

This article was downloaded by: [HEAL-Link Consortium]

On: 18 March 2011

Access details: Access Details: [subscription number 929655569]

Publisher Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Current Issues in Tourism

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t901682222>

## Global competitiveness measurement for the tourism sector

Wei-Chiang Hong<sup>a</sup>

<sup>a</sup> Department of Information Management, Oriental Institute of Technology, Panchiao, Taiwan, Republic of China

**To cite this Article** Hong, Wei-Chiang(2009) 'Global competitiveness measurement for the tourism sector', Current Issues in Tourism, 12: 2, 105 – 132

**To link to this Article:** DOI: 10.1080/13683500802596359

**URL:** <http://dx.doi.org/10.1080/13683500802596359>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

## Global competitiveness measurement for the tourism sector

Wei-Chiang Hong\*

*Department of Information Management, Oriental Institute of Technology, Panchiao City,  
Panchiao, Taiwan, Republic of China*

*(Received 25 March 2008; final version received 31 October 2008)*

International tourism is expected to be a major vehicle of economic development in industrializing countries in the twenty-first century. Countries with tourism-based economies must develop approaches for employing their comparative advantages to achieve competitive advantages. However, competitiveness in the tourist industry is multi-dimensional and complex. This study proposes that the competitiveness of a tourist destination should be composed of (1) Ricardo's comparative advantages (RCA), including the conditions of natural endowments (exogenous comparative advantages) and the degree of technological change (endogenous comparative advantages); (2) Porter's competitive advantages (PCA), explaining the increase in trade among countries with similar factorial portfolios than in trade pattern determination; (3) tourism management, providing high-quality education and training to enhance RCA and PCA; and (4) environmental conditions, including the domestic and the global environmental conditions. Analytic hierarchy process is employed to weight these evaluation dimensions, elements, and indicators in the proposed tourism competitiveness measuring model, and application discussions are also given.

**Keywords:** Tourism competitiveness evaluation; Ricardo's comparative advantages (RCA); Porter's competitive advantages (PCA); analytic hierarchy process (AHP)

### 1. Introduction

Tourism has emerged as one of the largest and the fastest growing industries worldwide in the twentieth century (UNWTO, 2005; WTTC, 2005). For example, although depressed by the reaction of the Iraq war and SARS in 2003, global international tourist receipts in 2004 were still around US\$623 billion (with a double-digit growth rate of 18.8%) from an estimated 763 million tourists (UNWTO, 2005). Additionally, the WTTC predicted that global tourism output in 2005 would amount to approximately US\$6.2 trillion, representing 10.6% of world economic output, and 221 million jobs in tourism, representing 8.3% of worldwide employment. The tourism sector is optimistical over the next decade to realize a real growth rate of output  $\sim 4.6\%$ , reaching US\$10.7 trillion by the year 2015. Tourism's share of global economic output and worldwide employment is expected to reach 11.3% and 8.9%, respectively, in the next 10 years (WTTC, 2005). Due to these great contributions to economic growth, the tourism industry and its related issues have received strong attention, particularly on competitiveness issue.

---

\*Email: [samuelhong@ieee.org](mailto:samuelhong@ieee.org)

Many countries and regions that realize the expanding significance of the economics of tourism have begun to channel their resources into its development to enhance their image and attractiveness among global international travelers and tourists (Ritchie & Crouch, 2000). However, not all countries are created equal. Some of them have abundant natural resources (thus have a comparative advantage), while others may have limited natural landscape, sources and poor infrastructure. Hence, an important research issue is to analyze and interpret qualitative and quantitative data in order to maintain the competitiveness of a country's tourism industry and to compare it with competing destinations. On the other hand, due to the recent trend of globalization, opening up to trade within the World Trade Organization means that industries, including the tourism industry, can no longer survive through protectionist government policies. Multinational businesses are increasingly moving into domestic markets. In the meanwhile, other factors increase competitive pressure, such as the progress of telecommunications and information technology; in addition, the increasing sophistication of customers also demand increasingly high standards from business (Porter, 1990). Businesses have to ensure that their overall attractiveness, and the experiences that they deliver to tourists, at least equals that of many alternatives' experiences open to potential tourists. Any tourism businesses (destinations) in any country are compelled to maintain a high level of competitive advantages to withstand these globalization competition pressures. Therefore, providing a theoretical framework of competitiveness analysis to clearly indicate the drawbacks improved will be a very important issue during the policy-making processes.

However, competitiveness in the tourist industry is multi-dimensional and complex. It contains the evolutionary meanings, scopes, measurements, and relevance from economics to management science. From international trade theories to economic analyses, competitiveness is widely considered as an important factor in creating national prosperity by some comparative advantages, via innovation approaches or economic institutions. Porter (1980, 1985, 1990) proposed a series of new analytic frameworks for measuring competitive advantage to create insight into how competitiveness is created and sustained. Thus, the concepts on competitiveness reveal two evolutionary tendencies, namely the Ricardo's comparative advantages (RCA) theory and Porter's competitive advantages (PCA) framework. For competitiveness evaluation approaches, competitiveness can be evaluated from financial status and relative total costs (cost-benefit analysis), from the combined dimension of organization management, manufacturing, marketing, and environment (resource-based models), and, finally, by ranking the market competitive positions (multifactor model). Those approaches are currently continued to be perfected. For tourism competitiveness, the fundamental product in tourism is the destination experience, i.e. competition focusses on the tourism destination. However, a destination's competitiveness involves a wide and complex range of issues. Mainstream researches have focussed on destination image or attractiveness. Crouch and Ritchie (1999) presented an approach to destination attractiveness analysis: they considered the comparative advantages, competitive advantages, tourism management activities, and environment. Based on their significant contribution, this paper provides a more comprehensive framework for systematic analysis of tourism competitiveness. The proposed model will be given in the following sections, beginning with indicators of tourism competitiveness.

The remainder of the paper is organized as follows. Section 2 contains the literature review. Analytical methodologies (methods) are provided in Section 3. The research results are presented in Section 4. Section 5 contains the conclusions and policy implications.

## 2. Literature review

### 2.1 *Perspectives on competitiveness*

'Competitiveness' has become a popular term during the past two decades. The meaning, scope, measurement, and relevance of competitiveness have been widely discussed in various disciplines, such as economics, management, and political science. In terms of international trade theories, competitiveness is defined as 'the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets, while simultaneously maintaining or expanding the real incomes of its citizens' (Report of the President's Commission on Industrial Competitiveness, 1985). Competitiveness is widely considered as an important factor in creating national prosperity (Durand, Madaschi, & Terribile, 1998; European Commission, 1994; Fagerberg, 1988; Fajnzylber, 1988; His Majesty's Treasury, 1983; Krugman, 1994; Newall, 1992; OECD, 2000; Scott & Lodge, 1985; The Economist, 1994), since it improves the standard of living and real income by offering goods and services with some comparative advantages (Crouch & Ritchie, 1999).

Similar economic analyses of competitiveness have been performed using different measures and terms. Classic Economics (Smith, 1776; Ricardo, 1817) evaluated the property of a country (i.e. national competitiveness) by its factor endowments; they argued that even countries or regions which are not the most efficient commodity producers can still participate in and benefit from international trade (Baron & Kemp, 2004; Davis & Weinstein, 2003; Fisher & Kakkar, 2004), thus earned their competitiveness. The Austrian School of Economics (Schumpeter, 1912) claimed that competitiveness is acquired via innovation approaches; List (1837), a pioneer in the German Historical School, indicated that 'productive powers' enables an economy to achieve competitiveness; Institutional Economics proposed that economic systems and institutions of a country shape its corresponding competitiveness. The economic views held sway in global competition analysis for over a century. As John Maynard Keynes said, 'the principle of survival of the fittest can be regarded as a vast generalization of Ricardian economics' (Skidelsky, 1992, p. 225).

However, the increasing growth of international trade means that the increase in trade among countries with similar factorial portfolios is more interesting than trade pattern determination. Porter (1980, 1985, 1990) proposed a series of new analytic frameworks for measuring competitive advantage, thus achieving a breakthrough in international trade theory (Grant, 1991). Porter's frameworks, composed of the 'five structural forces' model and the diamond model, can easily be adopted to create insight into how competitiveness is created and sustained (Sim, Ong, & Agarwal, 2003). The frameworks not only lacked theoretical originality (Dunning, 1993; Greenaway, 1993; Rugman & D'Cruz, 1993), but also predicted the competitiveness of each individual industry poorly (Melián-González & García-Falcón, 2003). Nonetheless, they have become paradigm for competitiveness analysis and have been widely researched empirically in many fields during the recent two decades. (Bess, 2006; Dwyer, Forsyth, & Rao, 2000; Enright & Newton, 2004; Guan, Yam, Mok, & Ma, 2006; Solleiro & Castañón, 2005; Zanakos & Becerra-Fernandez, 2005).

Thus, the concepts and analysis approaches on competitiveness reveal two principal evolutionary tendencies, namely the RCA theory and PCA framework. The RCA theory measures trends in industrial development in a country based on its natural resources. Therefore, RCA views competitiveness at an international level and can be considered as a long-turn (static) guideline in setting industrial development policy. In contrast, PCA explores the factors that enable a specific industry to succeed in a global competitive

environment. Hence, competitiveness on PCA at the global level could be treated as a short-turn (dynamic) tactic in business strategy planning.

## **2.2 Competitiveness evaluations**

Competitiveness in a specific industry results from convergences of the management practices, organizational modes in its country, and the sources of competitive advantage in the industry (Oral, 1986). Therefore, competitiveness in an industry in a country is influenced by a range of qualitative and quantitative factors. Arto (1987), based on the economic theories, indicated that competitiveness can be evaluated from financial status and relative total costs (including cost, price and non-price factors). Traditional cost–benefit analysis (Li, 2000; Oral, 1986, 1993; Oral & Reisman, 1988) is a parametric approach based on optimization technology and regression models. Earlier studies focussed mainly on financial indicators, particularly at the firm level. They provided lists of factors that improved competitiveness, but did not explain how these factors were obtained, or the technical assumptions of regression models about the error terms. Resource-based models (Barney, 1991; Peteraf 1993; Prahalad & Hamel, 1990; Wernerfelt, 1984), with organization management, manufacturing, marketing, and environment as dimensions, have recently been employed to investigate competitiveness.

However, the main factor affecting competitiveness is a controversial issue. In particular, a single performance criterion (financial profitability) is insufficient for determining the competitiveness of an industry. Consequently, multifactor model is developed to evaluate competitiveness (Chakravarthy, 1986; Chin, Pun, & Lau, 2003) by ranking the market competitive positions. These models provide appropriate strategic combinations to sustain a strong and reasonable competitive edge.

Rapid globalization has led to countries being ranked for competitiveness. The World Economic Forum (WEF, 2005) and the International Institute of Management Development (IMD, 2005) both rate countries annually in terms of various competitiveness indicators. The rankings cause confusion, since they are not based on a rigorous theoretical methodology (the selection factors are not fully explained) or measurement model (no suitable weights are employed to determine the competitiveness indicator of each factor). Additionally, these two competitiveness reports frequently have significant discrepancies in ranking (Cho & Moon, 2000). Therefore, the ranking system for competitiveness evaluation needs to be redesigned.

## **2.3 Composition of tourism competitiveness**

Since a tourist needs to travel to a destination to experience the destination service, the fundamental product in tourism is the destination experience. Competition focusses on the tourism destination. Although competition occurs among airlines, hotels, facilitates, and other tourism services, this inter-industry competition is dependent upon and derived from the choices made by tourists between alternative destinations. Consequently, countries, cities, and regions now take their roles as tourist destinations very seriously and expend considerable effort and funds towards improving their touristic image and attractiveness. Meanwhile, tourism researchers devote their attention to improving the competitiveness of tourism destinations. (Chon & Mayer, 1995; Crouch & Ritchie, 1999; d’Hauteserre, 2000; Dwyer et al., 2000, 2002; Enright & Newton, 2004, 2005; Faulkner, Oppermann, & Fredline, 1999; Hassan, 2000; Hou, Lin, & Morais, 2005; Pearce, 1997; Poon, 1993; Ritchie & Crouch, 2000). Therefore, much of this escalating competitive

effort has centered on destination promotion and the tandem role of destination development. However, a destination's competitiveness involves a wide and complex range of issues. Mainstream research into tourism competitiveness have traditionally concentrated on destination image or attractiveness, which refers to attributes that visitors consider as important (Bonn, Joseph, & Dai, 2005; Gallarza, Saura, & García, 2002; Gearing, Swart, & Var, 1974; Hou et al., 2005; Hsu, Wolfe, & Kang, 2004; Hu & Ritchie, 1993). Attractive attributes for tourism destinations include natural resources (e.g. climate, scenery, landscape, and minerals), cultural/heritage resources (e.g. history, music, paintings, folklore, temple sites, and special events) and functional/physical resources (e.g. accommodations, food, transportation, guiding services, and environmental management). Generally, while tourism services had been viewed as important elements of destination image, explicit attention would be paid to the firms that supply the services and to the factors that may influence the competitiveness of these firms. In other words, the main issue is company management rather than destination competitiveness (Buhails, 2000). However, Murphy, Pritchard, and Smith (2000) concluded that both environment conditions and infrastructure have a strong bearing on tourists' perceptions, which in turn influence their assessment of a destination's competitiveness. Therefore, to understand the competitiveness of tourism destinations, Crouch and Ritchie (1999) presented an approach to destination attractiveness analysis that is more comprehensive than mainstream approaches. Their approach considers both the fundamental elements and advanced elements of competitive advantages. Appropriate, prompt tourism management activities could not only enhance the attractiveness of those comparative advantages and competitive advantages, but also adapt to the constraints imposed by the domestic and global environment, such as resources stewardship, marketing activities, regulation, business integration, and information providing (Enright & Newton, 2004, 2005).

This study defines tourism competitiveness as the ability of a destination to create, integrate and deliver tourism experiences, including value-added goods and services considered to be important by tourists. These experiences sustain the resources of a destination and help it maintain a good market position relative to other destinations. This study of tourism competitiveness is composed of comparative advantages, competitive advantages, and tourism management (Figure 1).

## 2.4 Crouch and Ritchie's contributions

Recently, Ritchie and Crouch (2003) published the most important work in the analysis of tourism competitiveness with their conceptual model of destination competitiveness. They claimed that the most competitive destination, on a sustainable basis, produces the best lifestyles and societal prosperity. Conversely, they applied the PCA framework to competitiveness research in tourism destinations, extensively spreading their focus from companies and products (services) to national service industries and national economies. Therefore, they believed that destination competitiveness should be measured not only by the capability to enhance lifestyles and societal prosperity but also by the efficiency in resource allocation, which produces long-term economic prosperity. Their proposed model is structured in two layers. The external layer represents comparative advantages (resource endowments) and competitive advantages. The internal layer represents several major elements: (1) competitive environment; (2) global (macro) environment; (3) core resources and attractors (including physiography, culture and history, market ties, mix of activities, special events, and tourism superstructure); (4) supporting factors and resources (e.g. infrastructure, accessibility, facilitating resources, and enterprise); (5) destination management



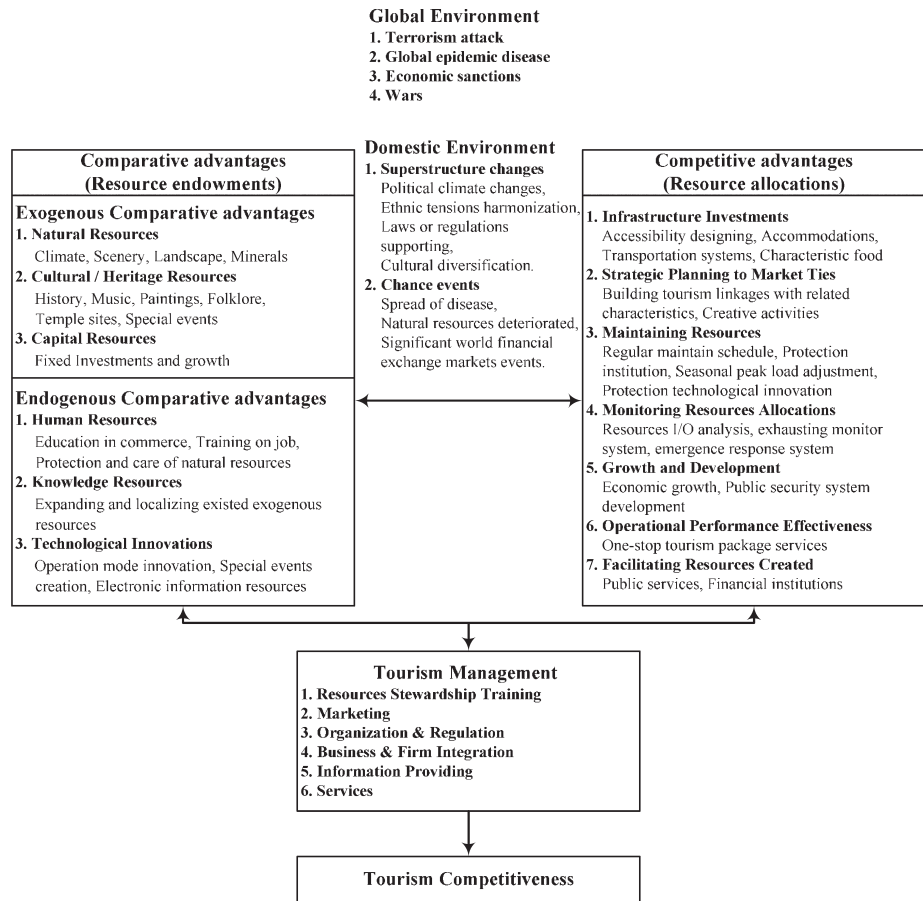


Figure 1. Tourism competitiveness composition.

(such as marketing, service, information, organization, and resource stewardship); (6) qualifying determinants (e.g. cost, safety, location, and dependencies).

Their model provides a feasible and accurate model for competitiveness analysis of tourism destinations. However, there remain several dimensions to improve or enhance in specific situations. For example, the relative order of importance of major factors and categories of variables could not be accurately modeled. Secondly, the model does not analyze the effects of and interaction between comparative advantages, competitive advantages, and tourism competitiveness. Finally, those major factors are examined in qualitative terms rather than quantitative terms. Restated, those qualitative relationships could be established rigorously by quantitative analysis. Meanwhile, many countries still lack complete databases.

This paper provides a framework for systematic analysis of tourism competitiveness, including exogenous comparative advantages, endogenous comparative advantages, and PCA. Additionally, this study provides detailed illustrations of its specific operational interactions effects among RCA, PCA, tourism management operational regulations, the domestic environment restrictions and global environment requirements (Figure 1). These models are given in the following sections, beginning with indicators of tourism competitiveness.

### 3. Research methodologies

Tourism competition focusses primarily on the tourism destination and secondarily on its relevant industries such as airlines, hotels, facilitates and other tourism services. Competition may also be the so-called inter-industry competition, which is dependent upon and derived from the process of choosing between alternative tourist destinations. To analyze the tourism competitiveness of a country, a city, or a region, the following questions must be answered: 'What factors influence the decision making of tourists?'; 'What indicators are most useful for objective analysis by tourism planners?' and 'Is there a feasible evaluation methodology or standard operation procedure to assist tourism planners in strategic planning?' The rest of Section 3 verifies the research methodologies of tourism competitive information, including proposed framework and evaluation indicators weighting method (analytic hierarchy process, AHP).

#### 3.1 Indicators of comparative advantages

Comparative advantages are classified as exogenous comparative advantages and endogenous comparative advantages. The principal classification criterion is the permanence of those resource endowments among global tourism countries. Thus, resource endowments which cannot be changed by any endogenous factor in the economic system of the corresponding country are the so-called 'exogenous comparative advantages'. Conversely, those resource endowments easily changed by endogenous factors (such as physical/human capital investment, technological innovation, and so on) from correspondent country economic system are the so-called 'endogenous comparative advantages'.

##### 3.1.1 Exogenous comparative advantages

As mentioned above, natural resources (including *climate*, *scenery*, *landscape* and *minerals*) of a destination are seldom changed or improved by scientific advancements. Such endowments include mild climate (e.g. Yunnan, China; Nantou, Taiwan), romantic scenery (e.g. Hangzhou, China; A-Li Mt, Taiwan), a Karst topography landscape (e.g. Guilin, China) and weathered landscapes (e.g. The Grand Canyon National Park, USA). *Cultural/heritage resources* (including *history*, *music*, *paintings*, *folklore*, *temple sites*, and *special events*) create the principal memorable experiences of a destination for tourists. Hence, unique or heterogeneous tourism experiences (such as learning, understanding of other cultures, cultural change, and stronger cultural identity) produced by cultural resources are also the source of tourism attractiveness. For example, destinations designated as 'World Cultural and Natural Heritage' sites by UNESCO (United Nations Educational, Scientific and Cultural Organization) are the classic representative examples, such as Old Town of Lijiang (Yunnan, China), Memphis and its Necropolis or the Pyramids from Giza to Dahshur (Egypt). Another representative example is the local festivals or celebrations in a specific destination. Generally, celebration is combined with folklore such as The Songkran Festival (Thailand), All Saints Day (NY, USA) and Gion Matsuri (Kyoto, Japan). Additionally, these celebrations may be combined with a specific religious event such as an Islamist pilgrimage mission (Mecca, Saudi Arabia) or going aboard to worship the birthday of Matzu (Taichung, Taiwan). For *capital resources* (including *annual fixed investment* and *fixed growth rate in investment per year*) consideration, if a destination has abundant capital resources, it is easy not only to seek for cooperation with respect to capital-intensive tourism infrastructures and related software, but also to provide essential assistance to



tourism development to achieve economies of scale. For example, Las Vegas (NV, USA) has relatively abundant capital resources. Not only did federal government investment in the Hoover Dam help produce hotel-casino dollars after the dam was built, but additional FDI was also attracted by the casino-tourism industry. Abundant capital resources shape the comparative advantages of correspondent countries.

### 3.1.2 *Endogenous comparative advantages*

Tourism endogenous comparative advantages contain such resources that can be improved or changed to suit the requirements of a destination for developing competitiveness. *Human resources* (including *education in commerce*, *training on job*, and *protection of natural resources*) of a destination are the primary representative examples. As noted by Arrow (1962), it is important to encourage human capital investment in tourism-related operation management, particularly steadily evolving from labor (i.e. efficiently learning by doing or on the job training) while acquiring and accumulating knowledge successfully. For example, via *commercial education courses*, tourism resources/facilities, destination managers, and employees are integrated into a united organization. Acquiring expertise in total service (including flowchart, tourists' demand, tourists' satisfaction, and so on) by providing tourist services should be the core of commercial education courses. Additionally, in accordance with Yang (1994), specialization of employees, *training on job*, especially for their regular operations, would enhance professional efficiency. For instance, while listening attentively to the 'Past Anecdotes' of France Royals from the short-fat tourist guide of Chateau de Versailles and Louvre, the most striking impression is, in addition to the detailed commentary, the personal responsibility for his job and the pride in his country displayed by the tour guide. This factor is the key to maintaining the competitiveness of a great nation and becomes unshakeable as time goes by. Finally, *protection of natural resources* ensures the preservation of specific natural resources and reveals their deserved comparative advantages from a long-term perspective. Examples are scarce resources like the Great Wall (China) or the Mona Lisa (the famous painting of Leonardo da Vinci).

## 3.2 *Indicators of competitive advantages*

Competitive advantages provide a deeper insight into the reallocation of different tourism resource endowments. The destination then has a feasible approach (strategy) to modifying its comparative advantages. Competitive advantages of a tourism destination in this study are assumed to have the following dimensions.

### 3.2.1 *Infrastructure investments*

*Infrastructure investments* (including *accessibility design*, *accommodations*, *transportation systems* and *characteristic food*) of a destination are the most important functional bases, also known as physical resources (in Porter's terminology is the so-called *advanced factors*). First, these infrastructures generally provide rational expectations for potential tourists planning their tourism schedule. For example, a convenient transit system for connecting with scheduled flight (arrival and departure) and local transportation is expected to offer a schedule convenient for tourism. Additionally, the destination tourist track of those characteristic resorts, foods, and cultural heritages could be designed based on the average length of stay and required accommodation. Thus, the accessibility design of a destination is composed of many related services accurately supporting and become the prior

competitive advantages formation in infrastructure investments issues. Secondly, prompt transportation systems support, including local transportation systems (metropolitan transit systems, taxi and boats for city tour, off-shore island or rural, and scenic railway) and global airport systems, play a critical role in the accessibility of a destination and thus become another competitive advantage of infrastructure investment. Meanwhile, effective accommodation support is critical in the accessibility of a destination. Examples are panoramic scenic views and an isolated and secluded atmosphere (Dubai Burj Al Arab is the most representative). Finally, characteristic foods, including special ingredients and cooking technologies, could be developed and innovated based on both the foods themselves and tourism market forces. Potential tourists are attracted to characteristic foods. For example, Ching & Han Royal Dynasty Feast is representative of traditional Chinese food.

### 3.2.2 Strategic planning to market ties

*Strategic planning to market ties* (including *building tourism linkages with related characteristics and creative activities*) of a destination are the secondary functional institutional investments that can attract potential tourists (in Porter's terminology is the so-called *internationalization of domestic demand*). First, ethnic ties, implying the same language and the same race, are the basis for tourism demand due to the desire of tourists to visit relatives, such as those tourists who work or live abroad with regular home leave. Additionally, the concept of ethnic ties leads to creation of ethnic-related activities such as the Ancestries Memorial Ceremony of the Chinese Nation in Xi'an (China) and in Taiwan. However, ethnic ties have no chance to be employed for those countries which are lacking of long time period establishments. A viable strategy is constructing institutional market ties. This means internationalizing domestic demand. For example, by holding international academic conferences, workshops, congresses, and symposiums or by sponsoring world exhibitions, fairs, and expositions, countries can increase domestic demand (tourism services) by holding or sponsoring business, academic, and leisure activities to attract demanders. Establishing market ties can generally generate steady flow of visitors and some level of economic growth. Meanwhile, according to the Porter view that domestic rivalry often pressures firms to improve quality and service and innovate new products and processes to ensure long-term preservation of advantages, the tourism industry has an incentive to encourage strong domestic rivalries while business ties are being formed, such as by encouraging domestic rivalries to sponsor a world fair or an international conference.

### 3.2.3 Maintaining resources

*Maintaining resources* (including *regular maintenance schedule, protection institution, seasonal peak load adjustment and protection technological innovation*) of a destination are also important issues in acquiring competitive advantages. As Porter pointed out, although an abundant factor may destroy competitive advantage, selected disadvantages in factors often contribute to competitive success if implementing influential strategy and innovation activities. Therefore, a destination with limited tourism resources must implement a regular monthly, quarterly, and yearly maintenance schedule. Particularly for fragile cultural artifacts, buildings, landscapes and for general tourism resources subject to harsh weather conditions, it is necessary to organize special institutions or agencies to assume responsibility for protecting these tourism resources. Additionally, it is important to plan the monthly, quarterly, or annual tourist restrictions to avoid overuse of tourism resources in the seasonal peak period and avoid them lying idle in the slack

season. Hence, effective seasonal marketing promotion strategy could be employed to optimize tourist flow.

#### 3.2.4 *Monitoring resources allocations*

*Monitoring resources allocations* (including *resources I/O analysis*, *exhausting monitor system*, and *emergency response system*) of a destination is an important issue in competitive advantages sustainability. This work first focussed on establishing a monitoring system to track the annual input/output performances of tourism resources. An additional task was identifying unreasonable allocation segments such as large input, small output. Then, based on the corresponding development target, arrange a suitable I/O ratio to reallocate tourism resources. Secondly, this work also establishes a monitoring system to track the circumstances of tourism resources intentionally or unintentionally exhausted by tourists. Examples include publishing tourism white papers analyzing a destination such as fixed investments for tourism resources, stock forecasts for tourism resources and sustainable development efforts and improvements. Finally, this work establishes an emergency response system to provide emergency and rescue services for tourist areas to respond to forest fires, accidents, etc.

#### 3.2.5 *Growth and development*

*Growth and development* (including *economic growth* and *public security system development*) constitute the socio-economic status of a destination which can robustly support tourism-related facilitates (infrastructures) and tourism safety network system. Economic growth not only reveals the economic development efforts of a destination but also objectively presents its capability for tourist industry support and attractiveness to potential investors. Generally, a destination with rapid/continued economic growth attracts FDI in key industries then generates market ties (including ethnic ties, business ties and leisure ties) to promote a steady tourist flow. On the other hand, the public security of a destination can provide a safer environment for tourists. Encountering thief or other crimes while traveling not only leaves tourists with a poor impression of the very destination but also decrease his/her subsequent evaluation. Thus, tourists would be reluctant to revisit the destination due to deteriorating public security. Examples are the 1998 riots in Jakarta (Indonesia) and the 1994 Murder Accident of Thousand Island Lake in Zhejiang (China). Both incidents substantially reduced tourism. Therefore, development of a reliable public security system improves competitive advantage.

#### 3.2.6 *Operational performance effectiveness*

*Operational performance effectiveness* (including *one-stop tourism package services*) of a destination is the primary motivation of tourists. As indicated by Porter, sophisticated home buyers of a country lead firms to easily acquire competitive advantage. Therefore, a destination may become capable of providing operational performance effectiveness because of its sophisticated domestic tourists and their high expectations in comparison to other destinations. Therefore, sophisticated domestic tourists not only create an incentive to deliver excellent tourist services, they also provide an early warning of deteriorating tourist services or the need for change. The concept of 'one-stop tourism package services' was developed to address this consideration. For example, by integrating total tourism services (pleasure parks, hotels, restaurants, resorts, tourism fruit farms, and so on) of

a destination into a selection menu or list, tourists can determine suitable item services when making their journey arrangements. Disney Company is a representative example of one-stop tourism package services.

### 3.2.7 *Facilitating resources created*

*Facilitating resources created* (including *public services* and *financial institutions*) of a destination provides convenience to tourists. Public services include those providing tourists with information or detailed travel information while traveling in this destination. Examples are rapid post-delivery services (including postcard, regular mail, and physical tourist souvenirs), prompt and high-quality telecommunication (domestic calls and international phone calls), and barrier-free public environment design. Financial institutions provide tourists with related financial services during the retention period, such as travel checks, currency exchange and money remittance. Generally, high tourist satisfaction increases the attractiveness of a destination.

## 3.3 *Indicators of tourism management*

According to the Porter view, the proper role of government is creating an environment that stimulates industries or companies to acquire competitive advantage such as providing high quality education and training, public goods, support services, and reduced transaction costs. Further, Porter indicated that governments can also influence firm strategy, structure, and rivalry through approach such as market regulation, tax policy and antitrust laws. In the tourism context, the tourism management component focussed on those management activities that enhance the comparative advantages and competitive advantages mentioned above. Thus, tourism management activities provide appropriate assistance to strengthen the quality and effectiveness of different tourism resource endowments. Scientific approaches (strategies) are then provided to manage the attractiveness of a destination to (potential) tourists.

### 3.3.1 *Resource stewardship training*

As mentioned above, the cultural heritage of a destination may be represented by fragile, buildings, or landscapes subject to harsh weather conditions. Therefore, special institutions or agencies must be organized to protect important tourism resources. Resources stewards for a destination, i.e. resources managers, should be trained to professionally implement effective maintenance procedures for those resources, including *subtle nurturing technologies* and *philosophical education in the concepts of long term sustainable competitiveness*. These training activities combined with scholars in the professional field of protection and preservation of historical/cultural relics is an adaptable approach to enhancing the responsibilities and professional abilities of resources managers. For example, the training of workers to maintain the Terracotta Army (Bing Ma Yong) in Xi'an involved experts from many universities and research institutes in Xi'an.

### 3.3.2 *Marketing*

Marketing is the most traditional activity of a destination for promoting its tourism resources such as natural resources, cultural/heritage resources, and other attractions. However, as mentioned in the previous discussion of comparative advantages and

competitive advantages, marketing activities should primarily focus on: (a) *tourism products or services development* (e.g. special events creation, market ties establishments); (b) *reasonable pricing policies* for adjusting tourist amounts between seasonal peak period and slack season; (c) *distribution channel to target markets* (well market segment based on riches of a destination); (d) developing *one-stop tourism package services* by integrating total tourism services into a selection menu or list for tourists' determination.

### 3.3.3 Organization and regulations

Organization and regulations of a destination are responsible for destination development in a wide range of opportunities to ensure destination competitiveness. *The management organization* plays the key role not only in decision-making for creating destination attractiveness based on its comparative and competitive advantages but also in suitable strategies planning for FDI on tourism-related development. Practically, however, the management organization is often required to collaborate with governmental bureaus or even with interest groups to conduct collaboration development projects such as urban and regional development bureaus investment banking. Therefore, *well-related regulations* ensure these collaboration projects operate smoothly, efficiently, and effectively. Meanwhile, those regulations also encourage management organizations to provide more suitable strategic planning of tourism development in shaping its competitive advantages with respect to future challenges. In fact, in the tourism competitiveness context, management organization and related regulations could be viewed as the role of 'government' in the Porter diamond model.

### 3.3.4 Businesses or firm integration

Businesses or firm integration implies sharing operational resources (e.g. rents of shop fronts, employees, and fixed costs of facilities) and intangible assets (e.g. attractiveness of potential tourists, goodwill, and efficiency in operations) to provide more comprehensive tourism services. In tourism industries, the production of commodities and services and the development of new products require the use of specialized equipment or support services such as landscape development and tourist souvenir designs. An individual firm is usually unable to provide a large enough investment (tourist amounts) for these services to keep the suppliers in business. A localized business cluster can solve this problem by bringing together many firms to provide a large enough investment (tourist amounts) to support specialized suppliers. Additionally, a cluster of businesses can create a pooled market for workers with highly specialized skills (tourist guide) needed in the tourism industry. Thus, the advantage for a destination is the reduced likelihood of labor shortages. Further, workers with these specialized skills are less likely to become unemployed.

### 3.3.5 Information providing

Information providing by a destination refers to information systems that provide destination managers with *tourist information* (including tourists' situations, needs, and satisfaction), to monitor the *tourism resources information* (including the stocks of tourism resources, the status, and warning of those fragile cultural heritages, buildings, and related landscapes); to track the *related products information* (including the related product development, performances of related industries, businesses or firms); and to make *particular decisions*. Information systems of a destination are also responsible for regularly announcing key market and performance information to its members, investors,

tourists, competitors, and other related organizations. Such information is essential to ensure the productivity, effectiveness, and efficiency of a destination. Particularly, newly emerging tourist destinations, the learning by doing approach (reviewing, monitoring performances) proposed by Arrow (1962) is the best for improving performance.

### 3.3.6 Services

Services of a destination include *hard resources* (infrastructure, natural, cultural resources) and *soft resources* (all services from attendant, waiter, steward, and porter; and all facilitating resources providing). Those services are emphasized to provide the most possible satisfaction to tourists via all compositions of tourism packages (experiences). Destination managers should pay close attention to such aspects by attempting first to ensure the accessibility of hard resources such as by seamlessly transporting tourists to their desired tourist tracks, providing convenient transportation systems, an adequate selection of accommodations and prompt tour guides or commentators. Secondly, managers must ensure delivery of complete information regarding soft resources, such as a barrier-free interface for accessing each component of total tourism packages (experiences). Finally, destination services include such aspects as providing the convenience of inter-modal transfers for each component of tourist packages sold.

## 3.4 Indicators of environment conditions

### 3.4.1 Domestic environment conditions

As mentioned above, *chance events* affecting circumstances of a destination are largely outside its power to influence. In the tourism competition context, chance events are mainly composed of spread of disease, depletion of natural resources, and significant events in world financial markets. The *spread of a disease* (SARS, bird flu, foot-and-mouth disease, etc.) may cause tourist anxiety because of the possibility of transmission during the journey and the speed of its spread. Extensive media coverage may add to the anxiety. Any destination would have reduced attractiveness during such a period. For example, during the Asian SARS outbreak period in 2003, the most severely affected countries were China, Hong Kong, Singapore, and Vietnam (McKercher & Chon, 2004; Wilder-Smith, 2006). The outbreak cost those four economies over \$20 billion in lost GDP, and tourist arrivals fell by 70% or more across the rest of Asia. Additionally, the growth of the broader travel and tourism economy, as measured by global tourism spending as well as capital investment, slowed from 5% to 2.9% in the following years. *Natural resource deterioration* is another uncertain domestic environment condition possible affecting attractiveness of a destination. Deterioration of natural resources is usually caused by natural disasters (e.g. September 21 Earthquake, South Asia Tsunami, New Jersey Hurricane Katrina, etc.) and, less frequently, armed conflict (e.g. Iraq war). For example, the 7.3 magnitude September 21 Earthquake (Huang & Min, 2002) sapped the national economy. The GDP growth rate in the fourth quarter of 1999 fell from 5.7% to 5.3% and surely dealt a sharp blow to the Taiwan tourism industry. Additionally, the worst impact was suffered by the international tourism sector, as evidenced by the sharp reduction in tourist visits during the disaster period, frightening away many potential tourists. Thus, during the January–August period of 1999, visitor arrivals were only 15% that of the same period in the previous year. Of course, cancellation of hotel rooms, airline seats, concert hall seats, coach seats, dining, and banquets caused additional loss in tourism revenue.



Finally, *significant events in world financial markets* refer to circumstances that reduce the value of a national currency. Thus, the deteriorating economy after the 1999 earthquake led to unemployment, rising prices, and food shortages. Eventually, their combined effects severely impacted tourist arrivals and the tourism industry. Overseas tour operators may, in some crisis conditions, be required to evacuate passengers or cancel schedules. The Southeast Asian Financial Crisis (Henderson, 1999) is a well-known example. The tourism industries of the Asian region all suffered from the economic crisis in 1997. During that period, many tour operators were committed to prices fixed at pre-devaluation exchange rates and were reluctant to reduce prices to reflect currency devaluations of 20–40%. Global arrival figures for 1997 reflected the difficult market conditions in the growth rate decline from 5.6% to 2.8%. Eventually, East Asia and Oceania were the worst-hit region, with a reduction in visitors and spending of 1.2% and 3.8% respectively. Asian intra-regional tourism is estimated to have fallen by 10%.

Conversely, domestic environment conditions may also involve circumstances that can be changed by decision making, strategic planning or policy changes, namely *superstructure changes*. In the tourism competition context, domestic environment conditions consist mainly of political climate changes, ethnic tension harmonization, laws or regulatory support and cultural diversification. *Political climate changes* are the stable political climates needed to encourage economic development (Clements & Georgiou, 1998), such as the opening of the Chinese economy in 1978. Attracting international tourists to earn foreign exchange becomes a basic national policy. Of course, this political climate is conducive to tourism development by enhancing competitiveness. *Ethnic tension harmonization* requires harmonizing unnecessary ethnic tensions because international tourists are composed of all races in the world. Ethnic tensions such as hostility directed at Chinese communities in Southeast Asian can only reduce the attractiveness of a destination. *Laws or regulations supporting* means that laws of a destination robustly support development of tourism competitiveness such as Environment Pollution Prevention Act, Fragile Cultural and Natural Heritage Protection Act. Generally, laws or regulatory support always reveal the political tendencies of a destination with respect to attitudes to tourism development. Finally, *cultural diversification* is often all-embracing for all potential tourists. Thus, it can also increase the attractiveness or shape the unique characteristics of a destination. Domestic environment conditions are needed to showcase a destination as a place to live, trade with, invest in or do business with, i.e. provide international understanding of the destination.

### 3.4.2 Global environment conditions

For global environmental conditions, *accidental events* or *expected events* create discontinuities that cause previous competitors to fail and provide opportunities for a new destination to acquire competitive advantage under new conditions. The so-called *accidental events* imply unexpected events such as *Terrorist Attack* (e.g. September 11 Event in 2001, Bali Event in 2002, etc.) and *Global Epidemic Disease* (e.g. SARS in 2003, bird flu, foot-and-mouth disease since 2001 in UK, etc). In contrast, *Economic Sanctions* and *Wars* are events that can be expected in advance. For example, the September 11 event severely affected the US tourism industry. Air travel as well as hotel occupancy declined more than 50% (Goodrich, 2002). Therefore, in the tourism competition context, global environment conditions must be considered to provide more peaceful atmospheres such as democracy communiqué, humanism promotion, and global collaboration in anti-terrorism activities. Any new tourism destination can employ these measures to enhance the attractiveness of its tourism products and services to potential tourists.

The process of verifying these indicators and interactive effects among indicators would be based not only on models of RCA theories and empirical adjustments but also on the propositions of PCA theories, debates and adjusted models. Sixty-six indicators are verified to evaluate the overall tourism competitiveness performance of a destination, 20 for comparative advantages performance evaluation, 18 for competitive advantages performance evaluation, 17 for tourism management performance evaluation and 11 for environment conditions performance evaluation. Details of total verified indicators are listed in Table 1.

### 3.5 AHP to evaluate weights of indicators

To determine the weighting of both qualitative and quantitative indicators, the AHP developed by Saaty (1977, 1980, 1990) is employed to determine the relative importance of these 66 indicators. The AHP is a powerful and flexible decision-making process for setting priorities and making the best decision. By integrating different measures into a single overall score for ranking alternative decisions, analyzing survey data by pair-wise comparison judgments, and then synthesizing the results, AHP not only helps decision makers arrive at the best decision, but also provides a clear rationale for why the decision is best. The following shows the steps of analysis in the decision-making process using the AHP method.

*Step 1:* Define the decision problem and goal.

*Step 2:* Structure the hierarchy from the top through the intermediate to the lowest level which usually contains a list of alternatives.

*Step 3:* Matrices of pair-wise comparisons are constructed (size  $n \times n$ ) for each of the lower levels with one matrix for each element in the level immediately above by using a relative scale measurement. The decision-maker has the option of expressing his or her intensity of preference on a 9-point scale. If two criteria are of equal importance, a value of 1 is given in the comparison while a 9 indicates an 'Absolute importance' of one criterion over the other. Additionally, intermediate values (e.g. 2, 4, 6, and 8) imply intermediate values between adjacent judgments for example, '8' implies the compromising important position between 'Demonstrated importance' and 'Absolute importance'.

*Step 4:* Computing eigenvalue by the relative weights of criteria and the sum to all weighted eigenvector entries corresponding to those in the next lower level of the hierarchy.

*Step 5:* Consistency and consequence weights analysis.

Steps 3–5 are performed for all levels in the hierarchy. Fortunately, there is no need to implement the steps manually. Professional commercial software, Expert Choice, developed by Expert Choice, Inc is available on the market which simplifies the implementation of the AHP's steps and automates many of its computations.

The AHP questionnaire survey procedure is as follows. The printed questionnaire using the factors and structured elements shown in Table 1 was prepared to gather data for the AHP analysis.

1. *The questionnaire interviewers.* The questionnaire was distributed to: (1) scholars or researchers with more than 3 years of research experience in tourism competitiveness and (2) government officials who majored in conducting tourism related affairs.
2. *Response status.* The survey activity was conducted from 15 January to 10 June, 2007 via regular mail and e-mail approaches. Approximately 2 weeks after the

Table 1. Total indicators of tourism global competitiveness evaluation model.

Goal	Evaluation dimensions	Detailing indicators	Authors
Tourism competitiveness evaluation model	<i>(Exogenous) Comparative advantages</i>		
	Natural resources	Climate	Crouch and Ritchie (1999)
		Scenery	Gearing et al. (1974)
		Landscape	Hassan (2000)
		Minerals	Ritchie (1975)
	Cultural/heritage resources		Ritchie and Crouch (2000)
		History	Gearing et al. (1974)
		Music	Hassan (2000)
		Paintings	Hou et al. (2005)
		Folklore	Hu and Ritchie (1993)
		Temple sites	McCain and Ray (2003)
	Capital resources	Special events	Stevens (1992)
		Annual fixed investment	Chon and Mayer (1995)
		Fixed growth rate in investment per year	Crouch and Ritchie (1999)
			Hassan (2000)
	<i>(Endogenous) Comparative advantages</i>		
	Human resources	Education in commerce	Arrow (1962)
		Training on job	Crouch and Ritchie (1999)
	Knowledge resources	Protection of natural resources	Yang (1994)
		Expanding existing exogenous resources	Crouch and Ritchie (1999)
		Localizing existed exogenous resources	Lucas (1988)
	Technological innovation	Operation mode innovation	Crouch and Ritchie (1999)
		Electronic information resources	Romer (1990)
		Special events creation	Schumpeter (1912)
	<i>Competitive advantages</i>		
	Infrastructure investments	Accessibility designing	Crouch and Ritchie (1999)
		Accommodations	Gallarza et al. (2002)
		Transportation systems	Gallarza et al. (2002)
		Characteristic food	Gearing et al. (1974)
			Hassan (2000)
	Strategic planning to market ties		Hu and Ritchie (1993)
			McCain and Ray (2003)
			Russo and van der Borg (2002)
		Building tourism linkages with related characteristics	Crouch and Ritchie (1999)
		Creative activities	Poon (1993)

(Continued)

Table 1. Continued.

Goal	Evaluation dimensions	Detailing indicators	Authors
Tourism competitiveness evaluation model	Maintaining resources	Regular maintain schedule Protection institution Seasonal peak load adjustment Protection technological innovation	Porter (1985, 1990) Crouch and Ritchie (1999) Dwyer et al. (2000, 2002) Porter (1985, 1990)
	Monitoring resources allocations	Resources I/O analysis Exhausting monitor system	Crouch and Ritchie (1999) Dwyer et al. (2000, 2002)
	Growth and development	Emergence response system Economic growth Public security system development	Porter (1985, 1990) Crouch and Ritchie (1999) Enright and Newton (2004, 2005) Porter (1985, 1990)
	<i>Tourism management</i>		
	Operational performance effectiveness	One-stop tourism package services	Crouch and Ritchie (1999)
	Facilitating resources created	Public services	Porter (1985, 1990) Crouch and Ritchie (1999)
	Resources stewardship training	Financial institutions Subtle nurturing technologies Philosophical education in the concepts of long-term sustainable competitiveness	Porter (1985, 1990) Arrow (1962) Buhails (2000) Crouch and Ritchie (1999) Lucas (1988) Porter (1985, 1990) Yang (1994)
	Marketing	Tourism products or services development Reasonable pricing policies Distribution channel to target markets One-stop tourism package services developing	Bramwell and Rawding (1996) Buhails (2000) Crouch and Ritchie (1999) Dann (1996)
	Organization and regulations	Management organization Well-related regulations	Porter (1985, 1990) Buhails (2000) Crouch and Ritchie (1999)
	Businesses or firms integration	Specialized-supplier-linkages Labor market pooling Knowledge spillover	Porter (1985, 1990) Arrow (1962) Buhails (2000) Crouch and Ritchie (1999) Krugman (1979) Lucas (1988) Porter (1985, 1990)

(Continued)

Table 1. Continued.

Goal	Evaluation dimensions	Detailing indicators	Authors
Tourism competitiveness evaluation model	Information providing	Tourists information	Arrow (1962)
		Tourism resources information	Buhails (2000)
		Related products information	Crouch and Ritchie (1999)
	Services	Particular decisions	Porter (1985, 1990)
		Hard resources	Crouch and Ritchie (1999)
		Soft resources	Porter (1985, 1990)
	<i>(Domestic) Environment conditions</i>		
	Chance events	Spread of disease	Crouch and Ritchie (1999)
		Natural resources deteriorated	Henderson (1999)
		Significant world financial exchange markets events	Huang and Min (2002)
	Superstructure changes		McKercher and Chon (2004)
			Murphy et al. (2000)
			Porter (1985, 1990)
			Wilder-Smith (2006)
			Clements and Georgiou (1998)
	<i>(Global) Environment conditions</i>	Political climate changes	Crouch and Ritchie (1999)
		Ethic tensions harmonization	Murphy et al. (2000)
		Laws or regulations supporting	Porter (1985, 1990)
		Cultural diversification	
	Accidental events	Terrorism Attack	Crouch and Ritchie (1999)
		Global Epidemic Disease	Goodrich (2002)
		Economic Sanctions	Murphy et al. (2000)
	Expected events	Wars	Porter (1985, 1990)

first mailing, the non-respondents were sent a reminder letter, questionnaire, and return envelope. Additional reminders were sent by email to non-respondents at 2-week intervals. The respondents were guaranteed confidentiality and were sent the overall averaged results of the survey and the averaged results for their opinions. The study surveyed fifteen scholars/researchers and four government officials, all of them are worldwide not limited in Asia. Of these, four respondents were eliminated from analysis due to lack of consistency ( $CR > 0.1$ ).

#### 4. Weight of indicators and decision analyses

Via pair-wise comparison judgments of AHP and relevant matrices calculation techniques, these hierarchical weights (i.e. principal evaluation dimensions, elements and detail indicators) could be obtained. Notably, the obtained weights (local priorities) represented the

priorities in the associated hierarchy. The results of those obtained weights are shown in the following sections.

#### 4.1 Weight analysis on principal evaluation dimensions

Among the six principal evaluation dimensions, exogenous comparative advantages, endogenous comparative advantages, competitive advantages, tourism management, domestic environment conditions, and global environment conditions, the analytical results (Figure 2) showed that exogenous comparative advantages (weight, 49.18%) was the most important factor for enhancing the tourism competitiveness of a destination. Other important factors are competitive advantage (weight, 17.27%), tourism management (weight, 12.01%), endogenous comparative advantage (weight, 10.62%), and global environment conditions (weight, 6.03%). The least important factor is domestic environment conditions (weight, 4.89%).

As concluded by Russo and van der Borg (2002), McCain and Ray (2003), and Hou et al. (2005), *exogenous comparative advantages* play a critical role in the composition of the tourism competitiveness. However, in addition to developing these exogenous resources, improving or enhancing destination competitiveness is also important. Additionally, it is important to combine theories and concepts of *competitive advantage* for a more detailed analysis of this issue. As Enright and Newton (2004) indicated, 'a destination is competitive if it can attract and satisfy potential tourists, and this competitiveness is determined both by tourism-specific factors and a much wider range of factors that influence the tourism service providers.' Conversely, excellent *tourism management* performance also played a key role in enhancing the competitiveness of a destination.

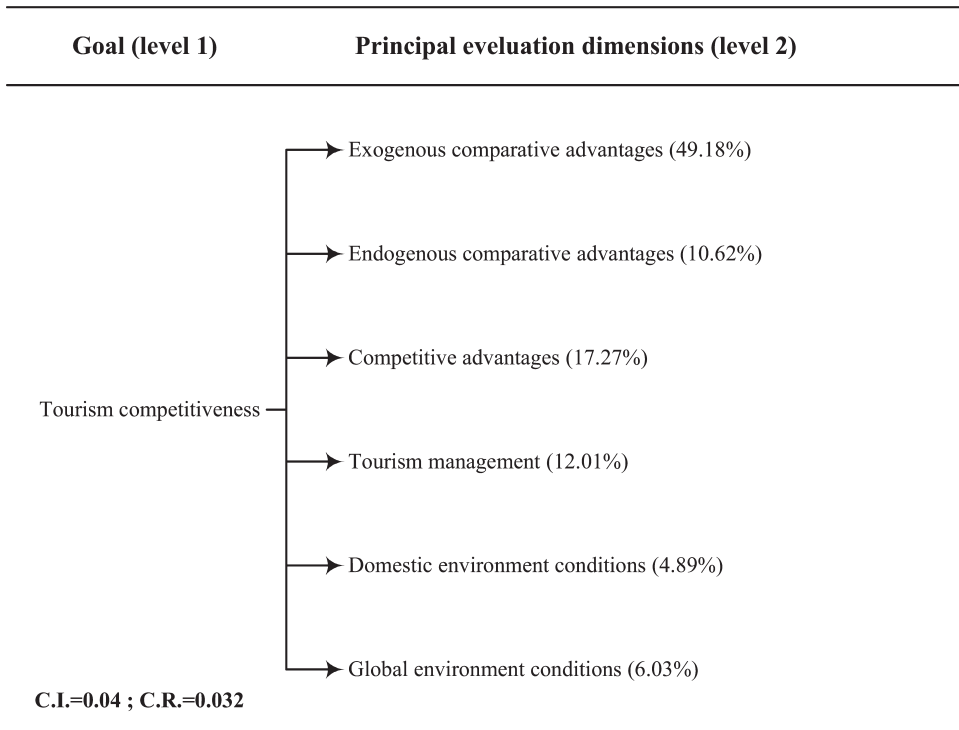


Figure 2. Importance of principal evaluation dimensions.



4.2 Weight analysis on comparative advantages

The evaluation dimension of exogenous comparative advantages is composed of three elements: *natural resources*, *cultural/heritage resources* and *capital resources*. The analytical results (Figure 2) indicate that *cultural/heritage resources* (weight, 46.87%) are the most important element. This element, representing a high rate of *history* (weight, 47.25%), is the most heavily weighted leading indicator. Additionally, *special events* (weight, 21.53%) are another important indicator of enhanced cultural/heritage resources. Secondly, *natural resources* (weight, 29.85%) is the second most significant element in exogenous comparative advantages improvement, and *scenery* (weight, 32.68%) and *landscape* (weight, 32.23%) are selected as the most significant indicators of the natural resources improvement element. Finally, *capital resources* (weight, 23.28%) are the least important in exogenous comparative advantages improvement.

The analytical results indicate that cultural tourism (Russo & van der Borg, 2002) has become a holistic process to provide the source of tourism attractiveness. Thus, local festival celebrations of a specific destination should be based on characteristic folklore, i.e. the so-called special events, to help create the principal memorable experiences of a destination for tourists.

The evaluation dimension of endogenous comparative advantages is composed of three elements: *human resources*, *knowledge resources*, and *technological innovation*. The analytical results (Figure 3) indicate that *human resources* (weight, 66.53%) is the most important element, and this element representing a high rate of *education in commerce* (weight, 47.67%) is the most heavily weighted. Secondly, *knowledge resources* is the second significant element (weight, 20.01%) of endogenous comparative advantage improvement. Any destination should consider expanding its existing exogenous resources to enrich its management knowledge. Finally, *technological innovation* (weight, 13.46%) is the least important for improving endogenous comparative advantage; however, *special events creation* is identified as the most significant indicator (weight, 48.97%) for enhancing the technological innovation element.

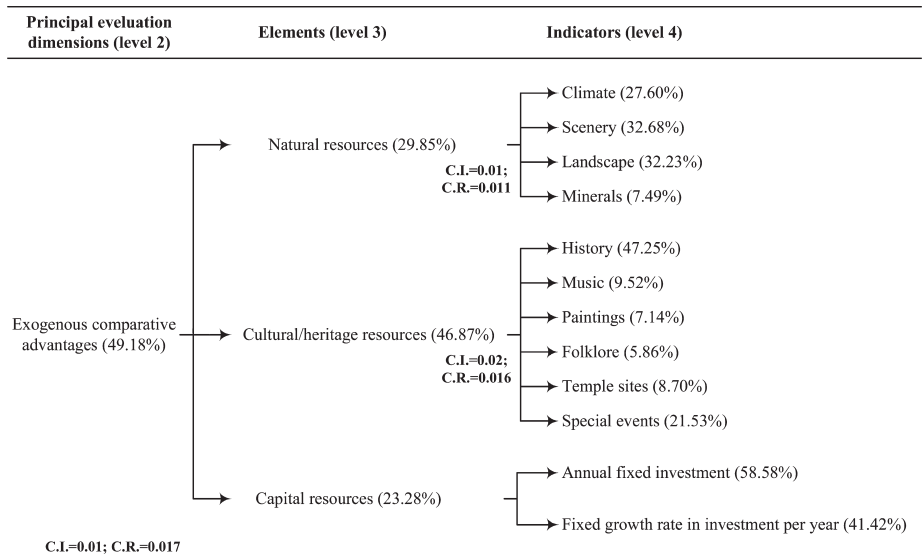


Figure 3. Importance of elements and indicators of exogenous comparative advantages.

Based on these analytical results, it is important to implement a series of human resource improvement activities to enhance the endogenous comparative advantages of a destination, through the learning by doing process described by Arrow (1962), the specialization of employees (training on job) described by Yang (1994) and the protection of natural resources. Additionally, as noted by Schumpeter (1912), tourist travel to a destination to receive destination services and associated experiences represents a potential new market important to the tourism industry. In such cases, special events creation becomes more significant in developing countries. Of course, new service mode innovations and novel approaches for providing services are also important issues. Further, knowledge resources should be carefully examined by introducing successful operational knowledge to a new destination (Lucas's (1988) spillover effect occurs) to expand its existing exogenous resources.

### 4.3 Weight analysis on competitive advantages

The evaluation dimension of competitive advantages is composed of seven elements: infrastructure investments, strategic planning to market ties, maintaining resources, monitoring resource allocations, growth and development, operational performance effectiveness, and facilitating resource creation. The analytical results (Figure 4) show that infrastructure investment (weight, 38.48%) is the most important element for enhancing the competitive advantages of a destination, and the indicator of accessibility designing is the most important weight (weight, 37.94%) in this element. Thus, convenient transit system design for connecting with scheduled flight (arrival and departure) and local transportation systems and accommodation support would be the most important issue for enhancing the competitive advantages of a destination. The second important element is growth and development (weight, 17.08%). Rapid or continued economic growth would attract FDI in key industries then generate market ties (including ethnic ties, business ties, and leisure ties) which would lead to steady tourist flow.

The third important element is *operational performance effectiveness* (weight, 14.95%). One alternative is *one-stop tourism package services*. Its priority is determined by the

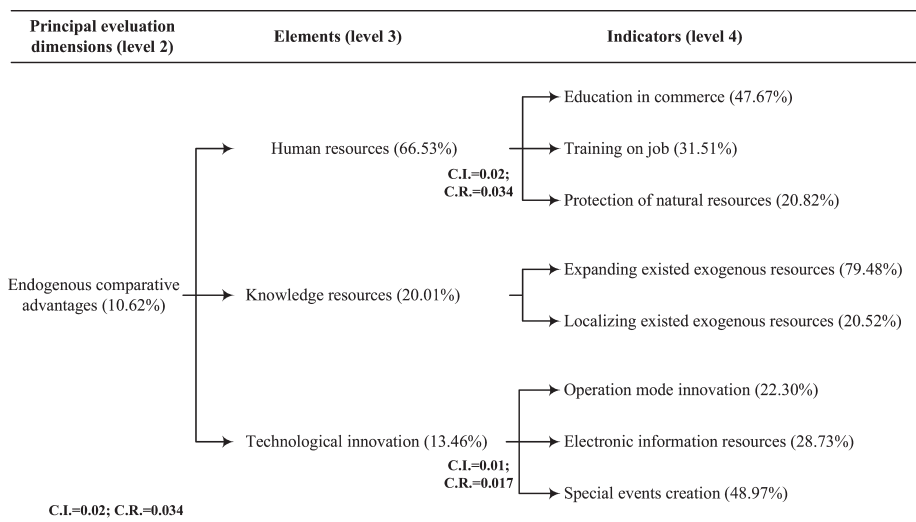


Figure 4. Importance of elements and indicators of endogenous comparative advantages.

upper-level weights. As Porter indicated, sophisticated domestic tourists and their high-level demands are an incentive for delivery of specific services. Thus, integrating total tourism services (pleasure parks, hotels, restaurants, resorts, tourism fruit farms, and so on) of a destination into a selection package could significantly attract tourists. *Facilitating resource creation* (weight, 9.65%), *strategic planning to develop market ties* (weight, 8.84%), and *maintaining resources* (weight, 6.27%) are also important elements. Thus, for a destination with limited tourism resources, implementing a regular maintain schedule on a monthly, quarterly, or annual basis is particularly important for preserving fragile cultural heritages, buildings, related landscapes, and general tourism resources subject to harsh weather conditions. Convenient public services (including sufficient information or more detailing specifics, such as rapid post-delivery services, high-quality telecommunication, barrier-free public environment designing), and financial institutions (including related financial services, such as travel check, currency exchange, money remittance) are also important for improving competitive advantage. The least important element is *monitoring resources allocations* (weight, 4.73%).

4.4 Weight analysis on tourism management

The evaluation dimension of tourism management is composed of six elements: *resource stewardship training*, *marketing*, *organization and regulations*, *business or firm integration*, *information providing*, and *services*. The analytical results (Figure 5) indicate that *marketing* is the most important element (weight, 23.66%), making the *reasonable pricing policies* indicator the most important weight (weight, 34.20%) in this element.

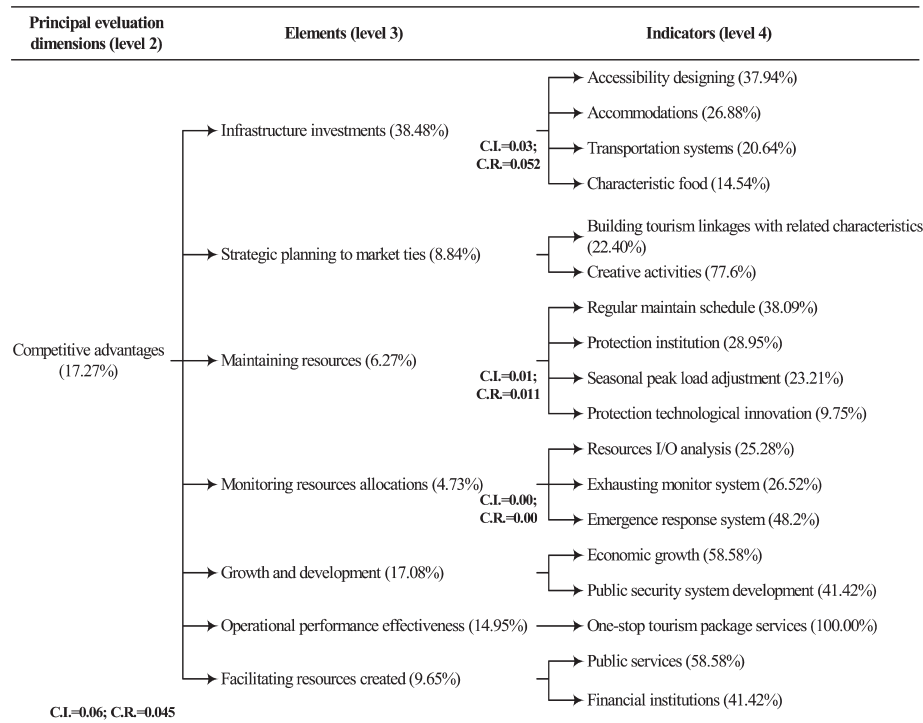


Figure 5. Importance of elements and indicators of competitive advantages.

Other important elements include *business or firm integration* (weight, 21.22%), *services* (weight, 17.95%), *organization and regulations* (weight, 15.36%), and *information providing* (weight, 14.5%). Finally, *resource stewardship training* (weight, 7.31%) is the least important for tourism management improvement. *Marketing* is the most traditional strategic tool/activity for promoting tourism resources of a destination. The analytical results in this study once again indicated its importance, particularly in special events creation, market tie establishments, pricing policy to adjust the number of tourist visits between seasonal peak period, and the slack season and market segment.

Furthermore, effective *management organization and regulations* are required for high decision-making quality in promoting the attractiveness of a destination. Effective collaboration projects are also needed. Thus, well-defined regulations would also encourage management organizations to engage in strategic planning of tourism development to shape the competitive advantages of a destination with respect to future challenges. Finally, *businesses clusters or firms integration* can bring together many firms that can provide a large enough investment to support specialized suppliers. Meanwhile, it can also create a pooled market for workers with highly specialized skills needed in the tourism industry. As Krugman (1979) suggested, 'with the effects of regional agglomeration, trade may be a way of extending the market and allowing exploitation of scale economies.'

#### 4.5 Weight analysis on environment conditions

The evaluation dimension of domestic environment conditions is composed of two elements: *chance events* and *superstructure changes*. The analytical results (Figure 6)

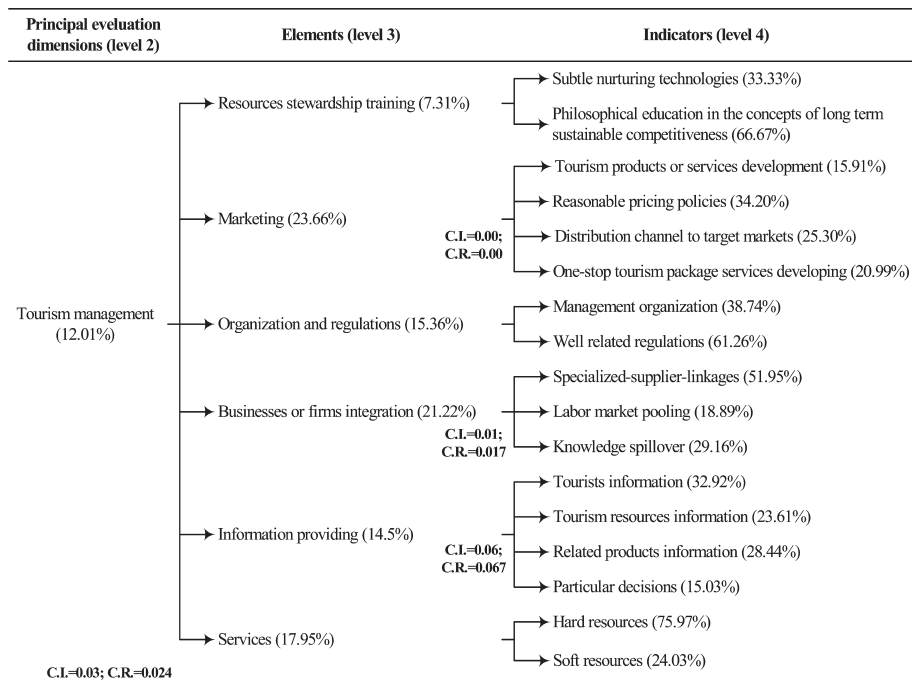


Figure 6. Importance of elements and indicators of tourism management.

indicate that *superstructure change* is the most important element (weight, 79.48%) and gives the three indicators *ethnic tensions harmonization* (weight, 35.70%), *cultural diversification* (weight, 25.58%), and *political climate changes* (weight, 20.31%) sequential weights for this element. The analytical results indicate that creating a stable political climate and implementing policy for harmonizing ethnic tensions are important for any destination and can enhance economic development, attract international tourists and encourage tourism development, all of which eventually shape competitiveness. Additionally, providing diversified cultural tourism experiences would also increase attractiveness to potential tourists and shape the unique characteristics of a destination.

Secondly, *chance events* are also a considerable element (weight, 20.52%) for domestic environment conditions. *Spread of disease* (weight, 40.78%) and significant *world financial exchange markets events* (weight, 36.33%) are selected as the significant indicators to affect the domestic environment security and safety considerations. Based on the result, it is also an important issue to construct disease information/announcement networks, to effectively prevent disease transmission in the journey, and slow down the speed of its spread through. Conversely, appropriate financial intervention policy could prevent local financial market from losing change value of its currency, unemployment, rising prices and food shortages, and eventually ensure the tourism industry.

The evaluation dimension of global environment conditions is composed of two elements: *accidental events* and *expected events*. The analytical results (Figure 7) indicate that *accidental events* are more important (weight, 81.73%), and put the most weight on this element. *Terrorist attack* is the leading indicator (weight, 69.10%). Secondly, *expected events* (weight, 18.27%) also considerably affect global environment conditions, and *wars* (weight, 79.48%) are selected as the most significant indicator of global environment security and safety.

In tourism competition, stable global environment conditions are needed for more peaceful atmospheres. Thus, based on the above results, any government of a destination should pay more attention to global affairs such as by issuing a democracy/peace communiqué, promoting humanism and global collaboration in anti-terrorism activities. Additionally, any new tourism destination can employ these measures to enhance the attractiveness of its tourism products and services to potential tourists.

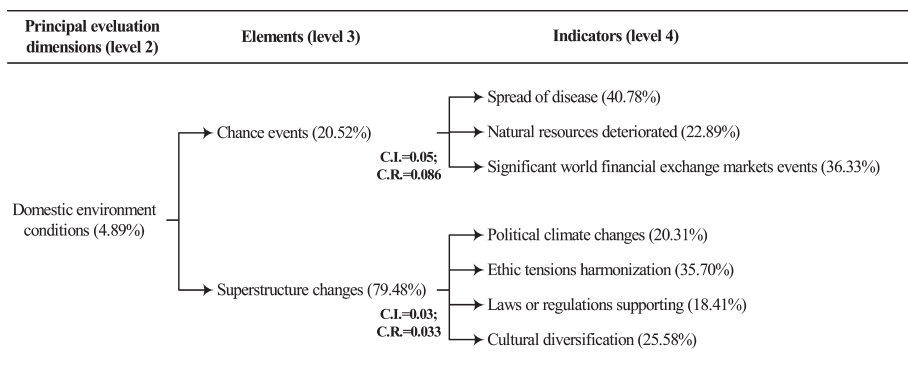


Figure 7. Importance of elements and indicators of domestic environment conditions.

## 5. Conclusions

The elements of tourism competitiveness are multi-dimensional and extremely complex. The study first traced the development of theories of competitiveness to clarify a suitable research scope of tourism competitiveness. Via extensive review of the relevant literature in international trade and economics, the meaning and the scope of the term 'tourism competitiveness' was defined as 'The relative competitive position (in terms of profits and growth) of a nation's tourism industry in the global market, including developed and developing countries, which could therefore increase the real income of its citizens and improve its standard of living.' This study proposes that the competitiveness of a tourist destination should be composed of (1) RCA, including the conditions of natural endowments (exogenous comparative advantages) and the degree of technological change (endogenous comparative advantages); (2) PCA, explaining the increase in trade among countries with similar factorial portfolios than in trade pattern determination; (3) tourism management, i.e. providing high-quality education and training to tourist industry workers as well as public goods, support services and reduced transaction costs to enhance RCA and PCA; and (4) environmental conditions, including the domestic and the global environmental conditions. In addition, this study employs AHP to weight these evaluation dimensions, elements, and indicators in the proposed tourism competitiveness research framework. The analytical results reveal that *exogenous comparative advantages* (weight, 49.18%) are the most important factor for enhancing the tourism competitiveness of a tourist destination. Other important factors are *competitive advantages* (17.27%), *tourism management* (12.01%), *endogenous comparative advantages* (10.62%), and *global environmental conditions* (6.03%). The least important factor is *domestic environment conditions* (4.89%).

This proposed comprehensive research framework including economics and management points also provides the government several policy decision-thinking as follows.

- (1) Human resources are still an important issue in tourism competitiveness improvement. Human resources enhancement is only minimally affected by competitive advantages activities such as infrastructure, market ties strategies, and facilitating package services. Thus, identifying suitable modals or approaches to providing training on job, protection of natural resources, and tourism-related education is needed to maintain the competitiveness of a destination.
- (2) Adjusting competitive resources allocation. Due to the dynamics of competitive status in tourism related industries, it is necessary to adjust competitive resources allocation along with specific environmental conditions changes and all relevant policies considerations.

## Acknowledgement

This research was conducted with the support of National Science Council, Taiwan (NSC 97-2410-H-161-001).

## References

- Arrow, K.J. (1962). The economic implications of learning by doing. *The Review of Economic Studies*, 29(3), 155–173.
- Arto, E.W. (1987). Relative total costs – an approach to competitiveness measurement of industries. *Management International Review*, 27(2), 47–58.



- Barney, J.B. (1991). Firm resources and sustainable competitive advantages. *Journal of Management*, 17(1), 99–120.
- Baron, J., & Kemp, S. (2004). Support for trade restrictions, attitudes, and understanding of comparative advantage. *Journal of Economic Psychology*, 25(5), 565–580.
- Bess, R. (2006). New Zealand seafood firm competitiveness in export markets: The role of the quota management system and aquaculture legislation. *Marine Policy*, 30(4), 367–378.
- Bonn, M.A., Joseph, S.M., & Dai, M. (2005). International versus domestic visitors: An examination of destination image perceptions. *Journal of Travel Research*, 43(3), 294–301.
- Buhails, D. (2000). Marketing the competitive destination of the future. *Tourism Management*, 21(1), 97–116.
- Chakravarthy, B.S. (1986). Measuring strategic performance. *Strategic Management Journal*, 7(5), 437–458.
- Chin, K.S., Pun, K.F., & Lau, H. (2003). Development of a knowledge-based self-assessment system for measuring organizational performance. *Expert Systems with Application*, 24(4), 443–455.
- Cho, D.S., & Moon, H.C. (2000). *From Adam Smith to Michael Porter: Evolution of competitiveness theory*. Singapore: World Scientific Publishing Co.
- Chon, K.S., & Mayer, K.J. (1995). Destination competitiveness models in tourism and their application in Las Vegas. *Journal of Tourism Systems and Quality Management*, 1(2–4), 227–246.
- Clements, M.A., & Georgiou, A. (1998). The impact of political instability on a fragile tourism product. *Tourism Management*, 19(3), 283–288.
- Crouch, G.I., & Ritchie, J.R.B. (1999). Tourism, competitiveness, and societal prosperity. *Journal of Business Research*, 44(3), 137–152.
- d’Hauteserre, A.M. (2000). Lessons in managed destination competitiveness: The case of Foxwoods Casino Resort. *Tourism Management*, 21(1), 23–32.
- Davis, D.R., & Weinstein, D.E. (2003). Market access, economic geography and comparative advantage: An empirical test. *Journal of International Economics*, 59(1), 1–23.
- Dunning, J.H. (1993). Internationalizing Porter’s diamond [Special issue]. *Management International Review*, 33(2), 7–15.
- Durand, M., Madaschi, C., & Terribile, F. (1998). *Trends in OECD countries’ international competitiveness: The influence of emerging market economies*. Economics Department Working Papers No. 195. Paris: OECD.
- Dwyer, L., Forsyth, P., & Rao, P. (2000). The price competitiveness of travel and tourism: A comparison of 19 destinations. *Tourism Management*, 21(1), 9–22.
- Dwyer, L., Forsyth, P., & Rao, P. (2002). Destination price competitiveness: Exchange rate changes versus domestic inflation. *Journal of Travel Research*, 40(3), 328–336.
- Enright, M.J., & Newton, J. (2004). Tourism destination competitiveness: A quantitative approach. *Tourism Management*, 25(6), 777–788.
- Enright, M.J., & Newton, J. (2005). Determinants of tourism destination competitiveness in Asia Pacific: Comprehensiveness and universality. *Journal of Travel Research*, 43(1), 339–350.
- European Commission, Competitiveness Advisory Group (1994). *Enhancing European competitiveness*. 2nd Report to the President of the Commission. Luxembourg: OOEPEC.
- Fagerberg, J. (1988). International competitiveness. *The Economic Journal*, 98(391), 355–374.
- Fajnzylber, F. (1988). International competitiveness: Agreed goal, hard task. *CEPAL Review*, 36, 7–23.
- Faulkner, B., Oppermann, M., & Fredline, E. (1999). Destination competitiveness: An exploratory examination of South Australia’s core attractions. *Journal of Vacation Marketing*, 5(2), 125–139.
- Fisher, E.O.N., & Kakkar, V. (2004). On the evolution of comparative advantage in matching models. *Journal of International Economics*, 64(1), 169–193.
- Gallarza, M.G., Saura, I.G., & García, H.C. (2002). Destination image: Towards a conceptual framework. *Annals of Tourism Research*, 29(1), 56–72.
- Gearing, C.E., Swart, W.W., & Var, T. (1974). Establishing a measure of touristic attractiveness. *Journal of Travel Research*, 12(4), 1–8.
- Goodrich, J.N. (2002). September 11, 2001 attack on America: A record of the immediate impacts and reactions in the USA travel and tourism industry. *Tourism Management*, 23(6), 573–580.
- Greenaway, D. (1993). The competitive advantage of nations by Michael E. Porter. *Kyklos*, 46(1), 145–146.
- Grant, R.M. (1991). Porter’s competitive advantage of nations: An assessment. *Strategic Management Journal*, 12(7), 535–548.

- Guan, J.C., Yam, R.C.M., Mok, C.K., & Ma, N. (2006). A study of the relationship between competitiveness and technological innovation capability based on DEA models. *European Journal of Operational Research*, 170(1), 971–986.
- Hassan, S.S. (2000). Determinants of market competitiveness in an environmentally sustainable tourism industry. *Journal of Travel Research*, 38(3), 239–245.
- Henderson, J.C. (1999). Southeast Asian tourism and the financial crisis: Indonesia and Thailand compared. *Current Issues in Tourism*, 2(4), 294–303.
- His Majesty's Treasury (1983). International competitiveness. *Economic Progress Report*, 158, 1–5.
- Hou, J.S., Lin, C.H., & Morais, D.B. (2005). Antecedents of attachment to a cultural tourism destination: The case of Hakka and non-Hakka Taiwanese visitors to Pei-pu, Taiwan. *Journal of Travel Research*, 44(2), 221–233.
- Hsu, C.H.C., Wolfe, K., & Kang, S.K. (2004). Image assessment for a destination with limited comparative advantages. *Tourism Management*, 25(1), 121–126.
- Hu, Y.Z., & Ritchie, J.R.B. (1993). Measuring destination attractiveness: A contextual approach. *Journal of Travel Research*, 32(2), 25–34.
- Huang, J.H., & Min, J.C.H. (2002). Earthquake devastation and recovery in tourism: The Taiwan case. *Tourism Management*, 23(2), 145–154.
- International Institute for Management Development (IMD). (2005). *The world competitiveness yearbook 2005*. Switzerland: Lausanne.
- Krugman, P. (1979). Increasing returns, monopolistic competition and international trade. *Journal of International Economics*, 9(4), 469–479.
- Krugman, P. (1994). Competitiveness: A dangerous obsession. *Foreign Affairs*, 73(2), 28–46.
- Li, L.X. (2000). An analysis of sources of competitiveness and performance of Chinese manufacturers. *International Journal of Operations & Production Management*, 20(3), 299–315.
- List, F. (1837). *The natural system of political economy*. (W.O. Henderson, Trans. and edition). London: Cass.
- Lucas, R.E. (1988). On the mechanism of economic development. *Journal of Monetary Economics*, 22(1), 3–42.
- McCain, G., & Ray, N.M. (2003). Legacy tourism: The search for personal meaning in heritage travel. *Tourism Management*, 24(6), 713–717.
- McKercher, B., & Chon, K. (2004). The over-reaction to SARS and the collapse of Asian tourism. *Annals of Tourism Research*, 31(3), 716–719.
- Melián-González, A., & García-Falcón, J.M. (2003). Competitive potential of tourism in destinations. *Annals of Tourism Research*, 30(3), 720–740.
- Murphy, P., Pritchard, M.P., & Smith, B. (2000). The destination product and its impact on traveler perceptions. *Tourism Management*, 21(1), 43–52.
- Newall, J.E. (1992). The challenge of competitiveness. *The Business Quarterly*, 56(4), 94–100.
- OECD. (2000). *The competitiveness of European industry: 1999 Report*. Working Document of the Services of the European Commission: COM(1999) 465. Paris: OECD.
- Oral, M. (1986). An industrial competitiveness model. *IIE Transactions*, 18(2), 148–157.
- Oral, M. (1993). A methodology for competitiveness analysis and strategy formulation in glass industry. *European Journal of Operational Research*, 68(1), 9–22.
- Oral, M., & Reisman, A. (1988). Measuring industrial competitiveness. *Industrial Marketing Management*, 17(3), 263–272.
- Pearce, D.G. (1997). Competitive destination analysis in Southeast Asia. *Journal of Travel Research*, 36(1), 16–24.
- Peteraf, M.A. (1993). The cornerstones of competitive advantages: A resource-based view. *Strategic Management Journal*, 14(3), 179–191.
- Poon, A. (1993). *Tourism, technology and competitive strategy*. Wallingford: CAB International.
- Porter, M.E. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. New York: The Free Press.
- Porter, M.E. (1985). *Competitive advantages: Creating and sustaining superior performance*. New York: The Free Press.
- Porter, M.E. (1990). *The competitive advantages of nations*. New York: The Free Press.
- Prahalad, C.K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, 68(3), 79–91.
- Report of the President's Commission on Industrial Competitiveness. (1985). *Global competition: The new reality*. Washington, DC: US Government Printing Office.

- Ricardo, D. (1817). *On the principles of political economy and taxation*. Baltimore: Penguin.
- Ritchie, J.R.B., & Crouch, G.I. (2000). The competitive destination: A sustainability perspective. *Tourism Management*, 21(1), 1–7.
- Ritchie, J.R.B., & Crouch, G.I. (2003). *The competitive destination: A sustainable tourism perspective*. Wallingford: CABI Publishing.
- Romer, P. (1990). Endogenous technological change. *Journal of Political Economy*, 98(5), S71–S102.
- Rugman, A.M., & D'Cruz, J.R. (1993). The double diamond model of international competitiveness: The Canadian experiences [Special issue]. *Management International Review*, 33(2), 17–39.
- Russo, A.P., & van der Borg, J. (2002). Planning considerations for cultural tourism: A case study of four European cities. *Tourism Management*, 23(6), 631–637.
- Saaty, T.L. (1977). A scaling method for priorities in hierarchical structures. *Journal of Mathematical Psychology*, 15(2), 234–281.
- Saaty, T.L. (1980). *The analytic hierarchy process*. New York: McGraw-Hill.
- Saaty, T.L. (1990). How to make a decision: The analytic hierarchy process. *European Journal of Operational Research*, 48(1), 9–26.
- Schumpeter, J. (1912). *The theory of economic development*. Leipzig: Duncker & Humblot.
- Scott, B.R., & Lodge, G.C. (1985). *US competitiveness in the world economy*. Boston, MA: Harvard Business School Press.
- Sim, L.L., Ong, S.E., & Agarwal, A. (2003). Singapore's competitiveness as a global city: Development strategy, institutions and business environment. *Cities*, 20(2), 115–127.
- Skidelsky, R. (1992). *John Maynard Keynes: The economist as saviour, 1920–1937* (Vol. 2). UK: Macmillan London Limited.
- Smith, A. (1776). *An inquiry into the nature and causes of the wealth of nations* (Modern Library). New York: Random House.
- Solteiro, J.L., & Castañón, R. (2005). Competitiveness and innovation systems: The challenges for Mexico's insertion in the global context. *Technovation*, 25(9), 1059–1070.
- The Economist (1994). The economics of meaning. *The Economist*, 331(7861), 17–18.
- United Nations World Tourism Organization (UNWTO) (2005). *Tourism highlights 2005*. Madrid: Author.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171–180.
- Wilder-Smith, A. (2006). The severe acute respiratory syndrome: Impact on travel and tourism. *Travel Medicine and Infectious Disease*, 4(2), 53–60.
- World Economic Forum (WEF). (2005). *The global competitiveness report 2005*. Switzerland: Author.
- World Travel and Tourism Council (WTTC). (2005). *Progress and priorities 2005–06*. UK: Author.
- Yang, X.K. (1994). Endogenous vs. exogenous comparative advantage and economies of specialization vs. economies of scale. *Journal of Economics*, 60(1), 29–54.
- Zanakis, S.H., & Becerra-Fernandez, I. (2005). Competitiveness of nations: A knowledge discovery examination. *European Journal of Operational Research*, 166(1), 185–211.