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Tourism Destination Competitiveness: From Definition to Explanation?

JOSEF A. MAZANEC, KARL WÖBER, AND ANDREAS H. ZINS

This article contributes to the recent literature on tourism destination competitiveness including the gargantuan compilations of competitiveness factors by Ritchie and Crouch (2003), or Dwyer and Kim (2003), and, particularly, the widely known prototype of a Competitiveness Monitor (CM) initiated by the World Travel and Tourism Council (WTTC). The central question underlying this article is whether an arrangement of data such as the CM can be transformed from a purely definitional system into an explanatory model. A number of criticisms regarding the way of constructing the CM, its epistemological nature, and the absence of any accessibility factors lead to a moderately revised system that is explored by latent variable modeling. The empirical findings support this type of model, which tends to better explain the levels of tourism activity already achieved than sustained tourism growth. A discussion of the detailed results produces several recommendations on how to adjust the future strategy of research on destination competitiveness.

Keywords: *destination competitiveness; competitiveness monitor; destination benchmarking; success factors; latent variable modeling; formative indicators*

INTRODUCTION

Over the last decade tourism researchers have observed a growing number of initiatives that discuss the need for monitoring destination competitiveness and various proposals for defining and measuring the competitiveness of a tourism destination. According to a basic principle in the philosophy of science, definitions are neither true nor false. But, they appear to be more or less useful by contributing to formulating hypotheses of varying precision and informational content. The debate on *destination competitiveness* (DC) within tourism research has not yet settled on a widely accepted concept of DC. Agreement is likely to be reached on a comprehensive interpretation as proposed by Ritchie and Crouch (2003): “[W]hat makes a tourism destination truly competitive is its ability to increase tourism expenditure, to increasingly attract visitors while providing them with satisfying, memorable experiences, and to do so in a profitable way, while enhancing the well-being of destination residents and preserving the natural capital of the destination for future generations” (p. 2). This explication

contains more than a mere definition. It seems to include hidden cause-effect assumptions. That is, it points to “satisfying, memorable experiences” as an antecedent of an increase in the number of visitors. It further mentions the destination residents’ well-being—an obvious consequence of the profitability also claimed as a condition for competitiveness. Additionally, the criterion of sustainability is required.

This article aims at disentangling the blend of definitional, empirical, and normative ingredients of the DC concept. The authors present and evaluate a methodology for further developing destination competitiveness analysis. The proposed model demonstrates how a definitional system of competitiveness may be transformed into an explanatory model. As an empirical example the authors chose the Competitiveness Monitor of the World Travel & Tourism Council. This monitor is a perfect example of the current mainstream of destination competitiveness research. Moreover, its database is publicly accessible allowing convenient reanalysis by independent research groups interested in verifying the results.

Josef A. Mazanec has been a full professor of business administration and head of the Institute for Tourism and Leisure Studies of the Vienna University of Economics and Business Administration (WU Wien) in Austria since 1981. He was previously a visiting scholar at Alfred P. Sloan School of Management at the Massachusetts Institute of Technology in Cambridge (1992); vice rector for research of the WU Wien (1997–2002); and speaker of the Joint Research Program on Adaptive Information Systems and Modeling in Economics and Management Science (1997–2000). His research interests include consumer behavior and management science applications in hospitality, leisure, and tourism. Karl Wöber received his Ph.D. from the Vienna University of Economics and Business Administration where he currently is an associate professor at the Institute for Tourism and Leisure Studies. His main research activities are in the fields of decision support systems, strategic marketing planning, and evolutionary computation, particularly with applications in tourism management. Andreas H. Zins is an associate professor at the Institute for Tourism and Leisure Studies at the Vienna University of Economics and Business Administration. He lectures in international marketing, business administration, tourism marketing planning, and consumer and travel behavior models. Zins is active in research in the fields of tourist behavior, marketing research, cost-benefit analyses, social impacts, computer-assisted and Web-based interviewing, and theme parks and related leisure attractions.

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LITERATURE REVIEW

A first and straightforward interpretation of the competitiveness concept and its application to tourism destinations is likely to focus on price levels. Actually, price competitiveness was tackled in an early stage of the discussion. Dwyer, Forsyth, and Rao (2000, 2001) present a comparative study of 19 destinations. The *price competitiveness index* proposed in this study is based on exchange rate adjusted purchasing power parities. This variable has been customary in econometric analyses of tourism demand where it tends to appear under a different name (viz. relative prices; see Song and Witt, 2000, p. 44). Instead of just ranking destinations in terms of price competitiveness, the econometric demand modelers are more ambitious. They want to explore the actual influence of the price-of-tourism variable on the volume of demand.

Without doubt, the most comprehensive framework so far has been developed by Ritchie and Crouch. It appeared in several publications over a period of 10 years (Crouch and Ritchie 1994, 1995, 1999; Ritchie and Crouch 1993, 2000, 2003; Ritchie, Crouch, and Hudson, 2001). The strengths of this generic system, which distinguishes comparative and competitive advantages on five different layers (qualifying and amplifying determinants; destination policy, planning and development; destination management; core resources and attractors; and supporting factors and resources), is its ambition to include all important factors that may characterize the tourism competitiveness of a destination. Ritchie, Crouch, and Hudson (2001) aim at developing operational measures for a rich assortment of the components covered by destination competitiveness as suggested by Ritchie and Crouch (2000). They develop a comprehensive list of indicators combining subjective consumer measures and objective industry measures for each of 32 destination competitiveness components. The itemization is considered to be a first step leading toward a composite destination competitiveness index and a subsequent tool for simulating destination performance.

Similar to Ritchie and Crouch, Dwyer and Kim (2003) introduce another holistic approach of determinants and indicators that define destination competitiveness. Their indicators, which are categorized into subgroups labeled endowed resources, supporting factors, destination management, situational conditions, demand factors, and market performance indicators, were generated during workshops with tourism industry stakeholders in Australia and Korea. Unfortunately, the authors refrain from expressing unmistakably whether their comprehensive system of "indicators" (1) is meant to be reflective and therefore intended to operationalize destination competitiveness, or (2) proposes formative indicators or first-order factors preceding competitiveness in an either definitional or causal sense. The conclusion then could make some readers a little desperate by saying that "there are a myriad of indicators that can be employed at any given time" (p. 399). Dwyer et al. (2004) factorized 81 competitiveness items of the Dwyer and Kim (2003) list to extract 12 principal components. Also in that article, the database consists of the ratings of Korea by Australian and of Australia by Korean tourism industry stakeholders. So the exploratory study reveals how these criteria are tied together in the respondents' minds, but very few inferences can be drawn on the

suitability of the indicators for explaining the destination competitiveness phenomenon.

Enright and Newton (2004) aim at determining the relative importance of tourism attractors and business features of a destination's competitiveness. The authors conduct an importance-performance analysis for Hong Kong involving a sample of practitioners in the tourism industry. It would certainly be intriguing to compare such direct importance judgments of destination competitiveness indicators with indirect measures expressing the strength of their influence on destination competitiveness consequences. Enright and Newton (2005) discuss a follow-up study of their 2004 paper exploring the importance of 15 attractors and 37 business factors determining the relative competitiveness of Hong Kong, Singapore, and Bangkok as tourism destinations. Factors regarding core resources (attractors) appear to arouse greater disagreement between destination-specific judgments than business factors do.

Tourism Economics published a special issue on tourism competitiveness, which was guest edited by Pashardes and Sinclair (2005). Among seven papers in this issue, two papers made particularly substantive contributions to the mainstream of destination competitiveness research. Mangion, Durberry, and Sinclair (2005) exploit the almost ideal demand system (AIDS) model and hedonic pricing theory for evaluating the competitiveness of three destinations (Malta, Spain, Cyprus) offering package holidays. The AIDS model provides us with price and income elasticities. The cross-price elasticities, in particular, characterize the relative price competitiveness for each pair of destinations. Hedonic pricing theory then steps in to explore the potential reasons of low or high price competitiveness. The attributes of trip packages are analyzed with regard to their contribution to making tour operators charge (and hopefully tourists accept) higher prices. Mangion, Durberry, and Sinclair's approach involves principled reasoning and cause-effect relationships. There is only one missing link to complete the competitiveness picture—the direct effects of destination (package) attributes on actual demand itself (i.e., unmediated via price) would serve to uncover the mechanisms of nonprice competition.

Gooroochurn and Sugiyarto (2005) discuss the Competitiveness Monitor (CM) based on an initiative of the World Travel and Tourism Council (WTTC) and a comprehensive data collection effort leading to a database for which the WTTC provides free access on their Web site (www.wttc.org). The authors condense 23 CM criteria into summary indices for each of the eight main indicators (price, economic and social impact, human resources, infrastructure, environment, technology, openness, and social development). Aggregate indices are first constructed for each of the eight main indicators. The weights of the main indicators are then determined with confirmatory factor analysis for a sample of 93 countries. By estimating these weights ranging between .220 and .003, the authors pave the way for building a composite index for overall competitiveness. In their subsequent analysis they did not employ a composite index of competitiveness. Rather, they prefer using the whole set of the eight main indicators for constructing country clusters of similar competitive strengths. There is a fundamental problem inherent in such an attempt to capture competitiveness, as causes and effects of competitiveness are mixed up to achieve a purely descriptive

classification. For example, the “sum of tourist arrivals and departures as a ratio of the population of the destination country” is incorporated into the “human tourism indicator” (Gooroochurn and Sugiyarto 2005, pp. 31–32). One cannot, therefore, employ the resulting competitiveness index to explain and predict tourism success or failure of a destination without running into tautology.

In summary, there are a number of criticisms that can be raised regarding methodology and operational use of the destination competitiveness concept:

1. None of the articles surveyed pay attention to the appropriate level of aggregation for destination. From a marketing scientist’s point of view, the concept of destination continues to carry a remainder of production-oriented reasoning. Does, for example, Club Med need a destination label attached to it or is this (at least for a significant traveler segment) a negligible cue in assessing a trip offering? From a behavioral science point of view, destination may better be conceived as a hierarchical and flexible concept that evolves during the trip decision process aided by personal or computerized counseling. These important issues are worth an extensive and separate treatment. The remainder of this article adopts the country-centered interpretation of destination as the large majority of the published empirical findings point to this conceptualization. The proposed method of DC analyses, however, may be applied to any other granularity of the destination concept for which consistent DC data are available.
2. From an epistemological point of view, the destination competitiveness models of Crouch and Ritchie or Dwyer and Kim appear to be systems of definitional rather than cause-effect relationships. Dwyer and Kim (2003) distinguish 30 subareas of competitiveness indicators (derived from main elements) organized in 7 areas and totaling 165 individual items. The Ritchie, Crouch, and Hudson system comprises 251 consumer and industry measures. The competitiveness criteria put forth occupy very different levels or strata in potential cause-effect chains. As that, they are not made explicit. A thorough discussion of definition versus causation has been avoided so far. In the confirmatory factor analysis (CFA) presented by Gooroochurn and Sugiyarto (2005), for example, overall destination competitiveness (the composite index) functions as the sole dimension in a unifactor model. Hence, the eight indicators (price, social, etc.) are conceived as depending on the composite construct of DC. The CFA implies that DC is assumed to enjoy a (latent) life of its own as a (directly unmeasurable) feature of a destination causing (i.e., manifesting itself through) the indicators. Do we need and can we justify such a mysterious construct or shall we better opt for an unpretentious interpretation considering DC as just being *defined* by the eight indicators for reasons of convenience? Gooroochurn and Sugiyarto (2005) seem to imply this when introducing the goal for their CFA: “It is useful to have an aggregate index to represent overall tourism competitiveness . . .” (p. 33).
3. Destination competitiveness theorists have paid little attention to how business researchers have learned to

assess the competitive position of individual companies or business units since the early ‘70s (see Kerin, Mahajan, and Varadarajan 1990). This may be a reason why direct (subjective) judgments of factor importance are still propagated (Enright and Newton 2004), while indirect measurements employed in business portfolio analysis have largely been ignored. Only recently, the eigenvector method proposed by Saaty (1977) and successfully used for the strategic evaluation of tourism generating countries (Mazanec 1986) was applied to judging destination competitiveness criteria (Crouch and Ritchie 2005).

4. As the investigation by Mangion, Durbarry, and Sinclair (2005) demonstrates, destination competitiveness modeling only recently began to incorporate economic theories such as the AIDS model or hedonic price theory in a principled manner.
5. There seems to be consent that destination competitiveness is regarded as an antecedent to economic welfare and prosperity of the resident population. It is, however, open to discussion whether external criteria for destination competitiveness, such as destination market share or sustained relative growth, may be characterized as indicators, or whether these variables are better considered to be effects within the overall causal chain.

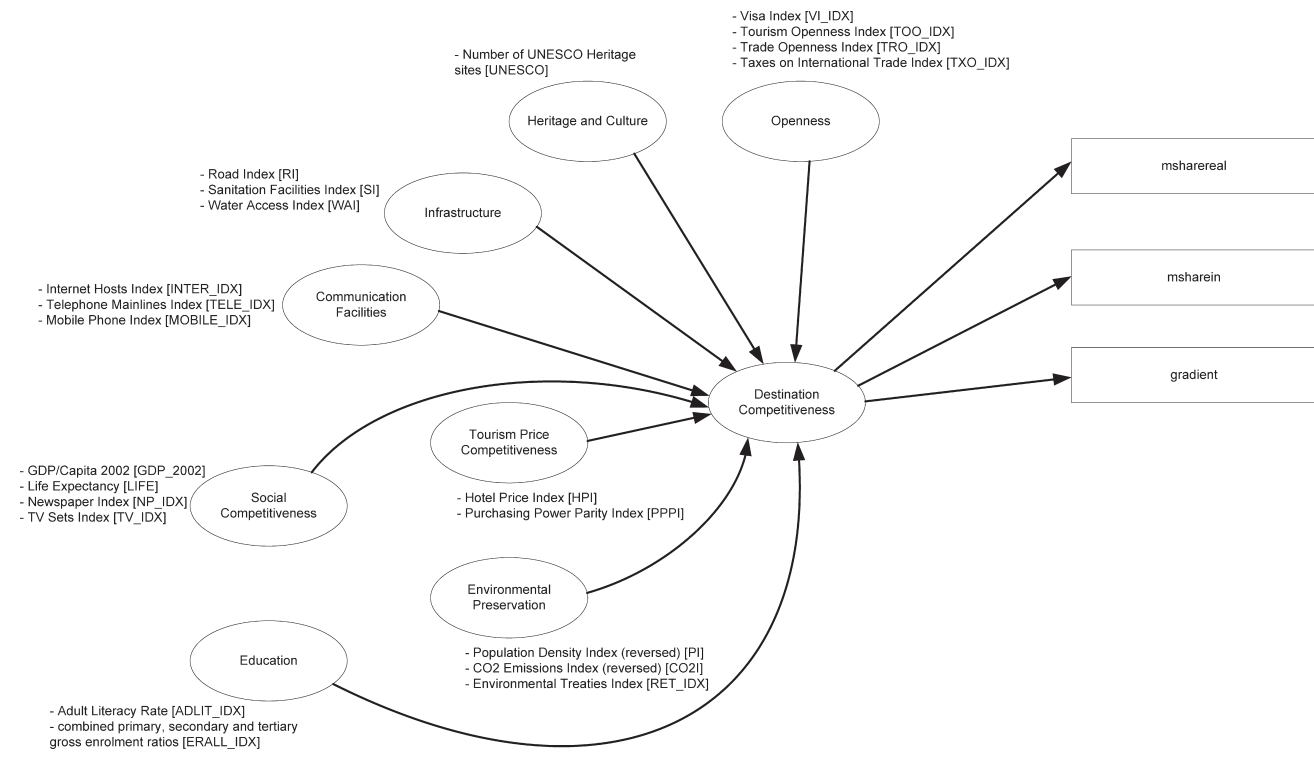
FROM DEFINITIONS TO CAUSE-EFFECT MODELING: AN EXPLANATORY MODEL OF DESTINATION COMPETITIVENESS

A major criticism of the WTTC concept of DC can be raised against its epistemological status. That is, DC appears to be encapsulated in a definition involving eight competitive dimensions made up of numerous indicators. From the research as well as the managerial point of view, one has to ask for the purpose of this endeavor. DC is expected to explain something. A comprehensive and artfully designed concept of DC is of little value unless it actually relates to a destination’s performance. In this case DC will acquire a role as a theoretical construct in a system of cause-effect relationships. Such systems are considered to be “small” empirical theories (or models) claiming applicability to some limited sector of the socioeconomic reality.

The remainder of this article will discuss how the DC concept can be refined and enhanced by elaborating an explanatory version of the WTTC system of DC. In particular, market share and economic growth indicators weighted by bilateral distances taking into account the geographical location of destinations, as well as a cultural heritage indicator, are incorporated. The article then presents a specification of a structural equation model with formative indicators, including a procedure for dealing with the many missing values that plague the WTTC data set. Finally, it enters into a discussion of the findings triggering a series of new questions and issues for future research.

The proposed explanatory model of destination competitiveness is rooted in the work of the WTTC and Gooroochurn and Sugiyarto (2005) and is outlined in Figure 1. The multidimensional concept of DC is maintained. DC is expected to reflect the multifaceted character it shares with its underlying

FIGURE 1
AN EXPLANATORY MODEL OF DESTINATION COMPETITIVENESS: LATENT VARIABLES AND FORMATIVE INDICATORS



parent phenomenon, tourism. Hence, it becomes a latent construct made up of various components such as economic, social and cultural, technological, and environmental factors. It seems perfectly appropriate to conceive these component factors as latent variables themselves in that they are compound variables (indices in WTTC parlance) summarizing a number of observable indicators. Therefore, a double-layered structure of destination competitiveness and its constituents appears to properly express the common notion of a destination's competitive strength.

Computing unweighted or weighted sums of the observed indicators is the simplest way of building compound indices. This is far from satisfactory as long as the weights lack theoretical justification. For a purely definitional scheme, it is hard to produce such justification. That is why the WTTC solution employs equal weights for compiling its DC dimensions. Once a DC model includes one or more destination performance criteria as dependent variables, however, the weighting becomes a straightforward exercise. Since the DC construct now fulfills a purpose—explaining tourism performance—all its components and the weights of their indicators are arranged in a way that fits this purpose best. The weights are part of the model parameter estimates and determined according to the cause-effect assumptions.

An effort to increase the operational usage of the WTTC solution will, therefore, have to start with introducing variable(s) dependent on destination competitiveness. Success in tourism destination management is frequently measured using a variety of indicators including: (1) the number of visitors and expenditures generated (e.g., Archer and Fletcher

1996; Van der Borg, Costa, and Gotti 1996); (2) the degree to which the negative effects of seasonality are successfully ironed out by management action (e.g., Butler 1994); (3) efficient use of existing capacities (e.g., McElroy and de Albuquerque 1998; Ritchie, Crouch, and Hudson 2001); (4) the extent to which natural and cultural resources are preserved (e.g., Inskeep 1987; Ritchie, Crouch, and Hudson 2001); (5) visitor satisfaction with the tourism product provided (e.g., Kozak 2002); (6) efficient usage of market communication and advertising (Wöber and Fesenmaier 2004); and/or (7) the degree to which local residents accept the existing tourism policy (e.g., Bachleitner and Zins 1999; Williams and Lawson 2001). Moreover, success is usually measured in terms of volume or (positive) change. Benchmarking tools as used in the TourMIS system (www.tourmis.info), for example, build on relative growth rates (Wöber 2003). Sustained growth in tourism demand can be best expressed when observed over a period of several subsequent years. In the original WTTC model, tourism growth was not considered as an important variable although longitudinal data on international arrivals are available for most countries between 1989 and 2004. For all 187 countries selected for the analysis, time series were indexed according to the first available observation and the trend based upon a linear regression was used to represent tourism growth [named *gradient*] in the explanatory model.

In addition to growth, two tourism market share indicators were included in the model for expressing the level of success a destination has achieved over the years. First, ordinary market shares [*msharereal*] based on international arrivals were calculated as they are regularly reported by international

tourism organizations and frequently used for simple competitive rankings or more complex portfolio analyses. These market shares range from 11.97% (for France) to less than 0.001% (for Kiribati) with a mean of 0.56% (see Table 1). Second, distance-weighted market shares [*msharein*] were used to account for destinations with an isolated geographical location. Although long-haul tourism has experienced significant growth over the last years, the majority of international tourist flows still occurs within relatively short distances involving travel between geographically proximate countries (Sinclair and Stabler 1997, p. 125). Hence, destinations with an isolated geographical location will find it more difficult to access the main tourism generating markets and to achieve high market shares. Therefore, similar to gravity model assumptions commonly made for forecasting tourism demand (e.g., Fotheringham 1983; Freund and Wilson 1974; Van Doren 1967) and many other application areas of accessibility research (Kwan et al. 2003), we suggest a new distance-adjusted market share index based on market volume measured by international departures. The proposed measure is calculated as follows:

$$msharein_i = \frac{TA_i}{\sum_{j=1}^J d_{ij}^{-1} * TD_j} \quad j = 1, \dots, J; j \neq i \quad (1)$$

where:

- msharein_i* = market share index of destination *i*
- TA_i* = international tourism arrivals in destination *i*
- J* = number of destinations/markets worldwide
- TD_j* = international tourism departures of market *j*
- d_{ij}* = distance between destination *i* and market *j*

The Centre d'Études des Prospectives et d'Informations Internationales (www.cepii.fr) is France's leading institute for research on the international economy. Its researchers have calculated and published measures of bilateral distances

accounting for the spatial distribution of population inside each nation. Clair et al. (2004) calculate distances between two countries following a proposal by Head and Mayer (2002). This model is based on bilateral distances between the biggest cities of the two countries with intercity distances being weighted by the share of the city in the country's overall population. The calculation by Clair et al. uses data of the World Gazetteer web site for the current population figures and geographic coordinates for cities, towns, and places of all countries. A ranking of destinations according to the denominator of formula (1) shows which destinations find themselves in a very difficult position of access from main travel markets (e.g., New Zealand, Cook Islands, Tonga, French Polynesia), and which ones are drawing benefit from a central location (e.g., Luxembourg, Belgium, Netherlands, Slovakia, Austria). Considering these circumstances for calculating market shares results in a location adjusted market share index ranging from 492.7 (United States) to 0.046 (Moldova) with a mean of 22.6 (see Table 1).

The analytical instruments required to build and explore an explanatory system of destination competitiveness are borrowed from the latent variable modeling toolkit. However, there is a fundamental difference to what is commonly found in latent-variable-multiple-indicator models in tourism research. The destination competitiveness dimensions are not latent traits like the customary constructs of tourist behavior research such as attitude, perceived service quality, satisfaction, loyalty, and so on. For example, Openness is not a cause but shorthand for comfortably compressing several openness indicators into one variable. In a latent variable modeling framework this means that one has to specify formative indicators. In a formative model, the competitiveness constructs do not require a realist interpretation while constructivist, operationalist, or instrumentalist interpretations are still possible (Borsboom, Mellenbergh, and van Heerden 2003). Each DC dimension (or factor) functions as a dependent variable in a multiple regression on its set of indicators (Diamantopoulos and Winkelhofer 2001). If any of its indicators changes, the Openness dimension will change too.¹

TABLE 1
TOP AND BOTTOM RANKINGS OF DESTINATIONS

Rank	Destination	Market Share* in %	Rank	Destination	Market Share Index**
(1)	France	11.97	(1)	United States	492.7
(2)	Spain	8.29	(2)	China	413.1
(3)	Italy	6.44	(3)	Mexico	227.1
(4)	China	6.29	(4)	Malaysia	216.0
(5)	United States	6.14	(5)	Spain	199.7
(6)	United Kingdom	3.32	(6)	Canada	184.1
(7)	Canada	3.05	(7)	France	179.7
(8)	Mexico	3.00	(8)	Hong Kong China	176.5
(9)	Austria	2.84	(9)	Italy	117.1
(10)	Germany	2.83	(10)	Thailand	105.6
...			...		
(185)	Bhutan	0.00092	(185)	Bhutan	0.053
(186)	Marshall Islands	0.00080	(186)	Tajikistan	0.052
(187)	Kiribati	0.00065	(187)	Moldova	0.046

*tourism market share based on international arrivals.

**distance-weighted variant.

The WTTC Competitiveness Monitor provides 8 factors of tourism competitiveness, which are distilled from 25 variables extracted from various sources, such as the World Bank or the United Nations Development Program (UNDP). This data gathering initiative, which even provides longitudinal information for several variables, endeavors to cover all countries of the world. However, some of the compound indicators (price competitiveness, human tourism, infrastructure, environment, technology, human resources, openness, and social competitiveness) had to be adjusted to fix the tautology problem previously discussed. For example, the Human Tourism dimension in the WTTC system is calculated by taking the average of the Tourism Participation Index and the Tourism Impact Index. The Tourism Participation Index measures the population's involvement in tourism activities and is defined as the ratio of tourist arrivals and departures with respect to the total population in the destination countries. The Tourism Impact Index measures the direct economic effects of the international tourism industry in the economy. It is calculated as the ratio between the sum of international tourism receipts and tourism expenditures to GDP. In order to strictly recognize cause and effect indicators, the human tourism factor was removed from the model.

Two compound variables were marginally changed to better reflect the authors' understanding of destination competitiveness indicators. The first change was made to the technology indicator, which combined the Internet Index, the Telephone Index, the Mobile Index, and the HiTech Index. It was decided that the HiTech Index, which in the WTTC system is calculated from the percentage of exports of manufacturing products that contain products of high R&D intensity, is not a clear driver for a destination to become more successful in tourism. Considering the increasing importance of online destination recommendation systems (relating to the Internet Index) and the other two telecommunications indicators, this compound construct was relabeled "communication facilities". Note that owing to errors in the data, the Personal Computer Index could not be used. The second modification refers to the social competitiveness construct. In the WTTC system, the social competitiveness dimension is an aggregate combining the Human Development Index, the Newspaper Index, the PC Index, and the TV Index. The Human Development Index comprises three indicators: life expectancy, education, and income. Since education is already included in human resources, it was decided to remove this redundancy and to describe human development by life expectancy and income (GDP per capita) only. These two indicators, thus, contribute to the Social Competitiveness dimension complementing the newspaper and TV indices. As to the Environment dimension originally measured by the (reversed) Population Density Index, the CO₂ Emission Index, and the Environmental Treaties Index, population was deselected as its justification seemed highly unconvincing.

The following constructs and related indicators were retained from the WTTC system without any change: Price Competitiveness, made up by the Hotel Price Index and Purchasing Power Parity Index; Infrastructure, described by the Road Index, the Sanitation Index, and the Water Access Index; Human Resources, described by the adult literacy rate and the combined primary, secondary, and tertiary gross enrolment ratios (the construct being relabeled Education since it was felt that this expression reflects its attributes more

adequately); and Openness defined by the Visa Index, the Tourism Openness Index, the Trade Openness Index, and the Taxes on International Trade Index. Full information on all measures actually used for calculating the DC dimensions is provided by Gooroochurn and Sugiyarto (2005) and published on the Competitiveness Monitor Web site of the WTTC.

During the revision of the WTTC conceptualization of DC, it became evident that variations in the natural and cultural attractiveness of destinations (highlighted in many of the recent DC frameworks) were not adequately represented in the model. Obviously, it is rather difficult to objectively measure the attractiveness of a destination, and probably this was the reason it was not considered by the WTTC. In the explanatory model where demand is modeled as a dependant variable, attractiveness needs to be captured by supply-side oriented descriptors. One rough indication of major variations in the attractiveness of travel destinations is expressed by the number of heritage sites, which are included in the World Heritage List of UNESCO (see <http://whc.unesco.org/en/list/>); this measure was used as a single indicator [*unesco*] for the heritage and culture construct.

MODEL ESTIMATION

The destination competitiveness concept of the WTTC spans more than 200 countries worldwide. Given this ambitious global coverage, the data requirements are tremendous. Even if the number of indicators selected is less than 30 only 1 out of 7 countries offers a complete record. Thus, an advanced procedure for handling the missing data problem is indispensable. While partial least squares (PLS) would be an appropriate alternative the most highly sophisticated software currently available for estimating models with latent variables, Bengt Muthén's second-generation package *Mplus* (Muthén and Muthén 2004) is employed. It allows for salvaging the missing data problem by adopting the missing-at-random (MAR) approach (Little and Rubin 2002). Unlike simple univariate procedures, such as replacement with mean values, the MAR exploits the multivariate information in the data patterns (Lemieux and McAlister 2005). The MAR, of course, represents a data-driven approach to salvaging data sets plagued by missing data. One may also think of a theory-driven alternative. In this case the replacement of missing data by mean values occurs within predefined subsets of the countries. The subsets are chosen according to one or more characteristics assumed to make them homogeneous. For example, it is likely that developing destinations exhibit missing data patterns that differ from those of the highly industrialized countries. In the case of the tourism DC indicators, there are no such clear patterns. The number of missing values is very limited and most of the developing countries provide complete data sets. Small islands seem to be the category of countries most strongly afflicted by the missing value problem. In his analysis of 18 DC factors, Weismayer (2006) experimented with theory-driven methods of replacing missing data. In his data set, he collected 82 countries with zero missing values, a 4% missing tolerance raises the number to 127 countries; with 10% 160 countries, and with 15% missing 183 out of 200 destinations could be accepted. A missing value replacement by median values within predefined country groupings based on GDP and geographic location did not change the analytical results and

failed to improve the strength of relationships expected among the DC variables. In our analysis we tolerated replacement of up to 6 missing values for the total of 27 indicator variables required for each country. This leads to a database of 169 out of the full number of 197 countries (86%). Further extending the number of missing value replacements would increase the sample size only marginally; however, decreasing the tolerance for missing values would reduce the sample size significantly.

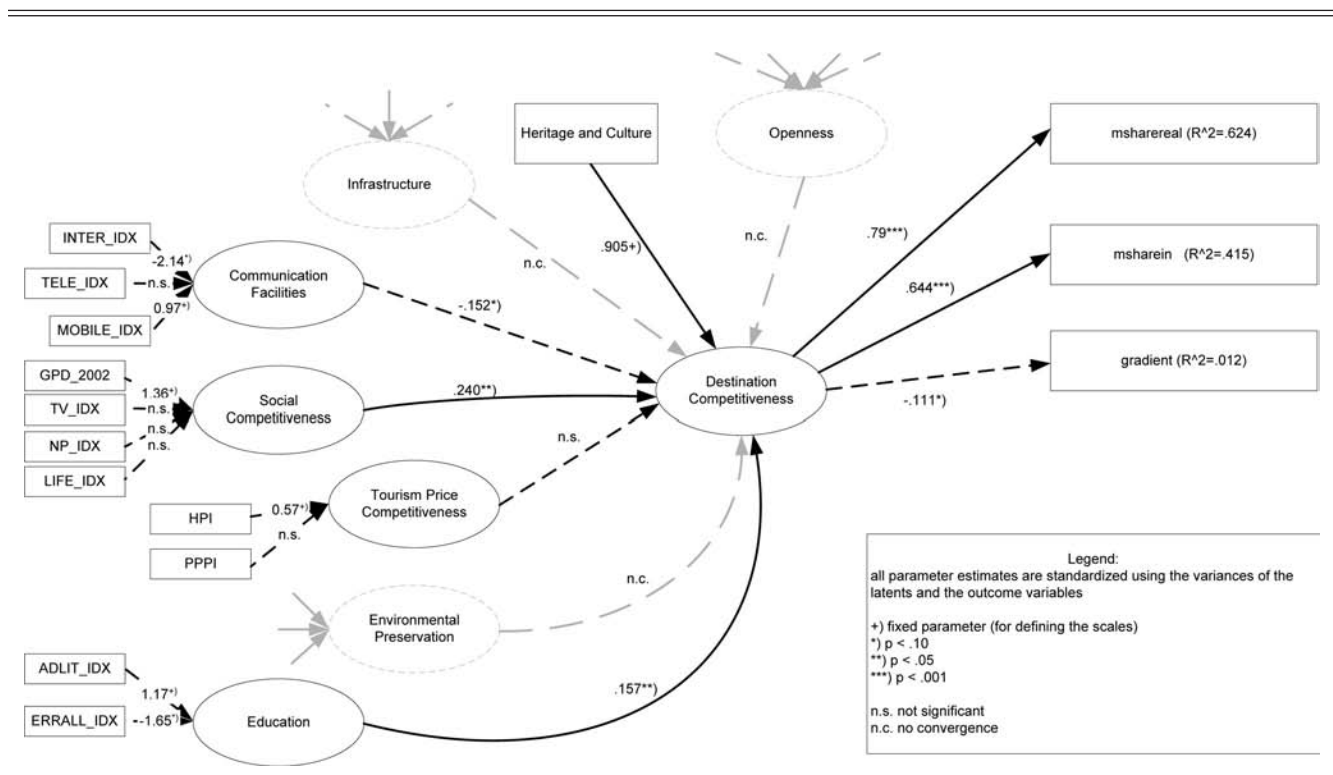
It is important to note that parameter estimation did not represent a straightforward inferential test of the starting model. Convergence problems were persistent for the model specification. These problems can neither be overcome by harmonizing the value ranges of the variables (e.g., in a run with standardized data) nor by choosing different sets of parameter initialization. Stepwise and alternate estimation runs were needed. The provisional suspicion is that too many of the indicators may be of no or marginal tourism relevance and presumably motivated more by ease of availability than by theoretical reasoning.

As the model does not lend itself for simultaneous maximum likelihood (ML) estimation, some amendments proved to be necessary. ML estimates for only two model alternatives, one "two-stage" and one "direct-impacts-only" model, were explored as a possible strategy for explanatory destination competitiveness research. The two-stage reasoning challenges the assumption that all proposed factors are independent from one another and impact directly on a destination's competitiveness. Therefore, it was argued that the effect of the Human Resource Index is partially mediated by the Economic Wealth, the Tourism Price Competitiveness

Index, and the Environmental Preservation Index. An analogous relationship was put forth for the Economic Wealth Indicator whose consequences are thought to propagate through the Communication Facilities Index, the Tourism Price Competitiveness Index, and the Environmental Preservation Index. To exploit time-successive dependency as a cause-effect condition, the causal indicators were filled with data from previous years wherever possible. Despite its conceptual appeal and numerous attempts with homogenized value ranges of the variables and different sets of parameter initialization, convergence for the two-stage model version could not be attained.

The more parsimonious direct-effects-only model structure was set up next. There, DC is conceived as a latent formative construct based on 8 first-order factors as outlined in Figure 2. In turn, DC is hypothesized to explain two measures of market share: (1) an unweighted share [mshareal] and the share weighted by distance to the population centers in the generating countries [msharein]; and (2) market growth rate [gradient]. Three factors (Environmental Preservation, Openness, and Tourism Related Infrastructure) persistently caused nonconvergence. The Tourism Price Competitiveness parameter turned out to be insignificant, whereas the Communication Facilities Index passed only the .10 threshold of significance. Its parameter estimate of .15 has a negative sign, which is consistent with the expected positive effect as its major indicator [inter_idx] also scores negatively. Given positive and significant parameter estimates, three of the competitiveness factors contribute to overall DC as expected: Heritage and Culture (.91), Economic Wealth (.24), and Education (.16). In spite

FIGURE 2
PARAMETER ESTIMATES FOR THE STRUCTURAL AND MEASUREMENT MODELS



of this positive sign, the influence of Education is actually negative as the negative sign of its dominant indicator [erall_idx] on the measurement level (-1.65) must be taken into account. This means that countries of lower educational standard benefit in terms of competitive advantage.

It was the purpose of this research to examine to what extent destination competitiveness determines tourism performance. Actually, 62% of the variance in raw tourism market shares across 169 countries could be explained by the latent competitiveness construct. With an R^2 of .42, the distance-weighted market share achieved a somewhat weaker result. Contrary to expectations, the slope of the growth rate of arrivals between 1989 and 2004 as a third dependent variable failed to produce meaningful results. Its standardized coefficient is $-.11$ and not significant on the .05 level.

ASSESSMENT OF FINDINGS

Explanatory Power

According to the tourism research literature surveyed, theoretical considerations led to a rich pool of indicators of competitive advantage—enabling or facilitating factors on the supply side, and preference building factors on the demand side. It remained an unresolved question, however, what kind of mechanism channels all these factors into a construct called destination competitiveness (DC). The proposed explanatory model made this mechanism explicit by: (1) interpreting competitiveness factors and DC itself as formative latent constructs, and (2) introducing tourism performance criteria as dependent variables. Without these dependent variables a destination competitiveness system gets stuck in a stage of definition. The step toward explanation was empirically explored with the Competitiveness Monitor and database provided by the WTTC covering almost 200 countries. The explanation of static (size-dependent) performance criteria was satisfactory. The explanation of a dynamic (trend-related) performance variable failed.

Epistemological Aspects

Leaving aside the practical problem of noisy and incomplete information on a set of indicators for so many countries, pursuing the epistemological questions is certainly rewarding: If destination competitiveness is a meaningful and relevant concept, it should be capable of explaining something directly depending on it. The authors decided to interpret observable competitiveness variables as formative indicators for measuring abstract DC dimensions, which again fuel the latent construct of overall DC. This is considered an improvement in theoretical depth. It solves the problem of how much weight the individual competitiveness criteria should be assigned. Definitions of DC dimensions or first-order factors are an initial step of a long journey. Theory building begins on the abstract level of relationships among these factors, their relative importance for creating an overall DC construct, and the consequences thereof. The whole exercise is permanently threatened by such pitfalls as tautological statements. The Human Tourism factor claimed for the CM was criticized above as

an example. Our own suggestion of incorporating the UNESCO award for cultural heritage sites is a borderline case. Following the modeling logic, which looks for antecedents of tourism (demand) success, it should be strictly supply driven. However, it might be argued that the processes underlying the UNESCO award are linked to several other factors important in the tourism business: international awareness, organizational structures for visitor management and preservation, openness to international visitors, a substantial volume or at least a potential of culturally interested visitors. In simple words, if a site already popular among international tourists was more likely to be accepted by UNESCO then an implicit demand influence could not be denied. Though this may appear overcritical, a caveat regarding hidden tautologies is imperative for sound DC research.

Unobserved Heterogeneity and the Lack of Theory

Striving for a universal concept of DC for 169 countries is a keen undertaking and requires paying a price—that is, ignoring complexity and distinctiveness to some unknown degree. A serious problem that comes to mind immediately is the diversity of the countries in the WTTC database. Comparing the industrialized world with developing countries, a price or human resources factor may impact on tourism demand quite differently. Also, think of factor interaction, for example, of a high price level offset by high quality standards of tourist services (corresponding to a high score on the human resources dimension). These considerations are not new but part of the comments regularly provided in conjunction with the biannual Global Competitiveness Report issued by the World Economic Forum (usually in mild disagreement with the World Competitiveness Yearbook published by the Lausanne-based IMD).

There are two ways of solving the heterogeneity problem. Strategy 1 is data-driven applying advanced models capable of respecting the unobserved heterogeneity in its parameter estimates. Of course, such an attempt assuming discrete heterogeneity in a combined structural equation and latent class model was made but bound to fail on this sparse and noisy data. Looking for country clusters in the competitiveness dimensions space as demonstrated by Gooroochurn and Sugiyarto (2005) is an example of pursuing the data-driven route with simple but robust classification methodology. Strategy 2, the more desirable way of tackling heterogeneity, is theory based. It demands explicit hypotheses about the moderator variables responsible for diverse cause-effect relationships.

In this study neither the tourism-related factors Tourism Price Competitiveness and Tourism Related Infrastructure nor the more loosely associated dimensions of Environmental Preservation and Openness were confirmed as factors contributing to overall DC. Hence, from the eight dimensions originally proposed under the WTTC framework only two subfields remained: the Education (or Human Resources) Index and the Economic Wealth (or Social) Index. Without adding the component Heritage and Culture (represented by the number of UNESCO heritage sites per country) the entire model would have performed poorly. Further exploring the reasons with Strategy 1 will become more realistic once a stronger database of repeated

measurements (also allowing for pooled time-series/cross-sectional analyses) is available. Regarding the apparent lack of theory under Strategy 2, tourism researchers clearly face a challenge. For a start, it may be helpful imagining oneself in the role of NTO managers. How would they decide on the destination countries to be considered as tough competitors? (Note that this does not necessarily require the fairly popular “go-and-ask-the-practitioners” research strategy.)

Tourism Performance and Success Criteria

This study restricted the identification of success criteria to only three variables. The raw (unweighted) market share of international arrivals was explained best ($R^2 = .62$). It was taken into account that there are destinations that generate their tourism business to a large degree from their close-by neighbor countries, whereas others have to attract visitors from their generating markets over hundreds or thousands of miles. Therefore, a distance-weighted market share index was used concurrently to address this additional success perspective. However, the kind of Destination Competitiveness formed in the model of Figure 2 did not reward this idea of distance bonus or burden. Moreover, incorporating a dynamic element of sustained growth into the analysis failed bluntly. From a theoretical perspective it is highly plausible that a destination's competitiveness should have the potential of explaining sustained tourism development. There are disturbances by short-term phenomena, such as exchange rate fluctuations, terrorist attacks, and catastrophes of all sorts, or mega events. Thus, a smoothed growth indicator of medium-term tourism demand was deemed to nicely complement the consequences of DC. Astonishingly enough, this did not materialize in the search for better explaining destination success.

Conceptually, the question of the performance criteria has not yet been answered satisfactorily. While for one destination maintaining a sizeable market share is a great success, for others fast growth of their share may have priority. Given the level of the demand volume already attracted by a destination, is it recommended to neutralize size when comparing small and fast growing destinations with large, slow-growth ones? If yes, how might this be implemented technically? Competitiveness and also success reaped from it may be valid concepts only within a homogeneous league of competitors. The analysis applied in this study treated each country as competing with each other. This may not be justified, as tourism demand is neither uniform nor evenly spread across the destinations of the world. From a supply-side perspective, companies and destinations tend to focus on some selected core markets and invest much less into other generating countries. Situation-specific variations of the performance measures are likely to occur. Again, tourism research is challenged to hypothesize on the moderator variables hidden behind the placeholder “situation-specificity.”

Quality and Completeness of Data

A technical issue must not be overlooked. After many decades of supranational coordination and harmonization efforts the comparability and completeness of world tourism data is still poor. Not even within the European Union a

satisfactory level of completeness and comparability has been reached yet. So it is no wonder that the 21 indices borrowed from the WTTC database suffer from substantial omissions. Either these vacancies are ignored and the compound indices are calculated on what is available (method applied by the WTTC), or the data set is reduced by 50% as practiced in the study of Goroochurn and Sugiyarto (2005). Using an advanced missing data replacement routine this study could utilize 86% or 169 countries.

CONCLUSIONS

As long as the extant frameworks and definitional systems of destination competitiveness cannot be cast into reliable cause-effect relationships, their practical benefit remains limited. They, then, serve the purpose of a super-market with hundreds of potential strengths and weaknesses of a destination. If the management of a company or a destination is in need of explaining past success or failure or anticipating future prospects the shopping cart can be filled easily. However, the proof of how strongly these items are interrelated and responsible for success is still missing. This study demonstrated how an investigation going beyond description and definition may proceed. As a representative example, it took the data set of the WTTC Competitiveness Monitor, rearranged some indices, purified them from tautologies and missing entries, and built a formative DC construct that explained dependent performance criteria to some degree.

Destination competitiveness research has matured enough to move on, from defining, sorting, data gathering, aggregating, and indexing to theory building. Likely, these theories will be multilayered systems of the antecedents of the constituent factors of DC. According to our interpretation, competitiveness itself does not bring in extra causal substance other than what is already captured by the competitiveness factors. Nevertheless, it is theoretically useful. The best naïve “theory” is always the data themselves. Approximating the observations with the smallest possible set of parameters is the genuine objective of theorizing. Given, say, eight DC factors and 3 consequences there would be 24 parameters. A compound DC construct reduces this number to 11.

NOTES

1. In a reflective set each indicator depends on its latent construct according to a univariate regression. If, that is, a latent attitude construct changes this will affect each of its observable attitudinal items individually.

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