' with each other, but they would benefit from the value created as a whole. It is believed that if the conditions and purposes of data to be published are properly clarified, companies would be more proactive in uploading data.

For instance, a DMO could benefit from tourist accommodation companies sharing their LOS because it would obtain data from more diverse sources and therefore have a more accurate result. For tourist accommodation companies, sharing this type of information should not be a great effort, because it does not expose their strategy or the actions conducted in order to encourage a LOS in their facilities. Likewise, indicators such as hotel occupancy or LOS are not expected to vary too much from one establishment to another, as these parameters are generally scalable to the destination as a whole.

This transfer of data and, above all, the technological tools that can be used for the uploading and processing of this data would turn the SDMSC into a tourism intelligence tool for the destination. BI tools facilitate and streamline the process of informed decision-making, and the SDMSC guarantees an optimisation of DMOs' resources (Femenia-Serra & Ivars-Baidal, 2021; Pousa-Unanue et al., 2021).

### 5.1.5  Data collection for the SDMSC development

BI tools automate, as far as possible, the processes of data generation, collection, and processing (Olszak & Ziemba, 2007; Shollo & Galliers, 2016; Vizgaitytė & Rimvydas, 2012; Watson & Wixom, 2007). Although the model does not have a corresponding technological development, the SDMSC is directed towards this automation model through stakeholder input. The model would be enriched by secondary sources that are directly linked to the DMO itself.

**Tables 33 – 38** also include a column referring to the stakeholder that generates or owns the relevant data for each KPI. The data generator is almost always the visitor, but the data is often recorded in databases, or registers of tourism organisations, DMOs, etc. When the data is held by the visitor and needs to be consulted in order to be known, it is understood that the DMO would be responsible for this consultation and for the processing of these data until they are uploaded to the SDMSC.

### 5.1.6  Results management in SDMSC

BSC should be a tool that makes it possible to assess the progress of the organisation with respect to the results obtained in the areas determined by the strategies (Kaplan & McMillan, 2020). The targets and KPIs identified in **5.1.3** are considered to measure the integrated approach referred to by Luo (2018) and Campbell et al. (1990). This means that a combination of behavioural performance research is applied, where more attention is paid to the actions taken towards the set target; while other KPIs are more result-oriented in nature.

Moreover, to facilitate the monitoring of this progress, it is suggested to add a final score to the performance of each destination. To this end, a basic weighting system has been proposed for the variables of the framework. According to the experts' view, certain axes are more relevant than others, but it has already been mentioned that higher relevance does not exempt less relevant axes from being equally measured and monitored. In previous phases of this work, indicators whose relevance was low have been discarded. All

indicators and axes presented in the SDMSC must have an action strategy. Hence, in this case, equal weighting has been given to each of the data blocks.

A maximum of 10 points could be achieved by the destination in each axis, depending on the number of KPIs for which it has achieved its target in the study period. Taking into account that the total number of indicators varies for each axis, **Table 39** shows the value of each target met per topic.

*POINTS DISTRIBUTION FOR THE SDMSC SCORE*

| Topic | No. of targets | Score per target fulfilled |
|---|---|---|
| Social competitiveness | 5 | 2 pt. |
| Infrastructure | 2 | 5 pt. |
| Destination productivity & economic sust. | 6 | 1.67 pt. |
| Social sust. & stakeholders' management | 4 | 2.5 pt. |
| Environmental sustainability | 2 | 2 pt. |
| Connectivity & intelligence | 2 | 2 pt. |

Once the total points obtained have been summed, the value would be multiplied by 1.67 to obtain a final score out of 100 points with which to position the destination according to its destination performance.

## 5.2  Conclusions

The analysis with destination experts has resulted in 44 indicators for measuring destination performance which, by consensus, they have identified as the most relevant. These include, among others, with absolute consensus, the quality of tourism employment, experience quality management, destination physical connectivity, smart visitor management system, acceptance of tourism by locals, or visitor's expenditure in the destination.

Thus, experts consider the axes of 'social competitiveness' and 'infrastructure' to be the most relevant, and 'connectivity and intelligence' and 'environmental sustainability' the least relevant. Considering the type of indicators and KPIs included in each of them, it is possible that the lower relevance ratings reflect the inability or incapacity of DMOs to address these metrics rather than a real lower degree of priority.

Despite its difficulties, this empirical analysis has proved to be successful as the results obtained have largely coincided with academic proposals. However, the value of this

research lies in the advances in destination performance research by interweaving the different proposals in the literature and proposing improvements applied to DMOs.

Although the stated purpose of this research is the development of the model presented above to assist DMOs in the paradigm shift from marketing to management, the mission of such a model goes beyond that. The identification of targets and KPIs is not enough. The implementation of these indicators has been considered in this case as relevant as the parameters to be measured themselves. Therefore, the mission of this SDMSC would be to foster more competitive, sustainable, smart and resilient tourism destinations to help improve the global tourism destination landscape, as well as to facilitate DMOs the process of assessing their destination results.

The SDMSC (**Figure 13**) is composed of 6 axes and 21 targets, divided into 39 KPIs to guide destinations in the evaluation of their destination performance. To ensure the success of this BI tool, the commitment and responsibility of all stakeholders in the tourism system is necessary. Different roles are distinguished depending on the capacities of each stakeholder with respect to the SDMSC, but in all cases the contribution of each agent is rewarded with access to information related to their territory. Highlighted among the roles is the coordination capacity of the DMO in the SDMSC.

As Dwyer and Kim (2003) identify, tourism organisations need to deepen their responsibilities as coordinators of the destination's tourism system, and implement strategies according to the needs of all stakeholders. This would require reducing the efforts invested in destination marketing and promotion and redirecting them towards competitive, resilient and smart territorial management models. Greater consideration of the tools offered by strategic management – i.e., BSC – in non-profit organisations such as DMOs is a first step towards this goal.

## 5.3 Implications

The implications of this study could be considered of two types depending on the sector from which improvements and changes are sought. On the one hand, this work has positive effects on the public sector and DMOs, and on the other hand, it could benefit the academic sector by exposing some ideas with new research potential.

### 5.3.1 Managerial implications

This model is a useful tool for the transition of marketing-focused DMOs towards more competitive management models; especially for those organisations with fewer

resources in terms of funding, staff and skills in monitoring and measuring results. Therefore, it is estimated that this framework could be especially advantageous for small RTOs and DMOs of destinations located in small territories. Given that practicality has been a highly considered aspect in the development of the model, a larger number of destinations could benefit from such a proposal.

The metrics of these indicators will provide lagging destinations with a roadmap that can guarantee improvements in destination performance metrics. If the consequent control and reaction processes are performed correctly, also the overall destination performance could be increased. Following Oklevik et al. (2019) and their claimed need to pursue more competitive destination models to cope with new tourism markets, this is ultimately a tool to support DMOs in that process.

In general, the development of the SDMSC within the strategic context and, in particular, the approach of tools such as SWOT analysis to destinations, allows for a better understanding of the status of the situation of each territory in order to avoid overlooking less obvious or generalised problems. The specificity of the objectives and the breakdown of the indicators that are addressed also provide a certain clarity that could benefit DMOs by increasing the commitment of the entire stakeholder system.

This tool obliges the destination to consider all the problems that may be related to the axes of the SDMSC. Although the degree to which each objective is then implemented varies in each territory, the SDMSC ensures that the destination reflects on all the areas that comprise the BSC. This makes it easier to anticipate problems that may not be so fiery in the destination but that could potentially develop. Therefore, this tool could also be applicable to the risk management strategies of destinations.

In addition, the SDMSC introduces the concept of equity in destination management. In the basic method proposed here to obtain the final score for each destination, the result is based on the success of the destination's performance against its objectives, and not against the performance of the most popular and visited destinations, which are also assumed to be those with the most resources in management. Thus, this tool offers practitioners a relative rather than an absolute method of assessing destination performance.

The SDMSC suggested in this study positively affects the whole tourism system of a destination. In this case, DMOs or practitioners are the main study population, and for this reason, the implications in this area are particularly highlighted. But the progress of the territory in terms of destination performance through the use of this tourism

intelligence tool would have an impact on the resilience and competitiveness of all tourism organisations that decide to be part of it.

## 5.3.2 Theoretical implications

Academic implications are equally relevant to this research, as this study is also a reflection on applicability of the destination performance measurement models developed by academia; as well as a review of the degree of real destinations' needs they cover. In an attempt to update these models, the SDMSC has been developed including the views of the experts. The approach to the practitioners has made it possible to observe from close quarters what the priorities are in their destinations, opening clearing research opportunities following the line of study that has been lightened, i.e., by evaluating the success of the suggested model in specific destinations. All of these models presented in the Literature Review as a starting point for the SDMSC have been developed on the basis of knowledge interpretation. Many of them have not considered practitioners' insights as the core of the models developed.

Therefore, the SDMSC also demonstrates the viability of this strategy in which the needs of destinations are at the centre of the model. It can therefore be said that the SDMSC offers a more realistic destination performance model in terms of its application. The fact that a model has been developed around the needs perceived by managers provides a new parameter of validity and veracity of new theoretical models that may emerge; to ensure that they are not mere academic advances, but that they can actually be put into practice.

In general, the SDMSC can also be considered a theoretical breakthrough because it is a tool that encompasses many models and academic perspectives that alone are not able to address comprehensively the destination performance, i.e. stakeholder management models. More specifically, it is also possible to highlight some improvements offered by the BSC developed with respect to some of the models presented in the Literature Review.

On the one hand, the relativity in the interpretation of the progress of the destinations with the SDMSC is relevant. Although the competitiveness models presented above are already progress in themselves because they are based on the performance of each territory to understand the causality of the results, the SDMSC goes a step further and does not compare all destinations in the same final ranking. In other words, a destination that reports 70% green energy does not necessarily have to be ahead of another

destination that reports 50%. In the case of a ranking of destinations, the positioning will be relative to the degree of compliance with the objectives in each case.

On the other hand, it could also be said that the SDMSC brings added value to the smart destination models presented. The Invat-tur model, for example, is a single model; it does not vary depending on the destination that applies it. The size of the Spanish Smart Destinations Network shows that it is a model applicable to different destinations, but the destinations that apply these indicator models can be understood as similar. They are all in a similar context of social and economic development, and the gaps that may exist between them is more relative to the location of the destination in question: urban, coastal or rural. But it is perhaps not so easily applicable to an international context, where levels of development can vary widely. Therefore, the SDMSC also moves in this direction and allows the destination to set its own targets and select the KPIs it wants to address in the next cycle.

## 5.4  Limitations

The main limitation that had to be overcome in this work was the limited sample on which the methodology has been applied. Despite having assumed from the outset the risk of obtaining a low response rate, attempts have been made to obtain a greater number of responses, especially in R1. This work, which was intended to be representative for all DMO profiles in the European region, saw its disparity of study profiles reduced, with a consequent loss of representativeness of the sample. This is why, with such a low response rate, it has not been considered relevant in this study to highlight the profile of the participating experts, nor to contrast their responses on the indicators consulted with the type of organisation in which they work.

Although the Delphi methodology was chosen in order to facilitate and lighten the process for the experts, the density and difficulty of the questions could be considered the reason for the low response rate. In line with this, it may also be a limitation of this work to have asked only about the relevance of the indicators, ignoring their usability or ease of application. This decision was made, once again, in order to achieve the objective established at the beginning of this work by optimising time, resources, and existing capacities to the maximum. Even so, it is considered that the few responses obtained have been very useful in achieving the objective of this research because they allowed the analysis of the consensus among experts, giving rise to very relevant conclusions and implications in these terms.

In relation to the aspects considered in the design of the BSC, data sharing is the main perceived limitation. DMOs, as main managers of the tool, must take into consideration the regulations and norms in force in the destination to guarantee the anonymous and secure transfer of information. Making security explicit in the process could also generate trust and confidence for companies to share their results.

## 5.5 Future research

Continuing with the subject of this thesis, and considering in particular the constraints that arose during the course of the study, it would be relevant to continue with the topic studied in this research, due to its degree of relevance and potential for change in the public sector or among tourism destination managers. To this end, several approaches are suggested that could fill the gaps in the present study.

The first line of future research could be developed with a similar methodology, but on a more limited and defined population of experts in order to be able to extrapolate the results obtained to a territory. On the other hand, it is not advisable to turn it into a case study that justifies the particularities of a territory. But it would be convenient to be able to model different realities of a territory by means of a system of indicators.

It is also suggested that the model of indicators obtained from this study be used to study other aspects that guarantee the applicability of the indicators. For example, future research could apply the same Delphi methodology (in the format of R2 and R3) to approach experts' perceptions of the ease of application and perceived usefulness of these indicators. This could complement the present study and increase the implications of the progress made for DMOs.

As far as the SDMSC is concerned, it could be mentioned that it is a basic model and that many advances could be implemented to refine it and increase its capabilities. For example, future lines of research in this field could analyse how to deal with non-tourism indicators, and how to implement them in the model without making them the sole responsibility of tourism agents.

Finally, the research community could enhance the research initiated here by evaluating the proposed SDMSC in real destination cases. Analysing the progress of these territories after using this tool would further strengthen the value of the objective achieved with the current research.

# 6 BIBLIOGRAPHY

Aggarwal, C. C. (2011). An introduction to social network data analytics. In *Social network data analytics* (pp. 1-15). Springer. https://doi.org/10.1007/978-1-4419-8462-3_1

Ahn, B., Lee, B., & Shafer, C. S. (2002). Operationalizing sustainability in regional tourism planning: an application of the limits of acceptable change framework. *Tourism Management*, *23* (1), 1-15. https://doi.org/10.1016/S0261-5177(01)00059-0

Amos, T., & Pearse, N. (2008). Pragmatic resear-ch design: An illustration of the use of the Delphi technique. *Electronic Journal of Business Research Methods*, *6*(2), 133-140.

Angelkova, T., Koteski, C., Jakovlev, Z., & Mitrevska, E. (2012). Sustainability and competitiveness of tourism. *Procedia-Social and Behavioral Sciences*, *44*, 221-227. https://doi.org/10.1016/j.sbspro.2012.05.023

Assaf, A. G., & Josiassen, A. (2012). Identifying and ranking the determinants of tourism performance: A global investigation. *Journal of Travel Research*, *51*(4), 388-399. https://doi.org/10.1177/0047287511426337

Bachleitner, R., & Zins, A. H. (1999). Cultural tourism in rural communities: The residents' perspective. *Journal of business research*, *44*(3), 199-209. https://doi.org/10.1016/S0148-2963(97)00201-4

Becken, S., Whittlesea, E., Loehr, J., & Scott, D. (2020). Tourism and climate change: Evaluating the extent of policy integration. *Journal of Sustainable Tourism*, *28* (10), 1603-1624. https://doi.org/10.1080/09669582.2020.1745217

Beiderbeck, D., Frevel, N., Heiko, A., Schmidt, S. L., & Schweitzer, V. M. (2021). Preparing, conducting, and analyzing Delphi surveys: Cross-disciplinary practices, new directions, and advancements. *MethodsX,* 8, 101401. https://doi.org/10.1016/j.mex.2021.101401

Bercial, R. Á., & Timón, D. A. B. (2005). Nuevas Tendencias En El Desarrollo De Destinos Turísticos: Marcos Conceptuales Y Operativos Parasu Planificación Y Gestión. *Cuadernos de turismo*, (15), 27-44.

Bethapudi, A. (2013). The role of ICT in tourism industry. *Journal of Applied Economics and Business*, 1 (4), 67-79.

Bhat, S. S., & Milne, S. (2008). Network effects on cooperation in destination website development. *Tourism Management*, *29*(6), 1131-1140. https://doi.org/10.1016/j.tourman.2008.02.010

Bhattacherjee, A. (2012). *Social science research: Principles, methods, and practices*. ASM International. https://10.31399/asm.tb.mfadr7.t91110262

Björk, P. (2000). Ecotourism from a conceptual perspective, an extended definition of a unique tourism form. *International Journal of Tourism Research*, 2(3), 189–202. https://doi.org/10.1002/(SICI)1522-1970(200005/06)2:3%3C189::AID-JTR195%3E3.0.CO;2-T

Boes, K., Buhalis, D., & Inversini, A. (2015). Conceptualising smart tourism destination dimensions. In *Information and communication technologies in tourism 2015* (pp. 391-403). Springer, Cham. https://doi.org/10.1007/978-3-319-14343-9_29

Bojanic, D. C. (1991). The use of advertising in managing destination image. *Tourism management*, *12*(4), 352-355. https://doi.org/10.1016/0261-5177(91)90047-W

Brandenburger, A. M., & Nalebuff, B. J. (2011). *Co-opetition*. Currency.

Bungay, S. & Goold, M. (1991). Creating a strategic control system. *Long range planning*, *24*(3), 32-39. https://doi.org/10.1016/0024-6301(91)90182-N

Burke, J. F., and R. E. Gitelson. 1990. Conversion Studies: Assumptions, Applications, Accuracy and Abuse. *Journal of Travel Research*, 28 (3): 46–51. https://doi.org/10.1177%2F004728759002800311

Butler, R. (1998). Seasonality in tourism: Issues and implications. *The Tourist Review,* 53 (3), 18-24. https://doi.org/10.1108/eb058278

Byrd, E. T. (2007). Stakeholders in sustainable tourism development and their roles: applying stakeholder theory to sustainable tourism development. *Tourism review*, *62* (2), 6-13. https://doi.org/10.1108/16605370780000309

Cai, L. A. (2002). Cooperative branding for rural destinations. *Annals of tourism research*, *29*(3), 720-742. https://doi.org/10.1016/S0160-7383(01)00080-9

Campbell, J. P., McHenry, J. J., & Wise, L. L. (1990). Modeling job performance in a population of jobs. *Personnel psychology*, *43* (2), 313-575. https://doi.org/10.1111/j.1744-6570.1990.tb01561.x

Candela, G., & Figini, P. (2012). The economics of tourism destinations. In *The economics of tourism destinations* (pp. 73-130). Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-20874-4_4

Cave, J., & Dredge, D. (2020). Regenerative tourism needs diverse economic practices. *Tourism Geographies*, *22* (3), 503-513. https://doi.org/10.1080/14616688.2020.1768434

Chekalina, T., & Fuchs, M. (2009). A meta-comparison of empirical brand metrics and models for tourism destinations. In *3rd International Conference on Destination Branding and Marketing*, 130-141.

Chernev, A. & Kotler, P. (2014) *Strategic Marketing Management* (8th ed.). Cerebellum Press.

Choe, Y., Stienmetz, J. L., & Fesenmaier, D. R. (2017). Measuring destination marketing: Comparing four models of advertising conversion. *Journal of Travel Research*, *56*(2), 143-157. https://doi.org/10.1177%2F0047287516639161

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Croes, R., & Kubickova, M. (2013). From potential to ability to compete: Towards a performance-based tourism competitiveness index. *Journal of Destination Marketing & Management*, *2*(3), 146-154. https://doi.org/10.1016/j.jdmm.2013.07.002

Crouch, G. I. (2011). Destination competitiveness: An analysis of determinant attributes. *Journal of travel research*, *50*(1), 27-45. https://doi.org/10.1177/0047287510362776

Crouch, G. I., & Ritchie, J. B. (1999). Tourism, competitiveness, and societal prosperity. *Journal of business research*, *44*(3), 137-152. https://doi.org/10.1016/S0148-2963(97)00196-3

Csapó-Horváth, A. (2021). The importance and influence of destination advertising. *European Journal of Sustainable Development*, *10*(2), 231-231. https://doi.org/10.14207/ejsd.2021.v10n2p231

Dajani, J. S., Sincoff, M. Z., & Talley, W. K. (1979). Stability and agreement criteria for the termination of Delphi studies. *Technological forecasting and social change*, *13*(1), 83-90. https://doi.org/10.1016/0040-1625(79)90007-6

d'Angella, F. & Go, F. M. (2009). Tale of two cities' collaborative tourism marketing: Towards a theory of destination stakeholder assessment. *Tourism Management*, *30*(3), 429-440. https://doi.org/10.1016/j.tourman.2008.07.012

d'Angella, F., De Carlo, M., & Sainaghi, R. (2010). Archetypes of destination governance: a comparison of international destinations. *Tourism Review*. https://doi.org/10.1108/16605371011093872

De Carlo, M., Cugini, A., & Zerbini, F. (2008). Assessment of destination performance: a strategy map approach. *Tourism Review*. https://doi.org/10.1108/16605370810883923

Dogru, T., Marchio, E. A., Bulut, U., & Suess, C. (2019). Climate change: Vulnerability and resilience of tourism and the entire economy. *Tourism Management*, *72*, 292-305. https://doi.org/10.1016/j.tourman.2018.12.010

Donohoe, H. M., & Needham, R. D. (2009). Moving best practice forward: Delphi characteristics, advantages, potential problems, and solutions. *International Journal of Tourism Research*, *11*(5), 415-437. https://doi.org/10.1002/jtr.709

Dore, L. & Crouch, G. I. (2003). Promoting destinations: An exploratory study of publicity programmes used by national tourism organisations. *Journal of Vacation marketing*, *9*(2), 137-151. https://doi.org/10.1177%2F135676670300900203

Duffy, R., & Moore, L. (2011). Global regulations and local practices: The politics and governance of animal welfare in elephant tourism. *Journal of Sustainable Tourism*, 19(4–5), 589–604. https://doi.org/10.1080/09669582.2011.566927

Duggan, K. J., & Lang, J. (2010). Six drivers for high-user satisfaction of tourism websites: Performance auditing of Maine, Massachusetts, and New York's direct marketing strategies. In *Tourism-Marketing Performance Metrics and Usefulness Auditing of Destination Websites*. Emerald Group Publishing Limited. https://doi.org/10.1108/S1871-3173(2010)0000004007

Dwyer, L., & Kim, C. (2003). Destination competitiveness: determinants and indicators. *Current issues in tourism*, *6*(5), 369-414. https://doi.org/10.1080/13683500308667962

Dwyer, L., Forsyth, P., & Rao, P. (2000). The price competitiveness of travel and tourism: a comparison of 19 destinations. *Tourism management*, *21*(1), 9-22. https://doi.org/10.1016/S0261-5177(99)00081-3

Dwyer, L., Mistilis, N., Forsyth, P., & Rao, P. (2001). International price competitiveness of Australia's MICE industry. *International Journal of Tourism Research*, *3*(2), 123-139. https://doi.org/10.1002/jtr.292

Eckerson, W. (2003). Smart companies in the 21st century: The secrets of creating successful business intelligence solutions. *TDWI Report Series*, *7*, 1-38.

Ellerbrock, M. J. (1981). Improving coupon conversion studies: A comment. *Journal of Travel Research*, *19*(4), 37-38. https://doi.org/10.1177%2F004728758101900406

Erkuş-Öztürk, H. (2011). Emerging importance of institutional capacity for the growth of tourism clusters: The case of Antalya. *European Planning Studies*, 19(10), 1735–1753. https://doi.org/10.1080/09654313.2011.614384

European Commission (2022). *Transition Pathway for Tourism*. https://op.europa.eu/en/publication-detail/-/publication/404a8144-8892-11ec-8c40-01aa75ed71a1

Farris, P. W., Bendle, N., Pfeifer, P. E., & Reibstein, D. (2010). *Marketing metrics: The definitive guide to measuring marketing performance*. Pearson Education.

Femenia-Serra, F., & Ivars-Baidal, J. A. (2021). Do Smart Tourism Destinations Really Work? The Case of Benidorm. Asia Pacific Journal of Tourism Research, 26(4), 365–384. https://doi.org/10.1080/10941665.2018.1561478

Femenia-Serra, F., Perles-Ribes, J. F., & Ivars-Baidal, J. A. (2019). Smart destinations and tech-savvy millennial tourists: hype versus reality. *Tourism Review*, 74 (1), 63-81. https://doi.org/10.1108/TR-02-2018-0018

Fesenmaier, D. R. & Xiang, Z. (2016). Design science in tourism: *Foundations of destination management*. Springer. https://doi.org/10.1007/978-3-319-42773-7

Fink-Hafner, D., Dagen, T., Doušak, M., Novak, M., & Hafner-Fink, M. (2019). Delphi method: Strengths and weaknesses. *Advances in Methodology and Statistics*, *16* (2), 1-19. https://doi.org/10.51936/fcfm6982

Franch, M., & Martini, U. (2002). Destinations and Destination Management in the Alps A Proposal for a Classification Scheme in Light of Some Ongoing Experiences. *E-Tourism Project Research Areas and Second-Year Results*, 4-21.

Freeman, E., & Liedtka, J. (1997). Stakeholder capitalism and the value chain. *European Management Journal*, *15*(3), 286-296. https://doi.org/10.1016/S0263-2373(97)00008-X

Frew, A. & Horan, P. (2007). Destination website effectiveness–a Delphi-based eMetric approach–a DMS perspective.

Fryc, L. M. (2010). Are tourism websites useful for travelers? Applying an information audit rubric for Mediterranean tourism destination websites. In *Tourism-Marketing Performance Metrics and Usefulness Auditing of Destination Websites*. Emerald Group Publishing Limited. https://doi.org/10.1108/S1871-3173(2010)0000004008

Fuchs, M., Höpken, W., & Lexhagen, M. (2014). Big data analytics for knowledge generation in tourism destinations – A case from Sweden. *Journal of Destination Marketing & Management*, 3(4), 198-209. https://doi.org/10.1016/j.jdmm.2014.08.002

Gartner, W. C. (2014). Brand equity in a tourism destination. *Place Branding and Public Diplomacy*, *10* (2), 108-116. https://doi.org/10.1057/pb.2014.6

Gomezelj, D. O., & Mihalič, T. (2008). Destination competitiveness—Applying different models, the case of Slovenia. *Tourism management*, *29*(2), 294-307. https://doi.org/10.1016/j.tourman.2007.03.009

Goodman, C. M. (1987). The Delphi technique: a critique. *Journal of advanced nursing*, *12*(6), 729-734.

Gooroochurn, N., & Sugiyarto, G. (2005). Competitiveness indicators in the travel and tourism industry. *Tourism Economics*, *11*(1), 25-43. https://doi.org/10.5367%2F0000000053297130

Gössling, S., Ring, A., Dwyer, L., Andersson, A. C., & Hall, C. M. (2016). Optimizing or maximizing growth? A challenge for sustainable tourism. *Journal of Sustainable Tourism*, 24(4), 527-548. https://doi.org/10.1080/09669582.2015.1085869

Gretzel, U. (2010). Travel in the network. *Post-Global Network and Everyday Life*, 41-58.

Grigolon, A., Kemperman, A., & Timmermans, H. (2013). Facet-based analysis of vacation planning processes: a binary mixed logit panel model. *Journal of Travel Research*, *52*(2), 192-201. https://doi.org/10.1177%2F0047287512459107

Hall, C. M. (2008). *Tourism planning: Policies, processes and relationships*. Pearson education.

Hanafiah, M. H., Hemdi, M. A., & Ahmad, I. (2016). Tourism destination competitiveness: Towards a performance-based approach. *Tourism Economics*, *22*(3), 629-636. https://doi.org/10.5367%2Fte.2014.0446

Hassan, S. S. (2000). Determinants of market competitiveness in an environmentally sustainable tourism industry. *Journal of travel research*, *38*(3), 239-245. https://doi.org/10.1177%2F004728750003800305

Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of advanced nursing*, *32*(4), 1008-1015. https://doi.org/10.1046/j.1365-2648.2000.t01-1-01567.x

Heath, E., & Wall, G. (1992). *Marketing tourism destinations: A strategic planning approach*. John Wiley & Sons Incorporated.

Heiko, A. V. D. G. (2012). Consensus measurement in Delphi studies: review and implications for future quality assurance. *Technological forecasting and social change*, *79*(8), 1525-1536.

Held, G. (2019). Destination advertising. On the image construction of tourist spaces through multimodal staging of identity markers. *Zeitschrift für Tourismuswissenschaft*, *11*(1), 149-173. https://doi.org/10.1515/tw-2019-0008

Higgins-Desbiolles, F., Carnicelli, S., Krolikowski, C., Wijesinghe, G., & Boluk, K. (2019). Degrowing tourism: Rethinking tourism. *Journal of Sustainable Tourism*. https://doi.org/10.1080/09669582.2019.1601732

Howie, F. (2003). *Managing the tourist destination*. Continuum.

Hunter, W. C., Chung, N., Gretzel, U., & Koo, C. (2015). Constructivist research in smart tourism. *Asia Pacific Journal of Information Systems*, *25*(1), 103-118. http://dx.doi.org/10.14329/apjis.2015.25.1.103

Huovila, A., Bosch, P., & Airaksinen, M. (2019). Comparative analysis of standardized indicators for Smart sustainable cities: What indicators and standards to use and when? *Cities*, *89*, 141-153. https://doi.org/10.1016/j.cities.2019.01.029

Hwang, Y. H., & Fesenmaier, D. R. (2011). Unplanned tourist attraction visits by travellers. *Tourism Geographies*, *13*(3), 398-416. https://doi.org/10.1080/14616688.2011.570777

Inskeep, E. (1987). Environmental planning for tourism. *Annals of Tourism Research*, *14*(1), 118-135. https://doi.org/10.1016/S0160-7383(97)00068-6

Ivars-Baidal, J. A., Celdrán-Bernabeu, M. A., Femenia-Serra, F., Perles-Ribes, J. F., & Giner-Sánchez, D. (2021a). Measuring the progress of smart destinations: The use of indicators as a management tool. *Journal of Destination Marketing & Management*, *19*, 100531. https://doi.org/10.1016/j.jdmm.2020.100531

Ivars-Baidal, J. A., Vera-Rebollo, J. F., Perles-Ribes, J., Femenia-Serra, F., & Celdrán-Bernabeu, M. A. (2021b). Sustainable tourism indicators: what's new within the smart city/destination approach? *Journal of Sustainable Tourism*, 1-24. https://doi.org/10.1080/09669582.2021.1876075

Jordão, A. C., Breda, Z., Veríssimo, M., Stevic, I., & Costa, C. (2021). Limits of Acceptable Change (LAC) for Tourism Development in the Historic Centre of Porto (Portugal). In *Mediterranean Protected Areas in the Era of Overtourism* (pp. 193-218). Springer, Cham. https://doi.org/10.1007/978-3-030-69193-6_10

Kaplan, R. S., & McMillan, D. (2020). Updating the balanced scorecard for triple bottom line strategies. *Harvard Business School Accounting & Management Unit Working Paper*, (21-028). https://dx.doi.org/10.2139/ssrn.3682788

Kaur, G. (2017). The importance of digital marketing in the tourism industry. *International Journal of Research-Granthaalayah*, *5* (6), 72-77. https://doi.org/10.5281/zenodo.815854

Kayar, Ç. H., & Kozak, N. (2010). Measuring destination competitiveness: an application of the travel and tourism competitiveness index (2007). *Journal of Hospitality Marketing & Management*, *19*(3), 203-216. https://doi.org/10.1080/19368621003591319

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of marketing*, *57*(1), 1-22. https://doi.org/10.1177%2F002224299305700101

Keller, K. L., & Swaminathan, V. (2020). *Strategic brand management: Building, measuring, and managing brand equity*. Pearson education.

Khairat, G., & Alromeedy, B. (2016). Applying the BCG matrix to analyze Egypt's tourism competitiveness position. *Minia Journal of Tourism and Hospitality Research*, *1*(2), 1-21.

Kim, H., & Fesenmaier, D. R. (2008). Persuasive design of destination web sites: An analysis of first impression. *Journal of Travel research*, 47(1), 3-13. https://doi.org/10.1177%2F0047287507312405

Kirovska, Z. (2011). Strategic management within the tourism and the world globalization. *UTMS Journal of Economics*, *2* (1), 69-76.

Komsary, K. C., Tarigan, W. P., & Wiyana, T. (2018). Limits of acceptable change as tool for tourism development sustainability in Pangandaran West Java. In *IOP Conference Series: Earth*

and *Environmental Science* (Vol. 126, No. 1, p. 012129). IOP Publishing. https://doi.org/10.1088/1755-1315/126/1/012129

Kozak, M. (2002). Destination benchmarking. *Annals of tourism research*, *29*(2), 497-519. https://doi.org/10.1016/S0160-7383(01)00072-X

Lafferty, W. M., & Eckerberg, K. (2013). *From the Earth Summit to Local Agenda 21: working towards sustainable development*. Routledge.

Lamsfus, C., & Alzua-Sorzabal, A. (2013). Theoretical framework for a tourism internet of things: Smart destinations. *tourGune Journal of Tourism and Human mobility*, 2, 15-21.

Lamsfus, C., Martín, D., Alzua-Sorzabal, A., & Torres-Manzanera, E. (2014). Smart tourism destinations: An extended conception of smart cities focusing on human mobility. In *Information and communication technologies in tourism 2015* (pp. 363-375). Springer, Cham. https://doi.org/10.1007/978-3-319-14343-9_27

Lehmann, D. R., Keller, K. L., and Farley, J. U. (2008). The Structure of Survey-Based Brand Metrics. *Journal of International Marketing*, 16 (4), 29-56. https://doi.org/10.1509/jimk.16.4.29

Leung, Y. F., Spenceley, A., Hvenegaard, G., Buckley, R., & Groves, C. (2018). *Tourism and visitor management in protected areas: Guidelines for sustainability* (Vol. 27). Gland, Switzerland: IUCN. https://doi.org/10.2305/IUCN.CH.2018.PAG.27.en

Linstone, H. A., & Turoff, M. (Eds.) (1975). *The delphi method*. Reading, MA: Addison-Wesley, 3-12.

Lönnqvist, A., & Pirttimäki, V. (2006). The measurement of business intelligence. *Inf. Syst. Manag., 23*(1), 32-40. https://doi.org/10.1201/1078.10580530/45769.23.1.20061201/91770.4

López de Ávila, A. & García, S. (2015). Destinos turísticos inteligentes. *Economía industrial*, 395, 61-69.

Lozano-Oyola, M., Blancas, F. J., González, M., & Caballero, R. (2012). Sustainable tourism indicators as planning tools in cultural destinations. *Ecological indicators*, *18*, 659-675. https://doi.org/10.1016/j.ecolind.2012.01.014

Lu, J., & Lu, Z. (2004). Development, distribution and evaluation of online tourism services in China. *Electronic Commerce Research*, *4*(3), 221-239. https://doi.org/10.1023/B:ELEC.0000027981.81945.2a

Luo, W. (2018). Evaluating tourist destination performance: Expanding the sustainability concept. *Sustainability*, *10*(2), 516. https://doi.org/10.3390/su10020516

Malhotra, N., Nunan, D., & Birks, D. (2017). *Marketing research: An applied approach*. Pearson.

March, R., & Wilkinson, I. (2009). Conceptual tools for evaluating tourism partnerships. *Tourism management*, *30* (3), 455-462. https://doi.org/10.1016/j.tourman.2008.09.001

Mathew, P. V., & Sreejesh, S. (2017). Impact of responsible tourism on destination sustainability and quality of life of community in tourism destinations. *Journal of Hospitality and Tourism Management*, *31*, 83-89. https://doi.org/10.1016/j.jhtm.2016.10.001

Mazanec, J. A., Wöber, K., & Zins, A. H. (2007). Tourism destination competitiveness: from definition to explanation? *Journal of Travel research*, *46*(1), 86-95. https://doi.org/10.1177%2F0047287507302389

McCool, S.F. (2013). Limits of Acceptable Change and Tourism. In *Routledge Handbook of Tourism and the Environment*.Routledge, 285-298.

McElroy, J. L., & De Albuquerque, K. (1998). Tourism penetration index in small Caribbean islands. *Annals of tourism research*, *25*(1), 145-168. https://doi.org/10.1016/S0160-7383(97)00068-6

McKenna, H. P. (1994). The Delphi technique: a worthwhile research approach for nursing?. *Journal of advanced nursing*, *19*(6), 1221-1225.

Meriläinen, K., & Lemmetyinen, A. (2011). Destination network management: a conceptual analysis. *Tourism Review*, *66* (3), 25-31. https://doi.org/10.1108/16605371111175302

Millar, K., Thorstensen, E., Tomkins, S., Mepham, B., & Kaiser, M. (2007). Developing the ethical Delphi. *Journal of Agricultural and Environmental Ethics*, *20*(1), 53-63. https://doi.org/10.1007/s10806-006-9022-9

Mintzberg, H. (1989). *The Structuring of Organizations.* Macmillan Education UK. https://10.1007/978-1-349-20317-8_23

Morgan, D. L., & Krueger, R. A. (1998). *The focus group guidebook*. Sage.

Morrison, A. J., & King, B. E. (2002). Small tourism businesses and e-commerce: Victorian tourism online. *Tourism and hospitality research*, *4*(2), 104-115. https://doi.org/10.1177%2F146735840200400202

Moscardo, G. (2011). Exploring social representations of tourism planning: Issues for governance. *Journal of Sustainable Tourism*, 19(4–5), 423–436. https://doi.org/10.1080/09669582.2011.558625

Moutinho, L., & Vargas-Sanchez, A. (Eds.). (2018). *Strategic management in tourism, cabi tourism texts*. Cabi.

Murphy, P. E., & Murphy, A. E. (2004). Strategic management for tourism communities. In *Strategic Management for Tourism Communities.* Channel View Publications.

Nilsson, J. H. (2020). Conceptualizing and contextualizing overtourism: The dynamics of accelerating urban tourism. *International Journal of Tourism Cities*. https://doi.org/10.1108/IJTC-08-2019-0117

Nordin, S., & Svensson, B. (2005). *Significance of Governance in Innovative Tourism Destinations*. ETOUR-European Tourism Research Institute.

Oklevik, O., Gössling, S., Hall, C. M., Steen Jacobsen, J. K., Grøtte, I. P., & McCabe, S. (2019). Overtourism, optimisation, and destination performance indicators: A case study of activities in Fjord Norway. *Journal of Sustainable Tourism*, 27(12), 1804-1824. https://doi.org/10.1080/09669582.2018.1533020

Okoli, C., & Pawlowski, S. D. (2004). The Delphi method as a research tool: an example, design considerations and applications. *Information & management*, *42* (1), 15-29. https://doi.org/10.1016/j.im.2003.11.002

Olcina, J. (2012). Turismo y cambio climático: una actividad vulnerable que debe adaptarse. Investigaciones Turísticas. 4, 1-34. http://dx.doi.org/10.14198/INTURI2012.4.01

Olszak, C.M. & Ziemba, E. (2007). Approach to building and implementing business intelligence systems. *Interdisciplinary Journal of Information, Knowledge, and Management*, *2* (1), 135-48.

O'Reilly, A. M. (1986). Tourism carrying capacity: concept and issues. *Tourism management*, *7*(4), 254-258. https://doi.org/10.1016/0261-5177(86)90035-X

Park, S., Nicolau, J. L., & Fesenmaier, D. R. (2013). Assessing advertising in a hierarchical decision model. *Annals of Tourism Research*, *40*, 260-282. https://doi.org/10.1016/j.annals.2012.09.009

Paskova, M., Wall, G., Zejda, D., & Zelenka, J. (2021). Tourism carrying capacity reconceptualization: Modelling and management of destinations. *Journal of Destination Marketing & Management*, *21*, 100638. https://doi.org/10.1016/j.jdmm.2021.100638

Perez, V., Guerrero, F., Gonzalez, M., Perez, F., & Caballero, R. (2013). Composite indicator for the assessment of sustainability: The case of Cuban nature-based tourism destinations. *Ecological Indicators*, *29*, 316-324. https://doi.org/10.1016/j.ecolind.2012.12.027

Pforr, C., Pechlaner, H., Volgger, M., & Thompson, G. (2014). Overcoming the limits to change and adapting to future challenges: Governing the transformation of destination networks in Western Australia. *Journal of Travel Research*, *53*(6), 760-777. https://doi.org/10.1177%2F0047287514538837

Plichta, J. (2019). The co-management and stakeholders theory as a useful approach to manage the problem of overtourism in historical cities–illustrated with an example of Krakow. *International Journal of Tourism Cities*. https://doi.org/10.1108/IJTC-12-2018-0107

Poon, A. (1993). *Tourism, technology and competitive strategies*.CAB International.

Pousa-Unanue, A., Femenia-Serra, F., Alzua-Sorzabal, A. & Gómez-Bruna, D. G. (2021). Business intelligence y toma de decisiones en la gestión pública de destinos turísticos: Una aproximación a través de casos españoles. In *TuriTec: XIII Congreso Internacional Turismo y Tecnologías de la Información y las Comunicaciones*, 84-95.

Presenza, A., Sheehan, L., & Ritchie, J. B. (2005). Towards a model of the roles and activities of destination management organizations. *Journal of Hospitality, Tourism and Leisure Science*, *3*(1), 1-16.

Pukah, J. (10/05/2019). Dutch officials to stop promoting Netherlands as a tourist destination. *New York Post.* https://nypost.com/2019/05/10/dutch-officials-to-stop-promoting-netherlands-as-a-tourist-destination/

Putnam, J. W., Spiegel, A. N., & Bruininks, R. H. (1995). Future directions in education and inclusion of students with disabilities: A Delphi investigation. *Exceptional children*, *61*(6), 553-576. https://doi.org/10.1177%2F001440299506100605

Ritchie, J. B., & Crouch, G. I. (2003). *The competitive destination: A sustainable tourism perspective.* Cabi.

Ritchie, J. B., Crouch, G. I., & Hudson, S. (2001). Developing operational measures for the components of a destination competitiveness/sustainability model: Consumer versus managerial perspectives. *Consumer psychology of tourism, hospitality and leisure*, *2*, 1-17.

Robson, C., & McCartan, K. (2016). *Real world research: a resource for users of social research methods in applied settings.* Wiley.

Roxas, F. M. Y., Rivera, J. P. R., & Gutierrez, E. L. M. (2020). Mapping stakeholders' roles in governing sustainable tourism destinations. *Journal of Hospitality and Tourism Management*, *45*, 387-398. https://doi.org/10.1016/j.jhtm.2020.09.005

Sasser, W. E., Schlesinger, L. A., & Heskett, J. L. (1997). *Service profit chain.* Simon and Schuster.

Scott, D., Gössling, S., & Hall, C. M. (2012). International tourism and climate change. *Wiley Interdisciplinary Reviews: Climate Change*, *3*(3), 213-232. https://doi.org/10.1002/wcc.165

Sharpley, R. (2020). Tourism, sustainable development and the theoretical divide: 20 years on. *Journal of sustainable tourism*, *28* (11), 1932-1946. https://doi.org/10.1080/09669582.2020.1779732

Shih, H. Y. (2006). Network characteristics of drive tourism destinations: An application of network analysis in tourism. *Tourism Management*, *27*(5), 1029-1039. https://doi.org/10.1016/j.tourman.2005.08.002

Shollo, A., & Galliers, R. D. (2016). Towards an understanding of the role of business intelligence systems in organisational knowing. *Information Systems Journal*, *26*(4), 339-367. https://doi.org/10.1111/isj.12071

Sigala, M. (2014). Evaluating the performance of destination marketing systems (DMS): stakeholder perspective. *Marketing Intelligence & Planning*, *32* (2), 208-231. https://doi.org/10.1108/MIP-08-2013-0131

Sigala, M., & Marinidis, D. (2012). Web map services in tourism: a framework exploring the organisational transformations and implications on business operations and models. *International Journal of Business Information Systems*, *9*(4), 415-434.

Stahl, M. J., & Grigsby, D. W. (1992). *Strategic management for decision making.* Pws Publishing Company.

Stankey, G. H. (1981). Integrating wildland recreation research into decision making: pitfalls and promises. *Recreation Research Review*, *9* (1), 31-37.

Stankey, G. H., Cole, D. N., Lucas, R. C., Petersen, M. E., & Frissell, S. S. (1985). The limits of acceptable change (LAC) system for wilderness planning. *The limits of acceptable change (LAC) system for wilderness planning.*, (INT-176).

Stergiou, D., & Airey, D. (2003). Inquiry conversion and tourism website effectiveness: Assumptions, problems and potential. *Tourism and Hospitality Research*, *4*(4), 355-366. https://doi.org/10.1177%2F146735840300400408

Stienmetz, J. L., & Fesenmaier, D. R. (2013). Traveling the network: A proposal for destination performance metrics. *International Journal of Tourism Sciences*, 13(2), 57-75. https://doi.org/10.1080/15980634.2013.11434673

Stienmetz, J. L., Maxcy, J. G. & Fesenmaier, D. R. (2015). Evaluating destination advertising. *Journal of Travel Research*, *54*(1), 22-35. https://doi.org/10.1177%2F0047287513514295

Stoker, G. (1998). Public-private partnerships and urban governance. In J. Pierre (Ed.). *Partnerships in urban governance: European and American experience*. Macmillan. https://doi.org/10.1007/978-1-349-14408-2_3

Stovall, W., Higham, J., & Stephenson, J. (2019). Prepared for take-off? Anthropogenic climate change and the global challenge of twenty-first-century tourism. In *Handbook of Globalisation and Tourism*. Edward Elgar Publishing. https://doi.org/10.4337/9781786431295.00025

Taheri, S. M., & Hesamian, G. (2013). A generalization of the Wilcoxon signed-rank test and its applications. *Statistical Papers*, *54*(2), 457-470.

Tax, S. S., McCutcheon, D., & Wilkinson, I. F. (2013). The service delivery network (SDN) a customer-centric perspective of the customer journey. *Journal of Service Research*, *16*(4), 454-470. https://doi.org/10.1177%2F1094670513481108

Tyrväinen, L., Uusitalo, M., Silvennoinen, H., & Hasu, E. (2014). Towards sustainable growth in nature-based tourism destinations: Clients' views of land use options in Finnish Lapland. *Landscape and Urban Planning*, *122*, 1-15. https://doi.org/10.1016/j.landurbplan.2013.10.003

Udo-Imeh, P. T., Edet, W. E., & Anani, R. B. (2012). Portfolio analysis models: a review. *European Journal of Business and Management, 4(*18), 101-120.

United Nations World Tourism Organisation [UNWTO] (2004). *Indicators of sustainable development for tourism destinations*: A guidebook. https://www.e-unwto.org/doi/epdf/10.18111/9789284407262

United Nations World Tourism Organisation [UNWTO] (2007). *A practical guide to tourism destination management*. https://www.e-unwto.org/doi/epdf/10.18111/9789284412433

United Nations World Tourism Organisation [UNWTO] (2020). International Tourism Highlights 2020.https://www.e-unwto.org/doi/pdf/10.18111/9789284422456

Vizgaitytė, G., & Rimvydas, S. (2012). Business intelligence in the process of decision making: changes and trends. *Ekonomika*, *91*(3), 147-157. https://doi.org/10.15388/Ekon.2012.0.881

Wall, G. (2019). Perspectives on the environment and overtourism. *Overtourism: Issues, realities and solutions*, *1*, 27-43. https://doi.org/10.1515/9783110607369

Wang, Y., & Fesenmaier, D. R. (2004). Towards understanding members' general participation in and active contribution to an online travel community. *Tourism management*, *25*(6), 709-722. https://doi.org/10.1016/j.tourman.2003.09.011

Watson, H.J. & Wixom B. (2007) Enterprise agility and mature BI capabilities. *Business Intelligence Journal, 12* (3), 4–6.

Wilde, S. J., & Cox, C. (2008). Linking destination competitiveness and destination development: findings from a mature Australian tourism destination. In *Proceedings of the travel and tourism*

*research association (TTRA) European chapter conference-competition in tourism: business and destination perspectives. Helsinki, Finland.* 467-478.

Williams, J., & Lawson, R. (2001). Community issues and resident opinions of tourism. *Annals of tourism research*, *28*(2), 269-290. https://doi.org/10.1016/S0160-7383(00)00030-X

Wöber, K. W., & Fesenmaier, D. R. (2004). A multi-criteria approach to destination benchmarking: A case study of state tourism advertising programs in the United States. *Journal of Travel & Tourism Marketing*, *16*(2-3), 1-18. https://doi.org/10.1300/J073v16n02_01

Woodside, A. G. (2010). Tourism advertising and marketing performance metrics. In *Tourism-marketing performance metrics and usefulness auditing of destination websites.* Emerald Group Publishing Limited. https://doi.org/10.1108/S1871-3173(2010)0000004005

Woolsey, C. (2010). Information usefulness auditing of tourism destination websites: Assessing Los Angeles, San Diego, and San Francisco's performance. In *Tourism-Marketing Performance Metrics and Usefulness Auditing of Destination Websites*. Emerald Group Publishing Limited. https://doi.org/10.1108/S1871-3173(2010)0000004006

Xiang, Z. (2018). From digitalization to the age of acceleration: on information technology and tourism. Tourism Management Perspectives, 25 (2018), 147-150. https://doi.org/10.1016/j.tmp.2017.11.023

Xu, S., Stienmetz, J. & Ashton, M. (2020). How will service robots redefine leadership in hotel management? A Delphi approach. *International Journal of Contemporary Hospitality Management*, *32* (6), 2217 – 2237. https://doi.org/10.1108/IJCHM-05-2019-0505

Yilmaz, Y., & Bititci, U. S. (2006). Performance measurement in tourism: a value chain model. *International journal of contemporary hospitality management*. https://doi.org/10.1108/09596110610665348

Zach, F., & Gretzel, U. (2011). Tourist-activated networks: Implications for dynamic bundling and en route recommendations. *Information Technology & Tourism*, *13*(3), 229-238. https://doi.org/10.3727/109830512X13283928066959

Zambrano, G. V. C., López, A. C. C., Rivera, D. N., & Lino, E. V. A. (2021). Cuadro de Mando Integral para la toma de decisiones y desarrollo de estrategias de sustentabilidad de un destino turístico. *Journal of Business and Entrepreneurial Studies: JBES, 5* (1), 113-134.

Zelenka, J., & Kacetl, J. (2013). Visitor management in protected areas. *Czech journal of tourism*, *2*(1), 5-18. https://doi.org/10.2478/cjot-2013-0001

Zhang, H., Gu, C. L., Gu, L. W., & Zhang, Y. (2011). The evaluation of tourism destination competitiveness by TOPSIS & information entropy–A case in the Yangtze River Delta of China. *Tourism Management*, *32* (2), 443-451. https://doi.org/10.1016/j.tourman.2010.02.007

# 7 APPENDIXES

## Appendix A: Advertising conversion models

| Indicator | Definition | Advantages of the model | Drawbacks of the model | Sources |
|---|---|---|---|---|
| Gross Conversion Rate (GCR) | Percentage of travellers that requested tourism information and then travelled to the destination. Impact of those visitors extracted from their expenditure. | ___ | Includes visitors not influenced by tourism advertising; overestimation. | (Burke & Gitelson, 1990; Ellerbrock, 1981; Stergiou & Airey. 2003; Choe et al., 2017). |
| Net Conversion Rate (NCR) | GCR excluding the visitors that planned their trip before being exposed to the advertising. | Decision making timing considered. | Perceived influence not considered. | |
| Net Influence Rate (NIR) | Impact of visitors that chose the destination after seeing the advertising and felt influenced by it. | Decision making timing and perceived influence considered. | Lowest application; underestimation. | |
| DAR models | Percentage of travellers whose facet decisions – such as attractions, restaurants, hotels or events – were influenced by tourism advertising as compared to all travellers exposed to advertising. Same calculation for impact or spending. | Improved accuracy. Trip-related facets decision included, following a hierarchical structure. | Approximately 50% of the GCR estimation; less frequent. | (Choe et al., 2017; Stienmetz et al., 2015; Park et al., 2013; Grigolon, Kemperman & Timmermans, 2013; Yilmaz & Bititci, 2006) |

# Appendix B: Advertising media and web metrics

Media metrics

| Indicator | Definition | Calculation |
|---|---|---|
| Impressions | How many times an advertisement is viewed. | $Impressions = Reach \times Average\ Frequency$ |
| Gross Rating Points (GRP) | Relation between the impressions and the total audience of an advertisement campaign. | $GRPs\ (\%) = \dfrac{Impressions}{Defined\ population}$ |
| Cost per Thousand Impressions (CPM) | Cost-effectiveness of the impressions. | $CPM\ (\$) = \dfrac{Advertising\ Cost\ (\$)}{Impressions\ generated\ in\ thousand}$ |
| Net reach (*or Reach*) | Number of unique individuals exposed to certain advertising. | $Net\ Reach = \dfrac{Impressions}{Average\ frequency}$ |
| Average frequency | How strongly an advertisement is concentrated on a given population. | $Average\ frequency = \dfrac{Impressions}{Reach}$ |
| Frequency response functions | Expected relationship between advertising outcomes and advertising frequency. | - |
| Effective reach and frequency | Part of the audience that has been exposed to the ad enough times to be influenced. Optimal exposure of an advertisement to achieve the desired impact. | Effective reach = Individuals reached with frequency ≥ Effective Frequency |
| Share of voice | Relative strength of advertising program within its market. | $Share\ of\ voice\ (\%) = \dfrac{Brand\ advertising}{Total\ market\ advertising}$ |

(Farris et al., 2010)

## Web metrics

| Indicator | Definition | Calculation |
|---|---|---|
| Pageviews | Popularity of a website. | $Pageviews = \dfrac{Hits}{Files\ of\ the\ page}$ |
| Rich media display time | Average viewing time of a rich media. | $Average\ rich\ media\ display\ time = \dfrac{Total\ rich\ media\ display\ time}{Total\ rich\ media\ impressions}$ |
| Rich media interaction rate | Relative attractiveness of a rich media and ability to generate viewer engagement. | $Rich\ media\ interaction\ rate\ (\%)$ $= \dfrac{Total\ rich\ media\ impressions\ with\ interactions}{Total\ rich\ media\ impressions}$ |
| Clickthrough rate (CTR) | Effectiveness of a web advertisement by counting the customers who are intrigued enough to click through it. | $CTR\ (\%) = \dfrac{Clickthroughs}{Impressions}$ |
| Cost per click | Cost effectiveness of advertising. | $Cost\ per\ click\ (\$) = \dfrac{Advertising\ cost\ (\$)}{Number\ of\ clicks}$ |
| Cost per order (*) | Cost effectiveness of advertising. | $Cost\ per\ order\ (\$) = \dfrac{Advertising\ cost\ (\$)}{Orders}$ |
| Visits | Audience traffic on a website. Also known as sessions. | - |
| Visitors | Reach of a website. Also known as unique visitors. | - |
| Abandonment rate | Rate of purchases started but not completed. | $Abandonment\ rate = \dfrac{Not\ completed}{Customer\ initiation}$ |
| Bounce rate | Indicator of site's relevance and ability to generate visitors interest. | $Bounce\ rate\ (\%) = \dfrac{Visits\ that\ access\ only\ a\ single\ page}{Total\ visits\ to\ the\ website}$ |
| Friends/ followers/ supporters | Size of social networks; excluding engagement. | - |
| Downloads | Effectiveness of getting applications out to users. | - |

*(\*) When the DMO has a reservation system, for example.*

(Farris et al.. 2010)

# Appendix C: R1 survey

Future destination performance metrics

*Screen 1*

You have been selected to participate in a research study that is being carried out by Aitziber Pousa-Unanue, master student of MODUL University Vienna. This research study is focused on developing a new set of KPIs for destination performance evaluation based on the needs of destination managers. If you agree to participate, you will be asked to answer questions about your experiences and expectations on various topics about destination assessment. Your contribution is important to help shape a future destination performance metrics model!

Data provided in this survey would be anonymized and used exclusively for the purpose of the research. Remember that completing this survey entitles you to receive the *White Papers on Destination Performance Metrics* obtained from the results of this study. By clicking on the "yes" button below, you agree to participate in the study and confirm that you are above the age of 18.

**Q1.** "I give my voluntary consent to take part in this study."
- o   Yes.
- o   No.

*Screen 2*

BLOCK 1 – COMPETITIVENESS

Subheading:

"Experts consider tourism competitiveness as essential for assessing the development of tourism destinations, but competitiveness can be understood from different perspectives."

**Q2.** SOCIAL COMPETITIVENESS includes aspects such as education, openness, quality of life or social satisfaction.

In the next five years, what do you think should be the main KPIs to assess your destination in terms of SOCIAL COMPETITIVENESS? Please list up to five KPIs.
- (…)
- (…)
- (…)
- (…)
- (…)

**Q3.** DESTINATION PRODUCTIVITY represents the efficiency of the resources used in the destination.

In the following five years, what do you think should be the main KPIs to assess your destination in terms of DESTINATION PRODUCTIVITY? Please list up to five KPIs.

- (…)
- (…)
- (…)
- (…)
- (…)

**Q4**. INFRASTRUCTURE includes a variety of facilities available in the destination such as urban infrastructures, communication facilities, accessibility, etc.

In the following five years, what do you think should be the main KPIs to assess your destination in terms of INFRASTRUCTURE? Please list up to five KPIs.

- (…)
- (…)
- (…)
- (…)
- (…)

**Q5.** CONNECTIVITY AND INTELLIGENCE refers to technological capabilities of the destination for business intelligence, digital connectivity and innovation.

In the following five years, what do you think should be the main KPIs to assess your destination in terms of CONNECTIVITY AND INTELLIGENCE? Please list up to five KPIs.

- (…)
- (…)
- (…)
- (…)
- (…)

**Q6.** What other KPIs do you think should be used to assess your destination in the next five years?

(…)

*Screen 3*

BLOCK 2 – SUSTAINABLE DEVELOPMENT

Subheading:

"Sustainable development is understood as the way to practice tourism while protecting natural resources, respecting culture and social welfare, and striving for long-term economic prosperity."

**Q7.** SOCIAL SUSTAINABILITY AND STAKEHOLDERS' MANAGEMENT is here known as social welfare, destination resilience, stakeholders' connections and roles and governance.

In the following five years, what do you think should be the main KPIs to assess your destination in terms of SOCIAL SUSTAINABILITY AND STAKEHOLDERS' MANAGEMENT? Please list up to five KPIs.

- (…)
- (…)
- (…)
- (…)
- (…)

**Q8.** ENVIRONMENTAL SUSTAINABILITY is understood as the physical conditions and built environment in the destination.

In the following five years, what do you think should be the main KPIs to assess your destination in terms of ENVIRONMENTAL SUSTAINABILITY? Please list up to five KPIs.

- (…)
- (…)
- (…)
- (…)
- (…)

**Q9.** ECONOMIC SUSTAINABILITY represents economic parameters, effectiveness and efficiency of these resources in the territory.

In the following five years, what do you think should be the main KPIs to assess your destination in terms of ECONOMIC SUSTAINABILITY? Please list up to five KPIs.

- (…)
- (…)
- (…)
- (…)
- (…)

**Q10.** What other KPIs do you think should be used to assess your destination in the next five years?

(…)

BLOCK 3 – DESTINATION CONTEXT

**Q11**. What is your position in the tourism management organisation?
- o   Head of the tourism department.
- o   Destination manager.
- o   Destination marketing and communications.
- o   Strategic manager.
- o   Territorial planning or economic development responsible.
- o   Tourism officer.
- o   Others: *please, define.*

**Q12.** How long have you been working in your position?
- o   Less than 1 year.
- o   1 – 2 years.
- o   2 – 5 years.
- o   More than 5 years.

**Q13.** What kind of organisation is it?
- o   National organisation.
- o   Regional organisation.
- o   Local organisation.
- o   Other: *please, define.*

**Q14.** How big is your organisation*? (Full-time equivalent tourism management employees*).
- o   1 tourism employee.
- o   2 – 5 tourism employees.
- o   5 – 10 tourism employees.
- o   More than 10 employees.

*Screen 5*

Thank you for completing the survey. If you would like to receive the *White Paper on Destination Performance Metrics* obtained from the results of the study, please give an email address by which you can be contacted below. Any details you provide will be treated as confidential and only used for the purpose of the research.

**Q15**. Are you willing to participate in follow-up questionnaires? (Round 2 & 3)
- o   Yes
- o   No

**Q16.** Email address: *(Text box)*

# Appendix D: R2 survey

*Screen 1*

You have been selected to participate in a research study that is being carried out by Aitziber Pousa-Unanue, master student of MODUL University Vienna. This research study is focused on developing a new set of KPIs for destination performance evaluation based on the needs of destination managers. If you agree to participate, you will be asked to answer questions about your experiences and expectations on various topics about destination assessment. Your contribution is important to help shape a future destination performance metrics model!

Data provided in this survey would be anonymized and used exclusively for the purpose of the research. Remember that completing this survey entitles you to receive the *White Papers on Destination Performance Metrics* obtained from the results of this study. By clicking on the "yes" button below, you agree to participate in the study and confirm that you are above the age of 18.

**Q1.** "I give my voluntary consent to take part in this study."

o   Yes.

o   No

*Screen 2*

BLOCK 1 – COMPETITIVENESS

Subheading:

*"The competitiveness-related indicators collected in the first phase of this study are listed below. Now we would like your opinion about the relevance of each indicator".*

**Q2.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following SOCIAL COMPETITIVENESS indicators for future strategic destination management:

| Social competitiveness indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Attractiveness of the destination to attract new citizens (housing opportunities, cost of living, natural areas valorisation, surroundings, etc.) | | | | | | |
| Human resources working in the tourism industry: implicit/explicit know-how and skills | | | | | | |
| Quality of food | | | | | | |
| Quality of employment in tourism: sustainable and equal opportunities in tourism (gender equality and LGTBQ+ rights, employees' satisfaction, turnover, working environments, salaries, etc.) | | | | | | |

| | |
|---|---|
| Residents' satisfaction: feeling of locals of the destination as a place to live | |
| Education: access to tourism training and apprenticeships | |
| Community involvement: social inclusion and commitment in tourism activities | |
| Culture and identity: social identity and the impact of tourism | |
| Quality of life | |
| Perceived safety and security | |
| Openness | |
| Carrying capacity | |
| Positioning the destination as an attractive destination to visit | |
| Visitor satisfaction and revisitation rate: perceived accessibility, infrastructure and facilities, quality of the touchpoints, etc. | |

**Q3.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following DESTINATION PRODUCTIVITY indicators for future strategic destination management.

| Destination productivity indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Average value of DMO promotion campaigns | | | | | | |
| Decision making originality and value | | | | | | |
| Quality management | | | | | | |
| Multi-sectoriality of the destination | | | | | | |
| Companies selling trips to the destination | | | | | | |
| Performance and implementation of plans | | | | | | |
| LOS by season | | | | | | |
| Number of tourist arrivals and distribution: seasonality, crowd index. | | | | | | |
| Entrepreneurial attractiveness: new and surviving tourism businesses and start-ups, new investors, etc. | | | | | | |
| Future trends identification | | | | | | |
| Value creation through tourism | | | | | | |
| Number of international association meetings, congresses and events: MICE, culture, sports, etc. | | | | | | |
| Overnights of tourists in accommodations of the destination | | | | | | |
| Segmentation of products and visitors | | | | | | |

**Q4**. Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following INFRASTRUCTURE indicators for future strategic destination management.

| Infrasctructure indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Heritage and arts planning | | | | | | |
| Public infrastructure: road network, infrastructure system integration, open and pedestrian areas, etc. | | | | | | |

| | |
|---|---|
| Number and capacity of conference venues | |
| Ease of finding attractions and services | |
| Destination physical connectivity (inter-destination connectivity and intra-destination connectivity) | |
| Universal accessibility | |
| Sustainable construction | |
| Use of destination mobility networks among visitors | |
| Public transport systems and other transportation systems: air, bus and train capacity, sustainable and smart transportation models | |
| Communication infrastructure and facilities, i.e. telecommunications deployment | |
| Number and capacity of accommodation facilities | |

**Q5.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following CONNECTIVITY AND INTELLIGENCE indicators for future strategic destination management.

| Connectivity and intelligence indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Social media followers | | | | | | |
| Unique visitors on the website | | | | | | |
| Stakeholders' satisfaction with virtual touchpoints | | | | | | |
| Digital literacy among tourism businesses | | | | | | |
| Human interaction | | | | | | |
| Smart visitor management system | | | | | | |
| Digital communication vs. traditional communication | | | | | | |
| Central database | | | | | | |
| CRS | | | | | | |
| Research | | | | | | |
| WiFi coverage in the destination | | | | | | |
| Automatization of outputs | | | | | | |
| Innovative products and projects | | | | | | |
| Digital transformation of tourism services and experiences | | | | | | |
| Online marketing conversion rate | | | | | | |
| AI: BD, neural network technologies, sentiment analysis, etc. | | | | | | |
| Smartphones and downloads of official apps | | | | | | |
| Adequate digital connectivity | | | | | | |
| Tourism companies with online booking | | | | | | |
| Data collection and diffusion | | | | | | |
| Smart destinations | | | | | | |

BLOCK 2 – SUSTAINABLE DEVELOPMENT

Subheading:

*"The sustainability-related indicators collected in the first phase of this study are listed below. Now we would like your opinion about the relevance of each indicator".*

**Q6.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following SOCIAL SUSTAINABILITY AND STAKEHOLDERS' MANAGEMENT indicators for future strategic destination management.

| Social sustainability and stakeholders' management indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Slow tourism | | | | | | |
| Destination brand recognition among stakeholders | | | | | | |
| Destination resilience | | | | | | |
| Stakeholders' education regarding sustainability | | | | | | |
| Empowerment of locals in decision-making | | | | | | |
| Approval rate and engagement of the DMO | | | | | | |
| Anticipating deviations and developing long-term strategic operations | | | | | | |
| Healthy population | | | | | | |
| Acceptance of tourism by locals: approval rate of tourism in the destination | | | | | | |
| Governance & stakeholders' roles & connections for cooperation | | | | | | |
| Standardisation | | | | | | |
| Stakeholders' satisfaction related to stakeholders' touchpoints | | | | | | |
| Stakeholders' perspectives being considered by authorities | | | | | | |
| Responsiveness of businesses and stakeholders | | | | | | |
| Non-profit engagement in destination management | | | | | | |
| Sustainable products and services matching customers' needs | | | | | | |
| Sharing practices/insights among stakeholders: capacity for shared governance | | | | | | |
| Preservation of authenticity | | | | | | |
| Stakeholders' commitment for sustainable development: sustainability investments and strategies | | | | | | |
| Decentralization strategies | | | | | | |
| Stable DMO, i.e. fundings | | | | | | |
| Social impact: impact of tourism in host communities | | | | | | |

**Q7.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following ENVIRONMENTAL SUSTAINABILITY indicators for future strategic destination management.

| Environmental sustainability indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Commodification | | | | | | |
| Destination sustainability strategy | | | | | | |
| Energy consumption in the destination | | | | | | |
| Material consumption | | | | | | |
| Digitalization | | | | | | |
| Zero emissions | | | | | | |
| Use of renewable energy: percentage of green energy used in the destination and by businesses | | | | | | |
| CO2 emissions related to the arrival and movements of tourists in destination | | | | | | |
| Waste management and recycling | | | | | | |
| GDSI score | | | | | | |
| Environmental resources control | | | | | | |
| Water consumption in the destination (in events, by businesses, etc.) | | | | | | |
| Environmental protection | | | | | | |
| Stakeholders with sustainability certificates | | | | | | |

**Q8.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following ECONOMIC SUSTAINABILITY indicators for future strategic destination management.

| Economic sustainability indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Economic viability | | | | | | |
| Social Equity | | | | | | |
| Biodiversity | | | | | | |
| Number of new products and average age of businesses | | | | | | |
| Second life of goods | | | | | | |
| Impact of tourism on the destination's budget | | | | | | |
| Investment outlays for tourism | | | | | | |
| Visitors' expenditure in the destination | | | | | | |
| Average occupancy | | | | | | |
| % crisis resident companies | | | | | | |
| Tourism-driven regional/local development: tourism as a hub for economic, social and environmental development | | | | | | |
| Local/ regional goods and products | | | | | | |

Economic impact: revenue from tourism, sales, GDP, tax contribution, RevPAR, exports, etc.

*Screen 4*

Thank you for completing the survey. The *White Paper on Destination Performance Metrics* obtained from the results of the study would be forwarded after completing the three rounds of the study. Any details you provide will be treated as confidential and only used for the purpose of the research.

**Q9**. Would you be willing to participate in the final questionnaire in which you can compare your ratings of each indicator with the opinions of other experts like yourself?
- o Yes
- o No

**Q10.** Email address: *(Text box)*

# Appendix E: R3 survey

<u>Future destination performance metrics – Round 3</u>

*Screen 1*

You have been selected to participate in a research study that is being carried out by Aitziber Pousa-Unanue, master student of MODUL University Vienna. This research study is focused on developing a new set of KPIs for destination performance evaluation based on the needs of destination managers. If you agree to participate, you will be asked to answer questions about your experiences and expectations on various topics about destination assessment. Your contribution is important to help shape a future destination performance metrics model!

Data provided in this survey would be anonymized and used exclusively for the purpose of the research. Remember that completing this survey entitles you to receive the *White Papers on Destination Performance Metrics* obtained from the results of this study.  By clicking on the "yes" button below, you agree to participate in the study and confirm that you are above the age of 18.

**Q1.** "I give my voluntary consent to take part in this study."
- o   Yes.
- o   No

*Screen 2*

<u>BLOCK 1 – COMPETITIVENESS</u>

Subheading:

*"The competitiveness-related indicators collected in the first phase and the average relevance ratings obtained in the second phase are listed below. Now that you can see the average rating for each indicator among tourism professionals like yourself, we would like you to please re-evaluate the relevance of each indicator".*

**Q2.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following SOCIAL COMPETITIVENESS indicators for future strategic destination management:

| Social competitiveness indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Attractiveness of the destination to attract new citizens (3.6) | | | | | | |
| Human resources working in the tourism industry (4.3) | | | | | | |
| Quality of food (3.7) | | | | | | |
| Quality of employment in tourism (4.1) | | | | | | |
| Residents' satisfaction (4.6) | | | | | | |
| Education (3.4) | | | | | | |

| Community involvement (3.6) |
| Culture and identity (4.3) |
| Quality of life (4.1) |
| Perceived safety and security (4.4) |
| Openness (3.9) |
| Carrying capacity (3.4) |
| Positioning the destination as an attractive destination to visit (4.7) |
| Visitor satisfaction and revisitation rate (4.6) |

**Q3.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following DESTINATION PRODUCTIVITY indicators for future strategic destination management.

| Destination productivity indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Average value of DMO promotion campaigns (3.1) | | | | | | |
| Decision making originality and value (3.1) | | | | | | |
| Quality management (4.1) | | | | | | |
| Multi-sectoriality of the destination (3.5) | | | | | | |
| Companies selling trips to the destination (3.3) | | | | | | |
| Performance and implementation of plans (3.6) | | | | | | |
| LOS by season (4.7) | | | | | | |
| Number of tourist arrivals and distribution (4.0) | | | | | | |
| Entrepreneurial attractiveness (3.9) | | | | | | |
| Future trends identification (3.9) | | | | | | |
| Value creation through tourism (4.7) | | | | | | |
| Number of international association meetings, congresses and events (3.9) | | | | | | |
| Overnights of tourists in accommodations of the destination (3.9) | | | | | | |
| Segmentation of products and visitors (3.6) | | | | | | |

**Q4**. Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following INFRASTRUCTURE indicators for future strategic destination management.

| Infrastructure indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Heritage and arts planning (3.4) | | | | | | |
| Public infrastructure (4.1) | | | | | | |
| Number and capacity of conference venues (3.3) | | | | | | |
| Ease of finding attractions and services (3.9) | | | | | | |
| Destination physical connectivity (4.1) | | | | | | |
| Universal accessibility (4.0) | | | | | | |
| Sustainable construction (3.7) | | | | | | |
| Use of destination mobility networks among visitors (3.7) | | | | | | |
| Public transport systems and other transportation systems (4.0) | | | | | | |

| Communication infrastructure and facilities (3.3) |
| Number and capacity of accommodation facilities (3.4) |

**Q5.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following CONNECTIVITY AND INTELLIGENCE indicators for future strategic destination management.

| Connectivity and intelligence indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Social media followers (3.0) | | | | | | |
| Unique visitors on the website (2.8) | | | | | | |
| Stakeholders' satisfaction with virtual touchpoints (3.9) | | | | | | |
| Digital literacy among tourism businesses (3.7) | | | | | | |
| Human interaction (4.3) | | | | | | |
| Smart visitor management system (4.4) | | | | | | |
| Digital communication vs. traditional communication (4.0) | | | | | | |
| Central database (3.7) | | | | | | |
| CRS (3.3) | | | | | | |
| Research (4.8) | | | | | | |
| WiFi coverage in the destination (3.9) | | | | | | |
| Automatization of outputs (3.0) | | | | | | |
| Innovative products and projects (4.0) | | | | | | |
| Digital transformation of tourism services and experiences (3.7) | | | | | | |
| Online marketing conversion rate (2.9) | | | | | | |
| AI: BD, neural networks technologies, sentiment analysis, etc. (4.1) | | | | | | |
| Smartphones and downloads of official apps (2.3) | | | | | | |
| Adequate digital connectivity (3.9) | | | | | | |
| Tourism companies with online booking (3.9) | | | | | | |
| Data collection and diffusion (4.3) | | | | | | |
| Smart destinations (4.6) | | | | | | |

*Screen 3*

BLOCK 2 – SUSTAINABLE DEVELOPMENT

Subheading:

*"The sustainability-related indicators collected in the first phase and the average relevance ratings obtained in the second phase are listed below. Now that you can see the average rating for each indicator among tourism professionals like yourself, we would like you to please re-evaluate the relevance of each indicator".*

**Q6.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following SOCIAL SUSTAINABILITY AND STAKEHOLDERS' MANAGEMENT indicators for future strategic destination management.

| Social sust. and stakeholders' management indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Slow tourism (3.3) | | | | | | |
| Destination brand recognition among stakeholders (3.8) | | | | | | |
| Destination resilience (4.7) | | | | | | |
| Stakeholders' education regarding sustainability (3.7) | | | | | | |
| Empowerment of locals in decision-making (3.5) | | | | | | |
| Approval rate and engagement of the DMO (3.0) | | | | | | |
| Anticipating deviations and developing long-term strategic operations (3.7) | | | | | | |
| Healthy population (3.5) | | | | | | |
| Acceptance of tourism by locals (4.8) | | | | | | |
| Governance and stakeholders' roles and connections for cooperation (4.6) | | | | | | |
| Standardisation (2.7) | | | | | | |
| Stakeholders' satisfaction related to stakeholders' touchpoints (3.3) | | | | | | |
| Stakeholders' perspectives being considered by authorities (3.2) | | | | | | |
| Responsiveness of businesses and stakeholders (3.8) | | | | | | |
| Non-profit engagement in destination management (2.4) | | | | | | |
| Sustainable products and services matching customers' needs (4.5) | | | | | | |
| Sharing practices/insights among stakeholders (4.2) | | | | | | |
| Preservation of authenticity (4.8) | | | | | | |
| Stakeholders' commitment for sustainable development: sustainability investments and strategies (4.3) | | | | | | |
| Decentralization strategies (2.7) | | | | | | |
| Stable DMO (3.0) | | | | | | |
| Social impact (4.2) | | | | | | |

**Q7.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following ENVIRONMENTAL SUSTAINABILITY indicators for future strategic destination management.

| Environmental sustainability indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Commodification (3.2) | | | | | | |
| Destination sustainability strategy (4.2) | | | | | | |
| Energy consumption in the destination (3.2) | | | | | | |
| Material consumption (2.8) | | | | | | |
| Digitalization (4.0) | | | | | | |
| Zero emissions (3.3) | | | | | | |
| Use of renewable energy (3.7) | | | | | | |
| $CO_2$ emissions related to the arrival and movements of tourists in destination (3.8) | | | | | | |

| | |
|---|---|
| Waste management and recycling (3.5) | |
| GDSI score (3.5) | |
| Environmental resources control (3.3) | |
| Water consumption in the destination (3.2) | |
| Environmental protection (4.0) | |
| Stakeholders with sustainability certificates (3.8) | |

**Q8.** Please rate from 0 to 5 (0 being 'not at all relevant' and 5 being 'fully relevant') the degree of relevance of the following ECONOMIC SUSTAINABILITY indicators for future strategic destination management.

| Economic sustainability indicators | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| Economic viability (4.2) | | | | | | |
| Social equity (4.0) | | | | | | |
| Biodiversity (3.8) | | | | | | |
| Number of new products & average age of businesses (2.0) | | | | | | |
| Second life of goods (3.4) | | | | | | |
| Impact of tourism on the destination's budget (3.7) | | | | | | |
| Investment outlays for tourism (3.0) | | | | | | |
| Visitors' expenditure in the destination (4.3) | | | | | | |
| Average occupancy (4.3) | | | | | | |
| % crisis resident companies (2.8) | | | | | | |
| Tourism-driven regional/local development (4.2) | | | | | | |
| Local/ regional goods and products (3.8) | | | | | | |
| Economic impact (4.5) | | | | | | |

*Screen 4*

Thank you for completing the survey. The *White Paper on Destination Performance Metrics* obtained from the results of the study would be forwarded after completing the three rounds of the study. Any details you provide will be treated as confidential and only used for the purpose of the research.

**Q9**. Would you be willing to participate in the final questionnaire in which you can compare your ratings of each indicator with the opinions of other experts like yourself?

- o Yes
- o No

**Q10.** Email address: *(Text box)*

# Appendix F: repeated indicators

| Indicators | No. repetitions per topic | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Social competitiveness* | *Destination productivity* | *Infrastructure* | *Connectivity & intelligence* | *Social sust. & stakeholders' mgmt..* | *Environmental sustainability* | *Economic sustainability* | *Others* |
| Residents' satisfaction | **7** | | | | | | 1 | |
| Education | **6** | | | | 2 | | | |
| Acceptance of tourism by locals | 1 | | | | **3** | | | |
| Community involvement and commitment | **5** | | | | 3 | | | |
| Universal acccesibility | 1 | | **1** | | | | | 1 |
| Occupancy | | 1 | | | | | **2** | |
| Stakeholders' cooperation and connections | | 1 | | | **2** | | 1 | |
| LOS by season | | **3** | | | | 1 | 2 | |
| Digital transformation of tourism services and experiences | | 1 | 1 | **3** | | | | |
| AI | | 1 | | **3** | | | | 1 |
| Adequate digital connectivity | | | 1 | **3** | | | | |
| Sustainable construction | | | **2** | | | 1 | | |
| Number of arrivals by way of transport | | | **2** | | | | 1 | |
| Use of renewable energy | | | 1 | | | **3** | | |
| Air connectivity | | | **2** | 1 | | | | |
| Economic impact | | 3 | | | 1 | | **5** | |
| Resources control | | | | | 1 | **2** | | |
| Stakeholders with sustainability certificates | | | | | 1 | **3** | | |
| Visitors' expenditure | | 1 | | | | | **3** | |
| Use of public transport and mobility networks | | | 1 | 1 | | **2** | | 2 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Number of tourist arrivals and distribution | | **2** | | | 2 | | 1 | 1 |
| Entrepreneurial attractiveness | | **2** | | 1 | | | | |
| Culture and identity | **3** | | | | 1 | | | |
| Sustainable transportation models | | | **2** | | | 1 | | |
| Communication infrastructure and facilities | | | **2** | 1 | | | | |
| Quality of employment in tourism | **9** | 6 | 1 | 1 | 2 | | **3** | |
| Attractiveness of the destination to attract new citizens | **6** | 1 | 1 | | | 2 | | |
| Value creation of tourism | | **1** | | | | | **1** | |
| Non-profit engagement in destination management | | | | | **1** | | **1** | |
| Carrying capacity | **1** | | | | | | | 1 |
| Responsiveness of businesses and stakeholders | | | | 1 | **1** | | | |
| Stakeholders' commitment for sustainable development | | 1 | | | **1** | 1 | 1 | |
| Overnights | | **1** | | | 1 | | 1 | |
| Positioning the destination as an attractive destination to visit | **1** | | 1 | | 1 | | 1 | 1 |
| Stable DMO | | | | | **1** | | | 1 |
| Preservation of authenticity | | | | | **1** | 1 | | 1 |
| Segmentation of products and visitors | | **1** | | | | | | 1 |
| Decentralization strategies | | | 1 | | **1** | | | |
| Sustainable products and services | | | | 1 | **1** | | | |
| Local/ regional goods and products | | | | | 1 | 1 | 1 | |
| Tourism-driven regional/local development | | 1 | 1 | | | | **1** | 1 |
| Smart destinations | | 1 | | | **1** | | | |
| Social impact | 1 | | | | **1** | 1 | | |
| Sharing practices/insights among stakeholders | 1 | | | 1 | **1** | | | |
| Public transport systems and other transportation systems capacity | | | **3** | 1 | | 1 | | |

Indicators classified as 'others', moved to:

- Indicators measuring spread in time/ locations → infrastructure.
- Empowerment of locals in decision-making → social sustainability and stakeholders' management.
- Approval rate and engagement of the DMO → social sustainability and stakeholders' management.
- Performance and implementation of plans → destination productivity.
- Anticipating deviations and promoting continuous improvement → social sustainability and stakeholders' management.
- Healthy population → social sustainability and stakeholders' management.
- Anticipating deviations and developing long-term strategic operations → social sustainability.
- Visitors' satisfaction and revisitation rate → social competitiveness.

Deleted for being too broad and overlapping with other general topics:

- Sustainability.
- Environmental sustainability.
- Destination performance.

# Appendix G: descriptive statistics (R2&R3)

| | | Mean relevance | | Standart deviation | | Coefficient of variation | |
|---|---|---|---|---|---|---|---|
| | Social competitiveness indicators | R2 | R3 | R2 | R3 | R2 | R3 |
| 001 | Attractiveness of the destination to attract new citizens. | 3.6 | 2.4 | 1.1780 | 1.5166 | 0.3298 | 0.6319 |
| 002 | Human resources working in the tourism industry. | 4.3 | 4.0 | 0.6999 | 0.7071 | 0.1633 | 0.1768 |
| 003 | Quality of food. | 3.7 | 3.4 | 1.1055 | 1.1402 | 0.3015 | 0.3353 |
| 004 | Quality of employment in tourism. | 4.1 | 4.6 | 0.8330 | 0.5477 | 0.2011 | 0.1191 |
| 005 | Residents' satisfaction. | 4.6 | 5.0 | 0.4949 | 0.0000 | 0.1083 | **0.0000** |
| 006 | Education. | 3.4 | 3.6 | 1.1780 | 0.8944 | 0.3436 | 0.2485 |
| 007 | Community involvement. | 3.6 | 3.4 | 0.9035 | 0.5477 | 0.2530 | 0.1611 |
| 008 | Culture and identity. | 4.3 | 4.4 | 0.6999 | 0.8944 | 0.1633 | 0.2033 |
| 009 | Quality of life. | 4.1 | 4.8 | 0.8330 | 0.4472 | 0.2011 | **0.0932** |
| 010 | Perceived safety and security. | 4.4 | 4.8 | 0.7284 | 0.4472 | 0.1645 | **0.0932** |
| 011 | Openness. | 3.9 | 3.6 | 0.6389 | 0.5477 | 0.1656 | 0.1521 |
| 012 | Carrying capacity. | 3.4 | 3.2 | 1.1780 | 0.8367 | 0.3436 | 0.2615 |
| 013 | Positioning the destination as an attractive destination to visit. | 4.7 | 4.6 | 0.4518 | 0.5477 | 0.0958 | 0.1191 |
| 014 | Visitor satisfaction and revisitation rate. | 4.6 | 5.0 | 0.4949 | 0.0000 | 0,1083 | **0.0000** |

| | | Mean relevance | | Standart deviation | | Coefficient of variation | |
|---|---|---|---|---|---|---|---|
| | Destination productivity indicators | *R2* | *R3* | *R2* | *R3* | *R2* | *R3* |
| 015 | Average value of DMO promotion campaigns. | 3.1 | 3.6 | 1.1249 | 0.5477 | 0.3579 | 0.1521 |
| 016 | Decision making originality and value. | 3.1 | 3.8 | 1.3553 | 0.8367 | 0.4312 | 0.2202 |
| 017 | Quality management. | 4.1 | 4.4 | 0.8330 | 0.5477 | 0.2011 | 0.1245 |
| 018 | Multi-sectoriality of the destination. | 3.5 | 3.6 | 0.7638 | 0.8944 | 0.2182 | 0.2485 |
| 019 | Companies selling trips to the destination. | 3.3 | 3.0 | 1.2778 | 1.4142 | 0.3889 | 0.4714 |
| 029 | Performance and implementation of plans. | 3.6 | 3.2 | 0.9035 | 0.8367 | 0.2530 | 0.2615 |
| 021 | LOS by season. | 4.7 | 4.6 | 0.4518 | 0.8944 | 0.0958 | 0.1944 |
| 022 | Number of tourist arrivals and distribution. | 4.0 | 4.6 | 0.5345 | 0.5477 | 0.1336 | 0.1191 |
| 023 | Entrepreneurial attractiveness. | 3.9 | 3.8 | 1.1249 | 0.4472 | 0.2916 | 0.1177 |
| 024 | Future trends identification. | 3.9 | 3.6 | 1.3553 | 0.5477 | 0.3514 | 0.1521 |
| 025 | Value creation through tourism. | 4.7 | 5.0 | 0.4518 | 0.0000 | 0.0958 | **0.0000** |
| 026 | Number of international association meetings, congresses & events. | 3.9 | 4.0 | 0.9897 | 1.7321 | 0.2566 | 0.4330 |
| 027 | Overnights of tourists in accommodations of the destination. | 3.9 | 4.4 | 0.8330 | 0.5477 | 0.2160 | 0.1245 |
| 028 | Segmentation of products and visitors. | 3.6 | 3.6 | 0.9035 | 0.5477 | 0.2530 | 0.1521 |

| | | Mean relevance | | Standart deviation | | Coefficient of variation | |
|---|---|---|---|---|---|---|---|
| | Infrastructure indicators | *R2* | *R3* | *R2* | *R3* | *R2* | *R3* |
| 029 | Heritage and arts planning. | 3.4 | 4.0 | 1.0498 | 1.0000 | 0.3062 | 0.2500 |
| 030 | Public infrastructure. | 4.1 | 4.2 | 1.3553 | 0.8367 | 0.3271 | 0.1992 |
| 031 | Number and capacity of conference venues. | 3.3 | 3.4 | 1.2778 | 0.8944 | 0.3889 | 0.2631 |
| 032 | Ease of finding attractions and services. | 3.9 | 4.2 | 0.8330 | 0.4472 | 0.2160 | 0.1065 |
| 033 | Destination physical connectivity. | 4.1 | 4.6 | 0.8330 | 0.5477 | 0.2011 | 0.1191 |
| 034 | Universal accessibility. | 4.0 | 4.0 | 1.0690 | 1.2247 | 0.2673 | 0.3062 |
| 035 | Sustainable construction. | 3.7 | 3.8 | 0.8806 | 0.8367 | 0.2371 | 0.2202 |
| 036 | Use of destination mobility networks among visitors. | 3.7 | 3.8 | 1.1606 | 0.8367 | 0.3125 | 0.2202 |
| 037 | Public transport systems and other transportation systems. | 4.0 | 4.0 | 0.9258 | 0.7071 | 0.2315 | 0.1768 |
| 038 | Communication infrastructure and facilities. | 3.3 | 3.6 | 1.0302 | 0.8944 | 0.3135 | 0.2485 |
| 039 | Number and capacity of accommodation facilities. | 3.4 | 3.4 | 0.7284 | 1.1402 | 0.2125 | 0.3353 |

| | | Mean relevance | | Standart deviation | | Coefficient of variation | |
|---|---|---|---|---|---|---|---|
| | Connectivity and intelligence indicators | R2 | R3 | R2 | R3 | R2 | R3 |
| 040 | Social media followers. | 3.0 | 2.6 | 1.0690 | 1.1402 | 0.3563 | 0.4385 |
| 041 | Unique visitors on the website. | 2.8 | 2.2 | 0.6872 | 0.4472 | 0.2425 | 0.2033 |
| 042 | Stakeholders' satisfaction with virtual touchpoints. | 3.9 | 3.2 | 0.9897 | 1.3038 | 0.2566 | 0.4075 |
| 043 | Digital literacy among tourism businesses. | 3.7 | 3.0 | 1.0302 | 0.7071 | 0.2774 | 0.2357 |
| 044 | Human interaction. | 4.3 | 4.2 | 0.6999 | 0.8367 | 0.1633 | 0.1992 |
| 045 | Smart visitor management system. | 4.4 | 4.4 | 0.4949 | 0.5477 | 0.1117 | 0.1245 |
| 046 | Digital communication vs traditional communication. | 4.0 | 4.0 | 0.7559 | 0.7071 | 0.1890 | 0.1768 |
| 047 | Central database. | 3.7 | 2.4 | 1.1055 | 0.8944 | 0.3015 | 0.3727 |
| 048 | CRS. | 3.3 | 2.4 | 0.9428 | 1.1402 | 0.2828 | 0.4751 |
| 049 | Research. | 4.8 | 4.4 | 0.3727 | 0.8944 | 0.0771 | 0.2033 |
| 050 | WiFi coverage in the destination. | 3.9 | 3.2 | 1.1249 | 1.3038 | 0.2916 | 0.4075 |
| 051 | Automatization of outputs. | 3.0 | 3.0 | 1.1547 | 0.7071 | 0.3849 | 0.2357 |
| 052 | Innovative products and projects. | 4.0 | 4.2 | 1.0690 | 0.4472 | 0.2673 | 0.1065 |
| 053 | Digital transformation of tourism services and experiences. | 3.7 | 3.8 | 1.2778 | 0.8367 | 0.3440 | 0.2202 |
| 054 | Online marketing conversion rate. | 2.9 | 3.0 | 1.4569 | 1.4142 | 0.5099 | 0.4714 |
| 055 | AI | 4.1 | 3.4 | 0.9897 | 1.1402 | 0.2389 | 0.3353 |
| 056 | Smartphones and downloads of official apps. | 2.3 | 1.8 | 0.8806 | 0.8367 | 0.3853 | 0.4648 |
| 057 | Adequate digital connectivity. | 3.9 | 3.0 | 0.9897 | 0.7071 | 0.2566 | 0.2357 |
| 058 | Tourism companies with online booking. | 3.9 | 3.0 | 1.3553 | 1.5811 | 0.3514 | 0.5270 |
| 059 | Data collection and diffusion. | 4.3 | 4.0 | 0.8806 | 1.0000 | 0.2055 | 0.2500 |
| 060 | Smart destinations. | 4.6 | 4.8 | 0.4949 | 0.4472 | 0.1083 | **0.0932** |

| | Social sustainability and stakeholders' management indicators | Mean relevance | | Standart deviation | | Coefficient of variation | |
|---|---|---|---|---|---|---|---|
| | | R2 | R3 | R2 | R3 | R2 | R3 |
| 061 | Slow tourism. | 3.3 | 3.2 | 0.4714 | 1.0954 | 0.1414 | 0.3423 |
| 062 | Destination brand recognition among stakeholders. | 3.8 | 4.0 | 1.0672 | 1.0000 | 0.2784 | 0.2500 |
| 063 | Destination resilience. | 4.7 | 5.0 | 0.4714 | 0.0000 | 0.1010 | **0.0000** |
| 064 | Stakeholders' education regarding sustainability. | 3.7 | 3.6 | 0.9428 | 1.1402 | 0.2571 | 0.3167 |
| 065 | Empowerment of locals in decision-making. | 3.5 | 3.6 | 1.3844 | 0.5477 | 0.3956 | 0.1521 |
| 066 | Approval rate and engagement of the DMO. | 3.0 | 3.6 | 1.2910 | 0.5477 | 0.4303 | 0.1521 |
| 067 | Anticipating deviations and developing long-term strategic operations. | 3.7 | 3.0 | 1.3744 | 1.0000 | 0.3748 | 0.3333 |
| 068 | Healthy population. | 3.5 | 4.0 | 0.9574 | 0.7071 | 0.2736 | 0.1768 |
| 069 | Acceptance of tourism by locals. | 4.8 | 5.0 | 0.3727 | 0.0000 | 0.0771 | **0.0000** |
| 070 | Governance and stakeholders' roles and connections for cooperation. | 4.6 | 3.8 | 0.4899 | 1.6432 | 0.1065 | 0.4324 |
| 071 | Standardization. | 2.7 | 2.0 | 1.4907 | 1.5811 | 0.5590 | 0.7906 |
| 072 | Stakeholders' satisfaction related to stakeholders' touchpoints. | 3.3 | 3.6 | 1.2472 | 1.1402 | 0.3742 | 0.3167 |
| 073 | Stakeholders' perspectives being considered by authorities. | 3.2 | 3.2 | 1.3437 | 0.8367 | 0.4243 | 0.2615 |
| 074 | Responsiveness of businesses and stakeholders. | 3.8 | 3.4 | 1.0672 | 0.5477 | 0.2784 | 0.1611 |
| 075 | Non-profit engagement in destination management. | 2.4 | 1.4 | 1.0198 | 0.5477 | 0.4249 | 0.3912 |
| 076 | Sustainable products and services matching customers' needs. | 4.5 | 4.2 | 0.5000 | 1.3038 | 0.1111 | 0.3104 |
| 077 | Sharing practices/insights among stakeholders. | 4.2 | 4.4 | 0.7483 | 0.5477 | 0.1782 | 0.1245 |
| 078 | Preservation of authenticity. | 4.8 | 5.0 | 0.3727 | 0.0000 | 0.0771 | **0.0000** |
| 079 | Stakeholders' commitment for sustainable development. | 4.3 | 4.0 | 1.1055 | 1.2247 | 0.2551 | 0.3062 |
| 080 | Decentralization strategies. | 2.7 | 2.2 | 1.4907 | 0.8367 | 0.5590 | 0.3803 |
| 081 | Stable DMO. | 3.0 | 3.0 | 1.6330 | 1.4142 | 0.5443 | 0.4714 |
| 082 | Social impact. | 4.2 | 3.6 | 0.8975 | 1.3416 | 0.2154 | 0.3727 |

| | | Mean relevance | | Standart deviation | | Coefficient of variation | |
|---|---|---|---|---|---|---|---|
| | Environmental sustainability indicators | *R2* | *R3* | *R2* | *R3* | *R2* | *R3* |
| 083 | Commodification. | 3.2 | 2.8 | 0.7483 | 0.4472 | 0.2339 | 0.1597 |
| 084 | Destination sustainability strategy. | 4.2 | 4.0 | 1.4625 | 1.2247 | 0.3510 | 0.3062 |
| 085 | Energy consumption in the destination. | 3.2 | 3.2 | 1.0672 | 1.3038 | 0.3370 | 0.4075 |
| 086 | Material consumption. | 2.8 | 2.6 | 1.0672 | 1.1402 | 0.3767 | 0.4385 |
| 087 | Digitalization. | 4.0 | 4.0 | 0.8165 | 0.7071 | 0.2041 | 0.1768 |
| 088 | Zero emissions. | 3.3 | 3.8 | 1.1055 | 1.0954 | 0.3317 | 0.2883 |
| 089 | Use of renewable energy. | 3.7 | 4.0 | 0.9428 | 1.2247 | 0.2571 | 0.3062 |
| 090 | CO2 emissions from arrivals and movements of tourists in destination. | 3.8 | 3.4 | 0.6872 | 1.1402 | 0.1793 | 0.3353 |
| 091 | Waste management and recycling. | 3.5 | 3.4 | 0.9574 | 0.5477 | 0.2736 | 0.1611 |
| 092 | GDSI score. | 3.5 | 2.8 | 1.1180 | 1.3038 | 0.3194 | 0.4657 |
| 093 | Environmental resources control. | 3.3 | 3.0 | 1.1055 | 0.7071 | 0.3317 | 0.2357 |
| 094 | Water consumption in the destination. | 3.2 | 3.2 | 0.6872 | 0.8367 | 0.2170 | 0.2615 |
| 095 | Environmental protection. | 4.0 | 3.6 | 1.1547 | 0.5477 | 0.2887 | 0.1521 |
| 096 | Stakeholders with sustainability certificates. | 3.8 | 3.0 | 0.9798 | 1.5811 | 0.2578 | 0.5270 |

| | | Mean relevance | | Standart deviation | | Coefficient of variation | |
|---|---|---|---|---|---|---|---|
| | Economic indicators | R2 | R3 | R2 | R3 | R2 | R3 |
| 097 | Economic viability. | 4.2 | 4.4 | 0.6872 | 0.5477 | 0.1649 | 0.1245 |
| 098 | Social equity. | 4.0 | 4.2 | 0.8165 | 0.4472 | 0.2041 | 0.1065 |
| 099 | Biodiversity. | 3.8 | 2.8 | 1.3437 | 1.2583 | 0.3505 | 0.4576 |
| 100 | Number of new products and average age of businesses. | 2.0 | 1.4 | 1.5492 | 1.1402 | 0.7746 | 0.8144 |
| 101 | Second life of goods. | 3.4 | 2.4 | 0.8000 | 1.8166 | 0.2353 | 0.7569 |
| 102 | Impact of tourism on the destination's budget. | 3.7 | 3.8 | 1.2472 | 1.3038 | 0.3402 | 0.3431 |
| 103 | Investment outlays for tourism. | 3.0 | 2.4 | 1.1547 | 1.1402 | 0.3849 | 0.4751 |
| 104 | Visitors' expenditure in the destination. | 4.3 | 4.6 | 0.4714 | 0.5477 | 0.1088 | 0.1191 |
| 105 | Average occupancy. | 4.3 | 4.4 | 0.4714 | 0.8944 | 0.1088 | 0.2033 |
| 106 | % crisis resident companies. | 2.8 | 3.0 | 1.1662 | 0.7071 | 0.4165 | 0.2357 |
| 107 | Tourism-driven regional/local development. | 4.2 | 4.2 | 0.6872 | 0.8367 | 0.1649 | 0.1992 |
| 108 | Local/ regional goods and products. | 3.8 | 4.0 | 0.8975 | 1.0000 | 0.2341 | 0.2500 |
| 109 | Economic impact. | 4.5 | 4.6 | 0.5000 | 0.5477 | 0.1111 | 0.1191 |

# Appendix H: Literature Review outcomes vs. own empirical results

| | Topic | Experts suggested indicators | Represented in Lit. Review (*see Table 11*) |
|---|---|---|---|
| R3_002 | | Human resources working in the tourism industry | Education |
| R3_004 | | Quality of employment in tourism | Social competitiveness |
| R3_005 | | Residents' satisfaction | Satisfaction |
| R3_008 | Scial competitiveness | Culture and identity | Heritage and culture |
| R3_009 | | Quality of life | Quality of life |
| R3_010 | | Perceived safety and security | Social competitiveness |
| R3_013 | | Positioning the destination as an attractive destination to visit | Online marketing |
| R3_014 | | Visitor satisfaction and revisitation rate | Satisfaction |
| R3_017 | | Quality management | Quality management |
| R3_021 | | LOS by season | Productivity / Evolution of tourism activity |
| R3_022 | | Number of tourist arrivals and distribution | Productivity /Evolution of tourism activity |
| R3_023 | Destination productivity | Entrepreneurial attractiveness | *Not represented* |
| R3_025 | | Value creation through tourism | Destination value network |
| R3_026 | | No. international association meetings, congresses, events | Productivity /Evolution of tourism activity |
| R3_027 | | Overnights of tourists in accommodations of the destination | Productivity / Evolution of tourism activity |
| R3_030 | | Public infrastructure | Infrastructure |
| R3_032 | | Ease of finding attractions and services | *Not represented* |
| R3_033 | Infrastructure | Destination physical connectivity | Connectivity |
| R3_034 | | Universal accessibility | Accesibility |
| R3_037 | | Public transport systems and other transportation systems | Infrastructure |
| R3_044 | | Human interaction | *Not represented* |
| R3_045 | | Smart visitor management system | Intelligence and information systems |
| R3_046 | Connectivity & intelligence | Digital communication vs traditional communication | Communication facilities |
| R3_049 | | Research | *Not represented* |
| R3_052 | | Innovative products and projects | Innovation |

| R3_060 | | Smart destinations | Smart destinations |
|---|---|---|---|
| R3_063 | | Destination resilience | Destination resilience |
| R3_068 | | Healthy population | Social conditions /Society |
| R3_069 | | Acceptance of tourism by locals | Social conditions /Society |
| R3_070 | Social sust. & stakeholders' mgmt.. | Governance and stakeholders' cooperation and connections | Stakeholders' connections / Governance / Roles of DMOs |
| R3_076 | | Sustainable products & services matching customers' needs | Sustainable development |
| R3_077 | | Sharing practices/insights among stakeholders | Stakeholders' connections / Governance / Roles of DMOs |
| R3_078 | | Preservation of authenticity | Heritage and culture |
| R3_079 | | Stakeholders' commitment for sustainable development | Sustainable development |
| R3_084 | | Destination sustainability strategy | Sustainable development |
| R3_087 | Environmental sustain- ability | Digitalization | Intelligence and information systems |
| R3_088 | | Zero emissions | Environmental impact / Environemtal conditions / Physical environment |
| R3_089 | | Use of renewable energy | Environmental impact / Environemtal conditions / Physical environment |
| R3_097 | | Economic viability | Economy |
| R3_098 | | Social equity | Social conditions /Society |
| R3_104 | Economic sustainability | Visitors' expenditure in the destination | Economic benefit |
| R3_105 | | Average occupancy | Productivity / Evolution of tourism activity |
| R3_107 | | Tourism-driven regional/local development | Destination value network |
| R3_109 | | Economic impact | Economy |

# Appendix I: Reassessing the 44 most relevant indicators

| | Topic | Indicators | Keyword used in the model |
|---|---|---|---|
| R3_002 | | Human resources working in the tourism industry | Human resources |
| R3_004 | | Quality of employment in tourism | Employment |
| R3_010 | Social competitiveness | Perceived safety and security | Safety and security |
| R3_013 | | Positioning the destination as an attractive destination to visit | Destination positioning |
| R3_014 | | Visitor satisfaction & revisitation rate + Quality mgmt.+ Human interaction | Visitor satisfaction |
| R3_033 | Infrastructure | Destination physical connectivity + Ease of finding attractions | Physical connectivity |
| R3_034 | | Universal accessibility | Accesibility |
| R3_021 | | LOS by season + Overnights | LOS |
| R3_022 | | Number of tourist arrivals and distribution | Arrivals |
| R3_025 | Destination productiv-ity & economic sus-tainability | Value creation + Tourism driven regional/local development | Value creation |
| R3_026 | | No. international association meetings, congresses, events | MICE and events |
| R3_097 | | Economic viability + Economic impact + Visitor's expenditure | Economic viability and impact |
| R3_087 | | Digitalization + Digital communication | Digitalization |
| R3_045 | Connecitivy & intelligence | Smart visitor management system + Research | Visitor management system |
| R3_052 | | Innovative products and projects + Entrepreneurial attractiveness | Promotion of inov. and entrepreneurship |
| R3_063 | | Destination resilience | Resilience |
| R3_069 | Social sust. & stakeholders' mgmt. | Acceptance of tourism by locals | Acceptance of tourism |
| R3_070 | | Governance & stakeholders' roles & connect. for cooperation | Governance |
| R3_078 | | Preservation of authenticity + Culture and identity | Culture, identity and authenticity |
| R3_084 | Environmental sust. | Destination sust. strategy + Stakeholders' commitment + Sustainable products | Destination sustainability strategy |
| R3_089 | | Use of renewable energy | Renewable energy |