

Clustering Sustainable Destinations

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Within the globalized tourism market, tourism destinations have the option to turn to sustainability as a conceptual and management framework for their unique branding and identity proposition. It is well-known that tourism contributes to sustainable development, but in order to render tourism's contribution clearly, the assessment should be fed with conceptually clear and measurable indicators that effectuate the continuous monitoring of a destination's sustainability performance.

Keywords: sustainable tourism destinations ; sustainability indicators ; Mediterranean ; clustering ; branding

1. Tourism Sustainability at Destination Level

Since the introduction of the Sustainable Development concept in the 1990s, the global tourism sector has been primed for fundamental changes in planning and management at micro and macro levels. Even if not directly linked to the tourism industry, the recently adopted SDGs provide evidence of the international community's commitment to prioritise sustainability and recognise the necessity of widely accepted standards ^[1]. Within the context of the SDGs and Agenda 2030, sustainability nurtures a destination vision of continuously improved performance and competitiveness based on quality and sustainability criteria.

1.1. Conceptualisation

The conceptualisation of tourism destination sustainability remains an ongoing challenge for the academic and institutional community ^{[2][3]}. This confusion stems from the conceptual discrepancy regarding the destination under review as a spatial construct. This spatial construct may imply the administrative reference unit for tourism pressure assessment, the evaluation of impact resulting from tourism or the field of spatial planning considerations. Public tourism policies and management schemes further diminish the necessity for defined spatial boundaries when they focus on increasing overall tourism flows at the national level rather than delineating a place- or destination-based management approach. The latter offers the opportunity to generate added value based on a destination's unique specifics and carrying capacity ^[4].

Sustainability is essential for destination competitiveness in an increasingly competitive tourism market, usually measured at the national level. It is evaluated by means of the World Economic Forum's (WEF) Travel and Tourism Competitiveness Index (TTCI), which has repeatedly been used in previous studies (see ^{[5][6][7]}). The WEF considers and evaluates the travel and tourism competitiveness of destinations with one overall index based upon three different sub-indices, namely (a) a travel and tourism regulatory framework sub-index, (b) a travel and tourism business environment and infrastructure sub-index and (c) a travel and tourism human, cultural and natural resource sub-index. However, a recent study suggests that destination sustainability is mainly subject to the contextualisation of the offered supply which triggers respective demand and that destination sustainability cannot be conceptualised or assessed on spatial scales larger than the regional ^[8].

1.2. Operationalisation

Despite the numerous theoretical and methodological approaches to measuring sustainability at the industry level (sustainable tourism), the operationalisation of sustainability at the destination level (sustainable tourist destination) appears to be a shortcoming ^[9]. On first reading, the problem seems to lie primarily in the lack of consensus over an adequately generalised evaluation framework and indicator scheme or an agreement on the necessary steps toward this direction ^[10]. Despite the number of efforts to systematise tourism sustainability assessment over the years, such as the ETIS, there is still no explicit differentiation on the cause-effect-impact linkages among the elements defining the tourism profile of a destination, the performance and direct effect of the sector per se and the overall (direct, indirect, induced and catalytic) impacts resulting from tourism for the host destination. Except for the GSTC Criteria (<https://www.gstcouncil.org/gstc-criteria> (accessed on 7 February 2022)), there is still insufficient clarity among the

concepts (and assessment frameworks) of “tourism sustainability at an industry level” and “sustainable tourism development at destination level” [9].

The achievement of sustainability's measurement and analysis is usually communicated as an ideal (qualitative) state of the distant future, bearing elements of inherent abstractness and perception subjectivity [11]. This perception further restrains the real-life operationalisation of the concept into specific planning and decision-making actions of defined and measurable goals. It also disincentivises planners and decision-makers who are usually prompted by immediate short-term goals and achievements. Therefore, a need emerges for a uniform composite operationalisation framework that should allow comparability and replicability among different destinations. At the same time, this framework must be specific enough to capture unique characteristics and provide long-term insights and planning.

2. Clustering Destinations' Sustainable Performance

Segmentation is a well-established technique in tourism marketing. Segmentation practices are well addressed from the side of demand. They unravel how tourists' socio-demographic, psychographic or behavioural characteristics [8] influence their predisposition to visit a destination. Segmentation from the supply side is mainly correlated with developing destination typologies based on those natural and/or cultural attributes that build a destination's distinctive identity. However, only a few studies conduct segmentation based on the processes and trajectories of tourism development at the destination level and compose performance-based brands. Clustering analysis is a dimensionality reduction technique used widely in tourism studies [12]. Clustering methods involve natural groupings of data based on similarities [13]. The process which is regularly adapted from Smith (1956) [14] aims to identify intrinsic structures in the destination profiles and performance and organise them into meaningful, yet differentiated, subgroups for further analysis. The identification of structurally equivalent destinations is based on internal and external cohesions of destination sustainability performance attributes; on one hand, they group certain destinations based on their similarities but, on the other, clearly differentiate them from others, thus contributing to distinctive sustainable destination segments.

2.1. Destination-Related Typologies

According to Lew (1987) [15], destination supply typologies are based on ideographic, organisational and cognitive methods. The first category focuses on the concrete uniqueness of the environment and highlights the differences between nature- and human-oriented attractions. Typologies based on organisational perspectives focus on the spatial characteristics of size, scale and carrying capacity, whereas cognitive approaches stress typologies relating to tourist perceptions and experiences. It is relatively rare in the academic tourism literature to find methods in support of destination supply typologies based on management elements or performance attributes. Even if they are still helpful and applicable, the methods suggested by Lew [15] three decades ago can be considered rather broad, lacking enough relevance to current destination challenges and not considerate of the new forms of tourism management. Destination typologies might need to be more precise and thoughtful of current tourism destination branding and management needs.

In its simplest form, classification implies the allocation of tourism destinations into several groups based on their similarity. This allocation aims to maximise, simultaneously, within-group homogeneity and between-group heterogeneity. Segmentation is a classification procedure that identifies homogeneous sub-groups in two fundamental ways. One way is a priori, referring to the conceptual approach leading to the development of a typology through common-sense assumptions known in advance. The other way is a posteriori, through data-driven or post hoc approaches, by definition leading to empirical taxonomies [16][17]. The conceptual typology is generally deductively derived. It may be based purely on hypothetical constructs or it may have theoretical significance but not a direct empirical counterpart. On the contrary, a purely empirical taxonomy does not have a theoretical value or conceptual importance, since it measures empirical cases and groups them by similarity.

2.2. Sustainability Typologies

Typologies are often seen as purely descriptive rather than explanatory tools, albeit still providing for the study of relationships between the concepts involved. The construction of a typology requires conceptualisation along at least two dimensions, unfolding a range of concepts (Conceptual Classification). Sustainability is inherently related to at least the economic, social and environmental dimensions. Therefore, several sustainability typologies can be vaguely identified (e.g., environmental sustainability, socio-economic). In cases where the number of types is significant, researchers often fall back on partial or shorthand typologies stemming from the deviation from a pre-determined criterion and using the two extreme opposites as polar types [18].

Expanding on Neumayer's (1999) ^[19] "strong" and "weak" sustainability, which was based on the different conceptions of human and natural capital theory, Hediger (2004) ^[20] distinguished four fundamental concepts of sustainability that are characterised by different minimum requirements: (a) very weak sustainability (VWS), characterised by constant per capita consumption; (b) weak sustainability (WS) characterised by some non-decreasing social welfare; (c) strong sustainability (SS) characterised by constant environmental quality; and (d) very strong sustainability (VSS) characterised by a set of stationary-state conditions. In the same line of approach, the International Union for Conservation of Nature (IUCN) ^[21] built on the socio-economic vs environmental dichotomies to propose four types of agglomerations based on sustainability performance: (a) sustainable: high socio-economic performance and low environmental pressure/burden; (b) non-sustainable: low socio-economic performance and high environmental pressure/burden; (c) viable: high socio-economic performance and high environmental pressure/burden; and (d) green: low socio-economic performance and low environmental pressure/burden.

One of the main criticisms of these typologies is their mutual exclusivity and exhaustiveness. Based primarily on arbitrary and ad hoc criteria, they rely too much on dichotomised rather than continuous variables. They are treated as ends in themselves rather than means to an end. Sustainability typologies are subject to the same weaknesses. Tourism destinations or products rarely fall within clearly defined, static and fragmented classifications/segments. In fact, overlaps are considered the expected outcome within a dynamic system. With a priori segmentation approaches having little potential when considering the further development of models that are more coherent to the idea of sustainable development ^[20], tourism researchers focus on the construction of multi-variate data-driven taxonomies whose relevance and effectiveness are subject both to the quality of data and the best possible use of the explorative tool used in support (e.g., cluster analysis).

Taxonomic methods begin empirically to classify cases according to their measured similarity to observed variables (Empirical Classification). Cluster solutions are the principal technique used to demonstrate empirical presence rather than assigning conceptual meaning to the clusters ^[18]. Even if the number of empirical studies on destinations' sustainability is increasing, their singularity of focus, despite in-depth analysis, has not allowed the development of a respective sustainability taxonomy. After all, destination sustainability's inherent nature and dynamics make any approach to its measurement methodologically challenging ^[2]. The lack of consensus on evaluation criteria or a generic framework leads to a lack of homogeneity and replicability in both scales and methodologies. Due to the limitations of each of these methods, a practical segmentation approach for destinations' sustainability performance should be achieved by combining conceptual and empirical strategies. Therefore, combining knowledge in view of the preceding sub-sections on measurement, conceptualisation, competitiveness and clustering at the destination level, this study attempts to build an integrative and adequately generalised framework for comparative measurement on the common basis of multiple attributes among competitive destinations.

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