Research Paper

Evaluation of the competiveness of tourist zones of an island destination: An application of a Many-Facet Rasch Model (MFRM)

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ABSTRACT

Increasing the competitiveness of tourism destinations requires new methods to evaluate destinations′ current situations and to provide a clear indication of the strategic actions needed to promote their competitive factors. Objective measurement by the application of the Rasch Measurement Theory (RMT), specifically the Many-Facet Rasch Model (MFRM), enables these aims to be met. This model also facilitates positioning strategies, even when there is a lack of statistical information about a destination, in which case evaluations by experts are used. The use of this methodology is a step forward in the measurement of tourism destination competitiveness for its ability to compare data generated by experts. This methodology also provides clear indications for destination managers, hoteliers and policymakers of the competitive factors that affect the positioning of tourism destinations.

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1. Introduction

The competitiveness of tourism destinations continuously evolves. In particular, positioning changes over time as the different tourism stakeholders attempt to formulate new positioning strategies in line with current conditioning factors. Strategic action requires an in-depth knowledge of alternative strategies and their possible impact, so that when they are implemented, they achieve the success expected of them. Various theoretical works have focused on determining a construct that reflects the factors of competitiveness and its subsequent modeling. The key issue is to establish a system of objective measurements that enables homogeneous units to be compared and consistent results to be obtained. The studies of Crouch and Ritchie (1999) and Dwyer and Kim (2003) represent the main works on tourism competitiveness, not only in the construction of conceptual models and in the understanding of competitive factors, but also in the search for measurement systems that can compare tourism destinations.

The principal objective of this study is to apply a Many Facet Rasch Model (MFRM) to concepts outlined in the literature on tourism competitiveness. The key feature of a MFRM is that it can facilitate comparisons among a range of tourism factors as a way of evaluating the competitiveness of tourist zones. The island of Tenerife (Spain) is used as the geographical context for this application. Tenerife is one of the most important tourist destinations in Europe receiving around 5 million tourists per year, and is particularly popular among British and German tourists. Based on an analysis of Tenerife′s tourist zones, the study aims to highlight the relative importance of each of the indicators in the measurement of tourism competitiveness.

The paper is divided into three main sections. Section 2 contains a review of models used in analyzing tourism destination competitiveness and introduces the one used in this work. There is also a description of the situation of Tenerife within international tourism. Section 3 sets out the methodology involving the use of a Many Facet Rasch Model (MFRM), first developed by Linacre (1989). In Section 4, the MFRM is applied to data obtained from the application of a previously designed questionnaire. The paper ends with a summary of the main conclusions and recommendations for future uses and/or advances of a Many Faceted Rasch model in this field.

2. Models of tourism destination competitiveness: a review

Various models of tourism competitiveness have been developed in the literature. Based on the distinction between comparative advantage and competitive advantage, Crouch and Ritchie (1999) propose a theoretical model that is neither predictive nor causal, but simply a conceptual model, whose fundamental purpose is to use highly abstract concepts and relationships to explain the factors determining tourism competitiveness. Thus, in

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their conceptual model, destination competitiveness is conditioned by both the competitive environment and the global environment.

The former is the immediate environment to which the destination must adapt to be able to compete, and which comprises the different agents operating in the tourism sector (i.e. tour operators, travel agencies, destination residents, employees, hotel establishments, financial institutions). The latter consists of global forces that change the composition and nature of tourism in the destination, such as the growing concern for the environment, demographic changes in tourist origin markets, the increasingly complex relationship between technology and humans and the spread of democratic government (Ritchie, 1992). Crouch and Ritchie (1999) warned of the rapidly changing and evolving nature of both environments and particularly advised destination managers to regularly adapt the destination to the reality of the moment.

Crouch and Ritchie (1999) went on to highlight the importance of elements such as "principal resources and attractions", "complementary factors and resources", "destination management" and, finally, the so-called "local determinants": elements that have been used in the development of questionnaires and fieldwork for this study.

Two years later, Kim (2001) proposed a new model of tourism competitiveness that considered four sources of competitiveness:

1. Primary sources of competitiveness comprise subjects (politicians, employees, and travel agents), environment, and resources (historical, cultural and natural).
2. Secondary sources encompass tourism policy, destination planning and management, investment in the sector, and tourist taxes and prices.
3. Tertiary sources of competitiveness are tourism infrastructure, visitors' accommodation, attraction of the resources, advertising, and the qualifications of personnel.
4. Finally, quaternary sources (which Kim considers the result of the previous three sources) refer to tourist demand, employment created by the sector, the "behavior of tourism" (growth rate, balance of payments of the sector, the sector's contribution to the GDP of the country or region), and tourism exports.

These sources of competitiveness are the tourism outputs obtained from different inputs (sector productivity), thus, they constitute a direct indicator for the assessment and comparison of competitiveness.

Kim's (2001) model considers that each source of competitiveness should have different weightings, with quaternary sources always receiving greater weighting. One significant criticism of this model is that it does not justify why a source of competitiveness should be considered a primary, secondary or tertiary source. It has even been argued that rather than the quaternary sources of competitiveness being sources in themselves, they could be considered as the effects or consequences of competitiveness, itself (Garau Taberner, 2006).

In 2003, Dwyer and Kim proposed a model of tourism competitiveness based on the earlier model by Crouch and Ritchie (1999), but which was used to determine the competitiveness of a country as a tourism destination, although it can also be applied to regions, provinces, and cities. They clearly differentiate between "inherited resources" and "created resources", and consider that these two types of resources, together with "complementary factors and resources" have their own identities. These three elements determine whether a destination is attractive or not and the success of the destination's tourist industry should be based on them. Therefore, they conclude that these elements constitute the basis of tourism competitiveness.

However, in the Dwyer and Kim (2003) model, once again, there is a lack of justification of which factors belong to which source. For example, why does tourism infrastructure constitute a tertiary source of competitiveness? Something similar applies to the destination's subjects (tourism actors), which although important in a model of competitiveness cannot be justified as a tertiary source.

In their model, "destination management" and "conditions of demand" constitute what are called the local conditions, which can limit, modify or strengthen a destination's competitiveness. "Destination management" refers to all those factors that strengthen the appeal of local tourism resources and adapt the destination to its particular conditions, including actions regarding tourism marketing management, tourism policy, planning and development and environmental management. The "conditions of demand" refer to tourism awareness, tourists' perceptions and preferences, all of which determine tourism destination competitiveness.

Thus, while the competitiveness of a destination depends both on the "base" and "local" conditions, it, in turn, is a determinant of the destination's socio-economic "prosperity". It is, in fact, an intermediate objective to achieve the final goal, which is residents' socio-economic well-being. Dwyer and Kim (2003) propose a broad range of indicators, both objective and subjective, of tourism competitiveness, as well as indicators of socio-economic prosperity (i.e. employment levels, income per capita, economic growth rate). This makes it evident that, irrespective of the tourism competitiveness model used, competitiveness has a character that is not directly observable and its quantification requires the use of indirect indicators. In this respect, Scott and Lodge (1985) consider that competitiveness is a phenomenon that cannot be characterized by only objective indicators (those related to quantitatively measurable aspects) or by only subjective indicators (mainly related to tourist perceptions). In 2001, the World Travel & Tourism Council (WTTC) introduced the Competitiveness Monitor that covered almost 200 countries and used eight broad indexes, each constructed from various indicators of competitiveness. A comparative analysis of the indicators proposed by Dwyer and Kim (2003) and those of the World Travel & Tourism Council reveals that there is no consensus on which indicators should be used to quantify tourism competitiveness and, moreover that the measurement of tourism competitiveness entails enormous difficulties, since its measurement is, to a great extent, conditioned by the indicators used.

Gooroochurn and Sugiyarto (2005, p. 27–30) based on the methodology of the WTTC, produced 'a synthetic indicator of competitiveness, obtaining a weighted average of each competitive item, composed of eight indicators, where weights are obtained using techniques of factorial analysis'. These authors believe that not all factors have an equal impact on the competitiveness of the destination. After calculating the competitiveness index, they provided a ranking based on the degree of competitiveness of each country. The study concludes that competitive tourism destinations are the United States, Sweden, Norway, Finland and Australia. It also concludes that the least competitive countries are Burkina Faso, Chad, Benin, Ethiopia and Cambodia. The main contribution of the Gooroochurn and Sugiyarto (2005) study is that it attempts to resolve the problem caused by lack of data, while still comparing the competitiveness of different countries.

More recently, Hong (2009) refers to the model of Ritchie and Crouch (2003) as the most important work on the analysis of tourism competitiveness and attempts to improve their results. Hong aims to resolve some of the weaknesses in the Crouch and Ritchie model by arguing that the order of the factors and categories of variables should be treated according to their importance. He also claims that the Crouch and Ritchie model