Research on modeling and evaluation of Chinese tourism competitiveness based on double diamond model

Xia Yang[*]

Land Resources College of China West Normal University, Nanchong City, Sichuang Province, China, 637002

Abstract

Double diamond model was proposed by Michael Porter in 1990 who is a famous strategic management scientist of Harvard Business School. It is used to analyze how a country develops overall advantages to win strong international competitiveness. In this paper, the evaluation model of Chinese tourism competitiveness was established based on the double diamond model and six influencing factors, including resource factors, demand conditions, supporting industries, enterprise composition in tourism industry, government function and industrial innovation capacity. For the sake of data authenticity and availability, the established evaluation model divided world tourism consumption region into developed countries and developing countries. It evaluated different regions or regional consumers. Finally, some policy suggestions against the poor competitiveness of Chinese tourism were proposed.

Keywords: Converter double diamond model; tourism; competitiveness; evaluation

1 Introduction

Tourism, a green industry, has been the key development of countries and regions in the world. In 2013, the total tourist arrivals and tourist revenue reached 3,400 billion and 2,870 billion RMB, 12% up compared to those of 2012. This reflects strong development momentum of tourism industry. Since travelling abroad attracts more and more attentions in recent years, Chinese tourism industry suffers great shock from foreign tourism. Therefore, improving Chinese tourism competitiveness becomes an urgent problem of Chinese tourism development. Based on double diamond model, this paper established the evaluation model of Chinese tourism competitiveness and explored development strategies for Chinese tourism industry.

2 Development status of Chinese tourism industry

Chinese tourism industry witnesses a rapid development. Its great market makes it an important drive of Chinese economic development. The total tourism revenue of China in 2013 was 2,870 billion RMB and the value added was 357 billion RMB, accounting for 9.5% of the global value added of tourism industry. Chinese tourism industry offers more than 13.5 millions of direct employments. About 12% total consumption of China is contributed by tourism industry. Tourism industry plays an important role in many industries. It contributes about 90% hotel consumption and more than 80% civil aviation and railway revenues. According to the independent study of Global Business Travel Association, Chinese tourism market still maintains quick growth after the financial crisis although the world economy develops slowly. China is expected to replace America to be the biggest business travel market in the world. Based on Research statistics, it is estimated that the

trade volume of Chinese online traveling reservation in 2015 will reach as high as 363 billion RMB. China National Tourism Administration also predicted that China will become the biggest domestic tourism market in the world in 2015. Recently, the annual growth of Chinese tourism exceeds 16%, significantly higher than the macroeconomic growth rate. Tourism industry has become an important drive of Chinese economic growth.

Outbound tourism develops rapidly, while inbound tourism develops slowly. The World Tourism Organization (WTO) stated China ranks first in travel expenses. In 2013, China won 51.7 billion dollars of foreign currency earnings from outbound tourism and Chinese outbound tourists reached 0.129 billion. China Tourism Academy predicted that Chinese outbound tourists will exceed 0.2 billion in 2020. In other words, 1/7 Chinese will choose traveling abroad. Compared to outbound tourism, inbound tourism develops more slowly. The total number of foreign visitor arrivals in China by the end of 2012 is 57.58 millions, showing a slow growth (<1%). Moreover, the per capita consumption of foreign visitors in China is relatively lower.

With the rapid development of E-commerce, travel modes change greatly. Tourists pay more attentions on tourism quality. The online tourism trade volume in China increases by more than 20% in recent years. It reached 220.4 billion RMB in 2013 and is expected to reach 465 billion RMB in 2017. The online tourism trade volume in China within the first quarter of 2014 was 56.4 billion RMB, presenting 17% year-on-year growth. Appropriate authorities estimate that Chinese online tourism will maintain a high growth rate (10-20%) in the coming 3-5 years. According to the survey, 70% Chinese tourists prefer Do-It-Yourself (DIY) tour and less than 30% will choose package tour. Chinese tourism consumption changes travel modes gradually and depends

[*] *Corresponding author's* e-mail: 27066722@qq.com

more on individual tourists. This reveals the increasing quality pursuit of Chinese tourists.

Chinese tourism industry is facing with product undersupply, low level and serious supply-demand imbalance. With the continuous improvement of living standards, tourists propose various travel requirements, thus facilitating continuous innovation of tourism enterprises. They begin to provide full services (including food, housing, transport, travel, shopping and entertainment) instead of single demand of tourists. However, due to the underdevelopment of functional services, Chinese tourism industry couldn't meet various demands of tourists, especially during the gold week with sharp increase of tourists. For example, thousands of visitors were kept from Jiuzhaigou Valley on the National Day, 2013.

The tourism market is out of order and has supervision defects. The frequent over-expensive tourism events in China in 2013 not only attracted attentions from authorities related to tourism, but also reflected the unsatisfying management of tourism market in China. Tourism industry is controlled by several departments in China, which causes decentralized power, multiple managements and low sense of responsibility. This finally results in the invalid market supervision and market confusion. Du Jiang, the deputy director of China National Tourism Administration stated that currently, the tourism market supervision subject of China is challenged by limited functions and means of tourism supervision, inadequate attention on tourism supervision, weak tourism regulation power, and overlapping tourism regulatory functions.

3 Evaluation model of Chinese tourism competitiveness

3.1 CONTENTS OF DOUBLE DIAMOND MODEL

Double diamond model was proposed by Michael Porter (a famous strategic management scientist of Harvard Business School) in 1990. It is used to analyze how a country develops overall advantages to win strong international competitiveness. The structure of double diamond model is shown in Fig.1. Its four technological factors are basic elements reflecting regional competitiveness: resource factors (human resources, natural resources, knowledge resources, capital resource and infrastructure), demand conditions, supporting industries (industries related with tourism industry, such as hotels and restaurants) and enterprise composition in tourism industry. Additionally, opportunity, government functions and industrial innovation capacity are another three influencing factors of tourism competitiveness.
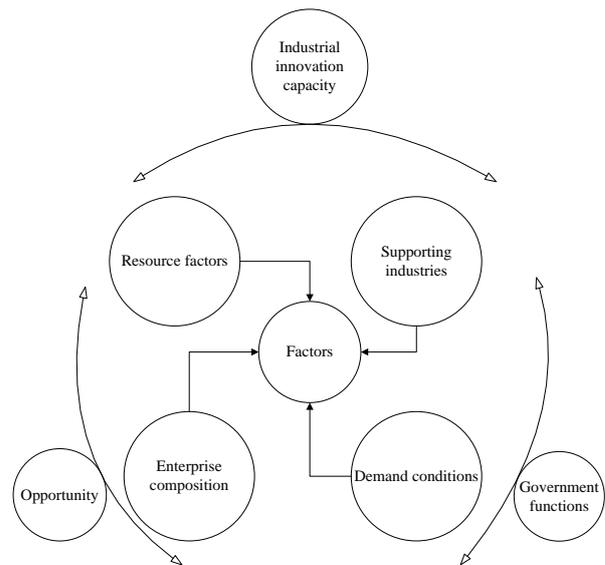

FIGURE 1 Influencing factors

3.2 ESTABLISH EVALUATION MODEL OF CHINESE TOURISM COMPETITIVENESS

Each factor plays indispensable role in the model. Suppose effect weight of each factor is 1. Competitiveness of each factor is influenced by a series of factors and can be expressed as a function. Therefore, competitiveness of tourism industry is influenced by various functions. Let a represent resource factors, b represent demand conditions, c represent supporting industries, d represent enterprise composition in tourism industry, t represent opportunity, g represent government functions and p represent industrial innovation capacity. The comparison formula of tourism competitiveness of a country is:

$$X = a*b*c*d*t*g*p - a'*b'*c'*d'*t'*g'*p';$$

Where a', b', c', d', t', g' and p' are evaluation results of the country.

However, Chinese tourists can choose either domestic travel or overseas travel, while foreign tourists also can choose to travel in their home countries and other countries. As a result, Chinese tourism industry fights for market with all countries in the world instead of a small region. The comprehensive competitiveness of regional tourism industry is:

$$\log X = \log a + \log b + \log c + \log d + \log t + \log p$$
$$-[\log(a_1 a_2 ... a_n) + \log(b_1 b_2 ... b_n) + ... + \log(p_1 p_2 ... p_n)];$$

Where n is number of other countries besides China. Simplify it:

$$\log X = \log \frac{a^n}{a_1 a_2 ... a_n} + \log \frac{b^n}{b_1 b_2 ... b_n} + \log \frac{c^n}{c_1 c_2 ... c_n} + \log \frac{d^n}{d_1 d_2 ... d_n}$$
$$+ \log \frac{t^n}{t_1 t_2 ... t_n} + \log \frac{g^n}{g_1 g_2 \cdots g_n} + \log \frac{p^n}{p_1 p_2 \cdots p_n}$$

Since opportunities within the region are same

$(t_1 = t_2 = ...t_n)$, $\log \frac{t^n}{t_1 t_2 ... t_n}$ values zero. Then, above formula can be rewritten as:

$$\log X = \log \frac{a^n}{a_1 a_2 ... a_n} + \log \frac{b^n}{b_1 b_2 ... b_n} + \log \frac{c^n}{c_1 c_2 ... c_n}$$
$$+ \log \frac{d^n}{d_1 d_2 ... d_n} + \log \frac{g^n}{g_1 g_2 ... g_n} + \log \frac{p^n}{p_1 p_2 ... p_n} \quad ;$$

3.3 MODEL FACTOR NANALYSIS

It can be seen from the double diamond model that Chinese tourism competitiveness is influenced by resource factors, demand conditions, supporting industries, enterprise composition in tourism industry, government functions and industrial innovation capacity. Effects of these six factors are analyzed in the following text.

Resource factors involve tourism implementability and service level directly. The increasing artificial scenic spots fail to satisfy people's pursuit of natural landscape. Furthermore, artificial scenic spots require certain natural conditions. Therefore, resource is the basic condition for tourism development. Given certain basis of natural resource development, tourism plan can only be put into practice with certain infrastructures (e.g. water, electricity and transportation). Capital is the material basis for developing tourism resources. It is impossible to gain economic benefits from natural resources to tourism resources if there are no adequate capitals. Human resources have become the key influencing factor of tourism development. It determines the velocity and level of tourism development.

Supporting industries are vital to tourism development. It affects satisfaction of tourists and even implementability of tourism industry directly. As a comprehensive industry, tourism involves restaurants, hotels, transport, entertainment and shopping. Since food is the paramount necessity of human beings. Restaurants are the living needs of tourists and the basic condition of travel. Restaurant is the primary influencing factor and its satisfaction will affect satisfactory of tourists significantly. Meanwhile, regional specialty catering is an important tourism resource. Tourism industry will drive development of hotels which, in return, is the important guarantee for tourism development. Accommodation is the premise of long-distance travel. Tourists who couldn't book hotels during golden weeks will cancel or adjust travel plans. Transport is another basic condition of travel. Time spent on transport as well as transport convenience and comfort is important to satisfaction of tourists. Entertainment and shopping are basic tourism resources and supporting industries. They are important measures to enrich tourism activities and increase economic benefits of tourism industry. Supporting industries also include insurance, finance, medical treatment, etc., which are important guarantee of tourism development and improvement.

Enterprise composition highlights the development level and brand influence of Chinese tourism industry. Tourism industry involves tourism development companies, travel agencies, etc. Enterprise composition in tourism industry mainly can be divided into several aspects. Firstly,

enterprises can be divided into brand enterprises and non-brand enterprises in view of influence; large, medium and small ones according to enterprise scale; domestic enterprise, Sino-foreign joint ventures and foreign-funded enterprises according to capital sources. Enterprise composition is important to tourism industry. Enterprise brand can attract more consumers and create good advantageous tourism resources. Enterprise scale and structure can reflect tourism development capacity, while capital sources of enterprises reflect government openness to tourism industry and influence tourism development speed indirectly.

Government functions refer to policy supporting degree and directions to tourism industry. China is a strong government-administrated country, making industrial development mainly controlled by government. In fact, government policies are vital in all countries in the world. With strong government support, tourism industry will develop quickly; otherwise, it can only achieve limited development. Besides, policy direction also will affect tourism development direction. Generally speaking, tourism agree with government policy will achieve the quickest development, such as recent development of cultural tourism resources in China. However, government functions may bring adverse effect sometimes. For example, multiple management or excessive intervention will lead to poor supervision and management, hindering tourism development finally.

Industrial innovation capacity reflects future development potentials of the industry. Although tourism industry achieves rapid development, it has to keep pace with consumers' hobbies and meet various demands of consumers. Industrial innovation capacity is mainly determined by three factors. (1) Talent level. Talents are foundation of innovation and talent level determines innovation potentials. (2) Innovation environment. If enterprises in the industry pay high attention on innovation, the industry enjoys good innovation environment. Enterprises will make great efforts in innovation, which will facilitate industrial innovation finally. (3) Implementation ability of innovation. This refers to basic technologies and conditions for implement the innovation. For example, adventure tourism, though is popular in the world, has high requirement on technical conditions. Regions without these technical conditions will only end in frequent risk accidents. Enterprises without adequate capital support could do nothing no matter how brilliant their innovations are.

3.4 TOURISM COMPETITIVENESS EVALUATION

Actually, each factor involves various aspects and different tourists have different preferences. These make it very difficult to evaluate tourism competitiveness. Basic evaluation conditions have to be set in order to make the established model feasible. Firstly, resource factors shall be evaluated according to current and future preferences of consumers. Secondly, evaluators shall be selected from different countries, because different regions have different preferences. Thirdly, level of consumers has to be considered during evaluation. Specific evaluation steps are: (1) consumers are grouped according to tourism resources.

Competitiveness of each consumer group is analyzed later. (2) Appropriate consumers of different groups are selected from different regions. (3) Explain basic evaluation conditions to selected consumers. (4) Consumers make evaluations and calculations. Since there are more than 200 countries in the world and it is impossible to get comprehensive survey data, this paper divides the world into developed countries (further divided into Europeans and Americans, Asian countries and North America) and developing countries (further divided into Asian countries and African countries). Appropriate consumers are selected according to regions. To increase prediction accuracy, only consumers with domestic or overseas travel experiences are selected for survey. Consumers with domestic travel experience are asked to evaluate only domestic tourism competitiveness, while those with overseas travel experience are asked to evaluate only foreign tourism competitiveness. Therefore, the model formula can be rewritten as:

$$\log X = \log \frac{a^n}{a_1 a_2 ... a_k} + \log \frac{b^n}{b_1 b_2 ... b_k} + \log \frac{c^n}{c_1 c_2 ... c_k}$$
$$+ \log \frac{d^n}{d_1 d_2 ... d_k} + \log \frac{g^n}{g_1 g_2 ... g_k} + \log \frac{p^n}{p_1 p_2 ... p_k}$$

Where k is number of divided regions. For same region, final result is calculated from mean of consumer evaluations (full score: 100; pass: 60). If $\log X > 0$, Chinese tourism competitiveness is higher than the world average level. If $\log X < 0$, Chinese tourism competitiveness is lower than the world average level.

The abovementioned formula and theoretical analysis of Chinese tourism competitiveness expose five shortages of Chinese tourism industry. Firstly, China has unsatisfying resource foundation. Although there are abundant tourism resources, China is in severe lack of talents, infrastructures and capitals. Secondly, Chinese tourism industry shows imbalanced supply and demand. Universal single product or service couldn't meet various demands of consumers. Thirdly, it lacks large strong brand enterprise, thus resulting in the poor tourism marketing at both home and foreign countries. Fourthly, inadequate government functions and lack of scientific planning and supervision lead to market confusion and inharmonious tourism development. Fifthly, China has low industrial innovation capacity. Although China strives to develop tourism industry, key attentions are paid to imitation and copy instead of innovation, thus failing to meet changing demands of consumers and having limited attractiveness.

4 Basic strategies to enhance tourism competitiveness

Firstly, China shall enhance tourism industrial planning and increase systematicness of spatial elements of tourism. Microscopically, a specific tourism resource is fixed in space. This is determined by the fixation of natural tourism resources. However, capital and labor forces can flow freely. Spatial structural optimization mainly includes: 1) Regional tourism elements. Attention shall be paid to the reasonability and high level of spatial distribution of elements. Element distribution density within certain region

shall meet appropriate standard. 2) Tourism elements and regional space. Development directions of scenic spots and tourism resource elements as well as key tourism functions have to be determined. 3) Regional macro spatial network. Spatial orientation of regional development and tourism elements in the region shall be determined.

Secondly, China shall insist to change from quantity-oriented tourism development to quantity, quality and benefit-oriented tourism development. Chinese tourism industry just starts and it is necessary to adopt quantity-oriented development strategy within a certain period. Key attention will be paid to tourism scale expansion during this period. However, we shall adopt the quantity, quality and benefit-oriented development strategy and reduce dependence on material tourism resources in order to increase economic benefit and competitiveness of tourism industry. This requires tourism industry to arrange development and utilization of tourism resources reasonably according to market demand changes. To meet diversifying tourism demand and ensure continuous utilization of tourism resources, we shall pay attention to both appropriate tourism scale expansion and diversification of tourism types.

Thirdly, give full play to the monitoring safeguard system actively and guide capital flow into "virtuous circle" development. As approaching to the middle planning stage, government shall commit to developing key mass tourism regions, and increase investment to tourism infrastructure and accommodations for the sake of good future development. More importantly, government shall improve regional accessibility to make tourism transport unblocked and convenient. It also shall intensify marketing strength to make sure that information of travel destination has reached main tourist markets. Finally, government shall guide tourism construction projects according to spatial-temporal changes of tourism industry and carry out a series of tourism planning.

Fourthly, China shall strengthen construction of tourism management system and increase service quality and management level of Chinese tourism industry. Although there are a lot of travel agencies in China, they are characteristic of "small, scattered, weak and low quality". Therefore, relevant local governments and competent authorities shall enhance business trainings to tourism practitioners to improve their professional competence and professional ethics. Travel agencies shall seize opportunities, implement strict inner management and adhere to travel business-oriented development strategy. They shall be realistic, create brand and seek development.

Fifthly, government shall take the leading role to establish and consolidate industrial status of tourism. Government-led tourism development strategy shall be implemented. Tourism becomes new economic growth point, which is closely related with government-led tourism development strategy. The leading role of government is reflected by central government and local government. Central government is mainly responsible for industry orientation and ranking of tourism from macroscopic perspective. In other words, central government shall not only determine the status of tourism as new national economic growth point and pillar industry, but also enlist it into Chinese Industrial Development Support and Priority Development.

Acknowledgement

References

[1] Long Jiangzhi 2010 The appraisal paradigm of Tourism Competitiveness: reflection and inspiration. *Tourism Science*.**02**,26-29
[2] Wan Xucai, Zhong Jing, Zhang Zhongfang, Zhao Jun 2010 Study on the influence factors of international competitiveness of Tourism *Journal of Nanjing University of Finance and Economics*. **02**, 30-33
[3] Zhang Guanghai, Li Xue 2006 A Survey of Studies in Domestic and International Tourist Competitiveness. *Journal of Ocean University of China (Social Sciences)*. **05**,28-32

[4] *Deleted by CMNT Editor*
[5] *Deleted by CMNT Editor*
[6] Ma Yong, Xiao Zhilei 2008 Research on the formation mechanism of regional tourism competitiveness. *Tourism Science*. **05**, 7-11
[7] Xu Shumei, Yang Mingze 2008 The distribution pattern of the regional tourism competitiveness in China. *Economic Geography*. **05**, 876-881
[8] *Deleted by CMNT Editor*

Author

Yang Xia, 1979.04, Renshou, Sichuang Province, P.R. China

Current position, grades: the Associate Professor of Land Resources College, China West Normal University, China.
Scientific interest: Her research interest fields include regional economy and tourism economy Publications: more than 30 papers published in various journals.
Experience: Her has teaching experience of 13 years, has completed 10 scientific research projects.