EXTENDED ABSTRACT

ASSESSING THE ADAPTATION OF TOURISM COMPETITIVENESS IN TEN SPANISH DESTINATIONS: A MULTICRITERIA PROPOSAL

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1. INTRODUCTION

The tourism sector is a significant driver of economic growth in both developed and emerging countries, where it provides employment opportunities, technological advancements, and economic improvements (Castro-Nuño *et al*., 2013; Rodríguez-Vázquez *et al*., 2023). As such, public and private stakeholders have developed strategies focused on destination competitiveness to enhance service quality and strengthen adaptability to demand in a changing market under a context of susceptibility to external circumstances (Streimikiene *et al*., 2021).

According to the academic literature, the perception of competitiveness in the field of tourism management and hospitality is related to a destination's relative technical capacity to meet travelers' needs by improving tourism products and services to boost loyalty and the desire to repeat (Font *et al*., 2023; Mior Shariffuddin *et al*., 2023; Rodríguez-Díaz and Pulido-Fernández, 2021). Due to the complexity of the concept, tourism competitiveness (Crouch and Ritchie, 1999) needs to be addressed from a multidimensional perspective to better understand enclaves' strengths and weaknesses (Crouch, 2011). So, approaches such as the so-called "Travel and Tourism Competitiveness Index" (T&TCI, hereinafter) developed by the World Economic Forum (2019) are highly valued for periodically analyzing worldwide determinants of destinations' attractiveness for visitors (Gómez-Vega and Picazo-Tadeo, 2019).

A number of studies on the topic of tourism competitiveness are based on T&TCI, either globally (Dias, 2017; Gómez-Vega and Picazo-Tadeo, 2019; Kayar and Kozak,

2010; González-Rodríguez *et al*., 2023) or focused on specific geographic regions (Corzo-Arévalo and García-Méndez, 2020; Pérez León *et al*., 2021), particularly in Europe (Lopes *et al*., 2018; Rodríguez-Antón *et al*., 2016). However, this indicator has also been the subject of technical criticism that questions its methodology, choice of variables, criteria aggregation procedure, and difficult data collection (Rodríguez-Díaz and Pulido-Fernández, 2021).

The purpose of the current paper is to assess the relative adaptive capacity of the tourism sector in the top ten Spanish cities in response to the shock caused by the recent COVID-19 pandemic, which had devastating consequences for the tourism industry (Perles-Ribes *et al*., 2021). We employ a robust methodology based on Discrete Multicriteria Analysis using the PROMETHEE-GAIA technique, which is widely applied to address decision-making problems in different fields. Unlike previous studies based on more elementary techniques, our research contributes to the literature by developing a synthetic index linked to destination competitiveness inspired by the T&TCI (World Economic Forum, 2019). This provides a rigorous consistent framework for selecting the sample of tourist destinations, the set of clusters, pillars, and indicators to enable a temporal comparison (pre- and post-pandemic, 2019 vs. 2021).

Spain ranks third globally in terms of tourist arrivals and income generated by tourism, which further highlights its significance in the tourism sector (UNWTO, 2021). Despite the impact of the pandemic, tourism activity accounted for 7.7% of Spanish GDP in 2021, generating approximately €94,128 billion and contributing to 8.8% of total employment (Spanish National Institute of Statistics, INE). Nevertheless, to our knowledge, no prior studies have used a discrete multicriteria methodology to rank tourist destinations by their competitiveness, particularly in a comparison of pre- and post-pandemic scenarios.

2. DATA AND METHODOLOGY

The study sample of Spanish cities was selected considering the classification of tourist destinations by the numbers of visitors, both domestic and international (source INE), using the year 2019 as a reference (before the COVID-19 pandemic). The first ten cities were selected, i.e., Barcelona, Bilbao, Córdoba, Granada, Madrid, Málaga, Palma de Mallorca, Sevilla, Valencia, and Zaragoza.

The synthetic index of tourism competitiveness was structured into 4 clusters based on T&TCI for 2019 (consistent with our sample selection) and divided into 15 pillars with 33 variables that influence tourism competitiveness, according to the previous academic literature: 1. Socio-economic environment: e.g., firm environment, safety and health, technology and innovation; 2. Tourism sector environment: e.g., price competitiveness, sustainability; 3. Infrastructure for Transportation and Tourism: e.g., air transport, tourism services, maritime transport; 4. Natural and Cultural Environment: e.g., cultural services, natural services. The databases were provided by official sources and public organizations and adapted to our research territorial unit (municipality) to compile evaluations of the items (the sample of 10 tourist cities) in each criterion/pillar/cluster.

Considering these evaluations, the Discrete Multicriteria Decision Theory based on the PROMETHEE technique (*Preference Ranking Organization Method for Enrichment Eval-*

uation) was applied to create the synthetic competitiveness index. Originally developed by Brans *et al*. (1986), PROMETHEE was complemented by the GAIA plane (*Geometrical Analysis for Interactive Assistance*) graphic tool to provide information about the conflicting nature of the criteria and the impact of their weights on the final results. Of all the methods to evaluate and rank alternatives, PROMETHEE was chosen as it is an easily understandable tool that enables scale effects between items to be eliminated, any incomparability between them to be detected, and sensitivity analysis to be carried out to determine the robustness of results.

3. RESULTS

The multicriteria decision problem was defined to rank the sample of 10 tourist cities by considering the set of equi-proportionally weighted multiple criteria (following T&TCI (2019) and Exceltur (2023)) that may be in conflict, and preference functions (maximization/minimization).

Our results show consistent tourism competitiveness rankings between both scenarios (pre- and post-COVID) despite the disruption caused by the pandemic. Four cities (Madrid, Barcelona, Valencia, and Seville) dominate the rankings and lead the classifications with some minor shifts in their positions (Madrid and Barcelona switch positions when the two years are compared as do Seville and Valencia). In contrast, Granada and Córdoba remain at the bottom, while only Málaga maintains an intermediate position, in the middle of the ranking in both years. Bilbao, Palma de Mallorca, and Zaragoza present position fluctuations due to comparability challenges.

By criteria, accommodation and transportation infrastructure and natural and cultural resources can be highlighted as crucial factors that enhance the competitiveness of tourist destinations and have greater discriminatory power in the ranking of items or cities. Tourist accommodation, natural parks, theaters, universities, hotels, and high-speed trains, among others, seem to have a significant influence on the classification of the cities considered in the sample.

4. CONCLUSIONS

This study has introduced a synthetic index of tourism competitiveness for ten Spanish cities to examine the pre- and post-COVID-19 scenarios (2019 and 2021). Based on the Travel and Tourism Competitiveness Index (T&TCI), the index comprised 15 pillars and 33 variables. PROMETHEE-GAIA Multicriteria Methodology was used for the analysis.

Our findings suggest a minimal disruption to Spanish tourism competitiveness, which indicates resilience among leading destinations. This highlights a degree of inertia in adapting to the consequences of the pandemic, with destinations reverting to pre-pandemic patterns post-crisis. This could be attributable to a conservative response amidst competing health and social priorities compared to more rigid short-term and less urgent areas, such as those related to tourist infrastructure.

Furthermore, our results indicate that post-pandemic recovery requires a renewed tourism governance approach with an emphasis on flexibility in municipal decision-making.

Strengthening the identified pillars is crucial for constructing a more competitive tourism product in an uncertain global environment.

This study has its limitations. For example, concerning access to official municipal data, some variables had to be adapted to the provincial level. Our article also shares some methodological concerns with other T&TCI-based works such as equal weighting of criteria. Therefore, future research could explore alternative weighting procedures and a broader temporal and geographic context to enrich destination management insights and assess post-pandemic resurgence and adaptability across Spain's tourist destinations.