



Developing a socio-technical evaluation index for tourist destination competitiveness using cognitive mapping and MCDA

Elias G. Carayannis^a, Fernando A.F. Ferreira^{b,c,*}, Paulo Bento^b, João J.M. Ferreira^d,
Marjan S. Jalali^b, Bernardo M.Q. Fernandes^e

^a Department of Information Systems and Technology Management, George Washington University School of Business, Washington, DC 20052, USA

^b ISCTE Business School, BRU-IUL, University Institute of Lisbon, Avenida das Forças Armadas, 1649-026 Lisbon, Portugal

^c Fogelman College of Business and Economics, University of Memphis, Memphis, TN 38152-3120, USA

^d NECE Research Unit, University of Beira Interior, Estrada do Sineiro, 6200-209 Covilhã, Portugal

^e ISCTE Business School, University Institute of Lisbon, Avenida das Forças Armadas, 1649-026 Lisbon, Portugal

ARTICLE INFO

Keywords:

Competitiveness
Cognitive mapping
Evaluation and Management of Tourist
Destination
MACBETH
Multiple criteria decision analysis

ABSTRACT

The tourism sector has experienced remarkable growth over the past few years. Its relevance to the economy of a wide range of countries has made it the subject of analysis of researchers and tourist destination managers alike; in part, due to the increasing competition among tourist destinations. Interest has thus emerged in the design, development and application of methodologies that might allow the competitiveness of tourist destinations to be evaluated. Notwithstanding, many studies reveal shortfalls with regard to the definition and weighting of evaluation criteria. By combining knowledge- and experience-based techniques (*i.e.* cognitive mapping and the measuring attractiveness by a categorical based evaluation technique (MACBETH)), this study follows a socio-technical approach, aiming to create a consistent evaluation index for tourist destinations, as a measure of their competitiveness. Grounded on a real-world application, the results were validated both by a panel of experts and the head of one of the largest travel agencies operating in Portugal, and show that cognitive mapping allows the cause-and-effect relationships between determinants of tourist destination competitiveness to be better understood, while MACBETH introduces realism into the calculation of the respective trade-offs. The limitations and managerial implications of the system created are also discussed.

1. Introduction

Not only has the tourism sector been enjoying significant growth in the past years, tourism has also been a source of global economic wealth (Ritchie et al., 2005; Ritchie and Crouch, 2003), boosting revenue-based competition among tourist destinations (Botti and Peypoch, 2013). Bierman (2003: 2) defines a tourist destination as “a country, state, region, city or town which is marketed or markets itself as a place for tourists to visit”. Such destinations seek to make effective and efficient use of their resources to provide better experiences for their visitors (Cracolici and Nijkamp, 2008; Ritchie and Crouch, 2003).

Competition among tourist destinations is high, and contributes to increase the inherent complexity of the tourism sector, whose activity depends on destinations' various characteristics and the services provided by the firms operating within them (Crouch and Ritchie, 1999; Novelli et al., 2006; Saxena, 2005). These characteristics and services, *i.e.* the competitive factors present in each destination, need to be

determined and evaluated, if a comprehensive and competitive tourism strategy is to be implemented. This is consistent with the calls for the need to monitor and control the growth of tourism, which have come from far and wide in the past couple of decades (Chung and Han, 2016; Navickas and Malakauskaitė, 2009; Yoo et al., 2016).

Several authors have tried to evaluate the competitiveness of tourist destinations over the years, albeit with a few broad approaches. Still, the progress presented to date reveals some limitations regarding the selection of evaluation variables and the calculation of their respective weights. This paper seeks to address these limitations, by creating a multiple criteria evaluation index for tourist destination competitiveness, through the integrated use of cognitive maps and the measuring attractiveness by a categorical based evaluation technique (MACBETH). In doing so, this study reinforces previous research supporting the integration of cognitive maps and the MACBETH technique (*e.g.* Ferreira et al., 2011; Filipe et al., 2015), which has proved successful in other contexts, but is, to the best of our knowledge, novel in the context of

* Corresponding author.

E-mail addresses: caraye@gwu.edu (E.G. Carayannis), fernando.alberto.ferreira@iscte.pt, fernando.ferreira@memphis.edu (F.A.F. Ferreira), paulo.bento@iscte.pt (P. Bento), jimf@ubi.pt (J.J.M. Ferreira), marjan.jalali@iscte.pt (M.S. Jalali), bmqs@iscte-iul.pt (B.M.Q. Fernandes).

<https://doi.org/10.1016/j.techfore.2018.01.015>

Received 10 January 2017; Received in revised form 5 May 2017; Accepted 16 January 2018
0040-1625/ © 2018 Elsevier Inc. All rights reserved.

tourist destination management. In addition, we present a step-by-step description of the process followed to create and validate the tourist destination evaluation system, which can allow for replications in other contexts and with different groups of experts.

According to Carlucci et al. (2013), Ferreira et al. (2016) and Stach et al. (2010), cognitive maps are structuring instruments that allow for a better understanding and evaluation of decision variables, while reducing the rate of omitted criteria and promoting the exchange of ideas to stimulate learning. MACBETH, in turn, has been described as “an interactive approach that uses semantic judgments about the differences in attractiveness of several stimuli to help a decision maker quantify the relative attractiveness of each” (Bana e Costa and Chagas, 2004: 153). It has been increasingly applied in a wide range of complex decision problems, in order to calculate the trade-offs (i.e. replacement rates or weights) between evaluation criteria; and is known for its simplicity of use, strong mathematical basis and receptiveness to subjective elements (see also Bana e Costa et al., 2008; Ferreira et al., 2015; Méndez et al., 2014; Montignac et al., 2009). The integrated use of these methodologies allows for the combination of qualitative and quantitative factors, creating more realistic and informed decision models (Ferreira et al., 2014b).

The remainder of the paper is structured as follows. Section 2 presents an overview of relevant literature review on the assessment of tourist destination competitiveness. Section 3 presents a brief background of the methodologies used to develop our evaluation system, and Section 4 discusses the results obtained. Section 5 then concludes the paper, presenting the main contributions and limitations of the framework proposed, as well as recommendations for future research.

2. Related literature

As the tourism sector grows, its importance and weight in the economy have become a focus of attention for many countries; particularly as the competition between tourist destinations increases and their competitiveness grows. Cirstea (2014) notes that a destination's success is related to its ability to create and develop attractive products and services, that offer value and satisfy tourists in exchange for monetary funds. Understanding the attractiveness of tourist destinations, and its underlying determinants, is thus of significant importance. According to Benur and Bramwell (2015), this type of analysis depends on the destinations' physical, environmental and socio-cultural features, as well as on the tourism products and services they offer. The dynamics of the industry make achieving high levels of competitiveness ever more relevant for tourist destinations, an issue destination managers are all too aware of (see Cracolici and Nijkamp, 2008; Enright and Newton, 2004; Gomezelj and Mihalic, 2008). Echtner and Ritchie (2003) argue that competitiveness has become crucial to tourist destinations' survival and growth in international markets, under conditions of increased time pressure and available income and leisure time.

Given the potential importance and contribution of Tourism to a country's Gross Domestic Product (GDP), as well as its benefits to a wide range of economic activities, in the context of increased global competition, tourist destinations have been forced to seek new ways to obtain competitive advantage (Cirstea, 2014; Zins et al., 2007). The resulting increase in competition has not only been among countries, but among destinations within the same country as well. In this context, strategic planning emerges as an important tool to manage this competition and promote economic growth (Liu et al., 2008). Indeed, Crouch and Ritchie (1999) and Ritchie (1999) argue that planning is central to the success and survival of tourist destinations, and that one of its main objectives should be to create value in tourism products and services for both current and potential tourists, so that the destinations can benefit economically and socially from this added value. Another benefit of strategic planning in the context of tourist destinations is a potentially improved ability to manage costs and resources more efficiently (Gios et al., 2006; Hall, 2000; Waligo et al., 2013).

Milohnić and Jurdana (2008) propose that the first step in classifying the competitiveness of a tourist destination is to evaluate its strengths and weaknesses, as well as that of its competitors. Having analyzed a region's key features, new points of differentiation can then be developed in order to potentially develop a new image for the destination at hand (Chen et al., 2016). Reasons for assessing the competitiveness of tourist destinations thus include: (1) the continuous emergence of new destinations in the market; (2) the increasing impact of the media and tourism operators in the sector; (3) the characteristics of tourists, as they become increasingly more demanding, experienced and more able to easily obtain information about the characteristics of each destination; and (4) the increasing concern over the environmental impact of the tourism industry (Keller and Smeral, 1997). As pointed out by Gomezelj and Mihalic (2008: 294), “in an increasingly saturated market, the fundamental task of destination management is to understand how the tourism destination's competitiveness can be enhanced and sustained. There is thus a strong need to identify and explore competitive (dis)advantages and to analyze the current competitive position”.

As a result, studies on the competitiveness of tourist destinations have been increasing, as have the methodologies used for their evaluation. According to Getz (1986: 23), “the study of tourism is enriched and yet complicated by the theoretical diversity. There are a number of descriptive, explanatory and predictive models [...]”. Zhang et al. (2011) propose that in order to assess the competitiveness of tourist destinations, it is necessary to divide the process into two parts. First, a theoretical evaluation model is required, to act as a pillar for the methodological foundation; while the second part deals with the selection of the evaluation method. Most previous studies are based on the competitiveness model presented by Ritchie and Crouch (2003), which is divided into five competitive components: (1) *core resources and attractors* (such as climate, culture or a special event); (2) *supporting factors and resources* (e.g. infrastructures, accessibility or hospitality); (3) *destination management* (such as quality of services provided, existing organizations or region promotion); (4) *destination policy, planning and development*, creating an environment where tourism can be developed in a sustainable way; and (5) *qualifying and amplifying determinants* (such as location or security of a destination). Table 1 summarizes some of the studies conducted in this field of study.

Notwithstanding the progress achieved, Parra-López and Oreja-Rodríguez (2014) note the challenge inherent in measuring destination attractiveness and competitiveness, since these features can neither be characterized only by objective indicators that are quantitatively measurable, nor only by subjective indicators, through the perceptions of the tourists. Still, many studies have been based on just one type of variables (i.e. quantitative or qualitative) (Dwyer et al., 2000). Another concern is the almost exclusive use of Ritchie and Crouch's (2003) model, since “the same weight is given to all the indicators” within it (Parra-López and Oreja-Rodríguez, 2014: 116). In essence, there are two factors that should be studied in more detail: (1) how the variables are defined or integrated into the evaluation models; and (2) the methods used to obtain the variables' weights, which should be as coherent and real as possible. In this regard, and as pointed out by Zhang et al. (2011), there is considerable scope to explore new alternative methodologies in the context of this study.

3. Methodological background

It has been noted that “although MCDA methods are generic methods which can be applied to different areas [...] the literature is quite narrow when considering the tourism field” (Botti and Peypoch, 2013: 110). As such, in this study we combined cognitive maps with the MACBETH approach, in a bid to integrate objective criteria with subjective aspects in the decision process, and so help find solutions that are more transparent and coherent with reality (Belton and Stewart, 2002). Fig. 1 illustrates the methodological procedures followed in this study.

As can be observed, the study was divided into three main phases:

Download English Version:

<https://daneshyari.com/en/article/7255380>

Download Persian Version:

<https://daneshyari.com/article/7255380>

[Daneshyari.com](https://daneshyari.com)