Model Research on the Factors Affecting Tourist Satisfaction of Wellness Tourism Products Based on IPA Model

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Abstract

The economic and social development improves the quality of life of contemporary popular and more and more people pay more attention to the quality of life and personal health. The tourism has become one of the best choice to relax, especially wellness tourism products attracting the majority of tourists in recent years. Based on this background and the IPA model, taking the hot spring tourism in health tourism products as an example, this paper conducts a thorough and in-depth inquiry into the influencing factors of tourist satisfaction of wellness tourism products. Firstly, a brief analysis on relevant literature is made to explain the main purpose of this research; secondly, the characteristics of wellness tourism, satisfaction theory and IPA model are summarized, and based on this, the model of factors affecting tourists' satisfaction of wellness tourism products is built combined with the IPA model. The factors selection, construction of index system and method of satisfaction evaluation are mainly discussed in this paper, and then according to this, effective countermeasures to improve the tourist satisfaction for health tourism products is put forward, in order to further promote the development of wellness tourism through the establishment of service quality management system and the development characteristic wellness tourism products.

Keywords: IPA Model, Wellness Tourism, Satisfaction of Products, Evaluation, Promotion Countermeasure.

1. BACKGROUND OF RESEARCH

1.1 Literature review

With the rapidly aging society and severe subhealth situation, the demand for health care products is gradually strengthened. At the same time, with the leisure time, increased disposable income and the awakening of tourism consciousness, traditional tourism with cursory style has been unable to meet the growing demand for tourism. People are going to go after the tourism with more health, slow pace and experiencing. With the promotion of health care demand and tourism demand, wellness tourism emerges as the times require, and becomes a hot spot of fashion tourism throughout the country (Chai and Li, 2016). It is found that there is not a unified definition of the concept on wellness tourism and hot spring tourism in the study of health tourism and hot spring tourism through the collation and analysis of domestic and foreign literature. In the analysis of the wellness tourism market, almost all scholars believe that wellness tourism has a huge market mainly made up by middle-aged and elderly people. The other researches on wellness tourism mainly focus on all kinds of wellness tourism product and development strategy of wellness tourism. The thematic study of the hot spring tourism rarely involves the study of health care and there is almost not study on tourist satisfaction with products of hot spring tourism (Liang and Wang, 2016). In addition, it is found from the literature review of tourist satisfaction that although research on tourist satisfaction started late, some achievements have been made, especially in terms of satisfaction measurement. Therefore, we need to develop a more mature evaluation IPA model of tourism satisfaction to study the tourist satisfaction of hot spring wellness tourism, which can effectively compensate for the lack of hot spring wellness tourism in this respect.

1.2 Purposes of research

From the perspective of tourists, this paper applies the combination of theory and practice to further explore the satisfaction of wellness tourism tourists, and puts forward relevant development strategies, which is of great practical significance. We should know the tourists' satisfaction with wellness tourism products, understand the advantages and disadvantages of current wellness tourism products, and provide suggestions for wellness tourism developers and operators to promote the development of wellness tourism products and improvement of service.
quality (Liu and Wu, 2016). Wellness tourism develops rapidly with a huge market. However, throughout the current wellness tourism industry, it is in the name of health preservation, but similar to other leisure products with a lack of distinctive characteristics and cultural connotations. Through the IPA model analysis of tourists satisfaction with wellness tourism, we can clearly recognize the actual needs of tourists, so as to design and develop wellness tourism products and provide quality services of wellness tourism according to their needs, and ultimately promote the development of wellness tourism.

2. THE CHARACTERISTICS OF WELLNESS TOURISM, THE THEORY OF SATISFACTION AND THE IPA MODEL

2.1 The characteristics of wellness tourism.

The scholars point out in the research review of domestic wellness tourism that wellness tourism in China began in the early twentieth Century in health care tourism of Sanya, Hainan Province and an important wellness tourism in Nanning. Then wellness tourism is carried out at many regions, and has become a hot category in tourism (Zhang and Wang, 2016). In order to define the concept of wellness tourism, a large number of relevant literature has been consulted in this paper, and it is found that so far there is no relatively uniform definition no matter domestic or abroad. Scholars all hold different opinions. But in the process of comparison with these different opinions, it can be obviously found that there are some connections, embodied in the following aspects: first, wellness tourism is to let visitors relax with self-cultivation and enhance physical fitness; secondly, wellness tourism resources have cultural, ecological, organic, environmental protection and other features; thirdly, wellness tourism is a kind of experiential tourism model including the health industry, health culture and health concept and the organic combination of the three can really guide people a real health tourism (Wu, 2013). Therefore, combined with the above theory, wellness tourism should be carried out as an experiential tourism activities taking health care as the theme with the purposes of prolong life, self-cultivation, physical fitness, beauty, pressure relieve relying on wellness tourism resources. As a special form of tourism, health care tourism has its own characteristics in addition to the general characteristics of tourism. It is shown in Figure 1:

2.2 The theory of satisfaction.

Customer satisfaction is a psychological state. It is a sense of pleasure after customers' needs are satisfied. It's a relative relationship between customers' expectations for products or services and the actual feelings after they actually using products or sharing services (Gao and Xue, 2016). If the number is used to measure the state of mind, this number is called customer satisfaction. Therefore, customer satisfaction is the quantification of customer satisfaction level as well as the difference function between perceived performance and expectations. It is shown in Figure 2:
It can be seen from Figure 2 that affected by perceived performance and expectation, customer satisfaction is different mainly in the following four conditions: (1) customers' expectations are high with good actual feeling so that customers think it is good value for money showing satisfactory psychological state; (2) customers' expectations are low with the good actual feeling so that customers think that its value is more than the money showing very satisfactory psychological state; (3) customer expectations are low with the poor actual experience but customers are still acceptable with it so that they have dissatisfied psychological state; (4) customers' expectations are high with poor actual experience so that customers think that it is unworthy of its name showing very dissatisfied psychological state. Customers who are satisfied can not only bring the good reputation of enterprises, but also become a regular customer and bring more profits for enterprises. According to the survey, enterprises paying more attention on service can obtain more revenue and profit from fixed customers than from the first-time-caring and one-time customers (Wang and Peng, 2017). Customer satisfaction is the basic condition of customer loyalty. And Figure 3 is the specific relationship between customer satisfaction and loyalty.

2.3 IPA model of customer

The IPA model, the Importance-Performance Analysis, an important performance analysis model, was proposed by Manilla and James in 1970s (An, 2017). The model is an analysis of the customer's perception of the importance and performance for the product or service thus obtaining the satisfaction of the customer. As shown in Figure 4, importance and performance are respectively used as the horizontal axis and vertical axis of the coordinate axis, and the coordinate axis is divided into four quadrants according to the superiority and the difference of importance and performance.
The quadrant I is the advantage area with the highest customer satisfaction because the customer perception on importance and performance of the product or service are relatively high; in the quadrant II is improvement area because customer perceived performance is low but the importance of perception is relatively high. In order to improve the customer satisfaction it is urgent to make improvement; the quadrant III is the inferior region because the importance and performance of customer to the product or service are not high but urgent to be improved. The quadrant IV is the opportunity area because the customer perception on importance of products or services are relatively low but the perception on performances relatively high (Qi, 2014).

3. MODEL OF FACTORS AFFECTING TOURIST SATISFACTION OF WELLNESS TOURISM PRODUCTS BASED ON IPA MODEL

3.1 Selection of influential factors

Satisfaction is not only a result of service, but a psychology produced by customers in enjoying service. It can be said that customer satisfaction is actually a process. Problems in any part of the process will affect the satisfaction of the customer. It can be seen that there are many factors affecting customer satisfaction (Zhu and Xia, 2015). As shown in Figure 5, in order to determine the influence factors of tourists satisfaction on hot spring, a lot of literature has been looked up. Then based on this, the factors of the satisfaction evaluation are initially determined and IPA model is used to prepare a questionnaire on the importance and satisfaction. The pre survey is made on the spot of Tangshan hot spring Resort and then the IPA analysis is processed to remove the factors whose importance score is lower than 3. Combined with the interview of tourists, service personnel and management of Tangshan hot spring resort, add important factors that are not in the questionnaire. According to the results, the questionnaire is revised and second rounds of questionnaires are issued. So many times are repeated and the factors affecting the satisfaction evaluation of the hot spring wellness tourism are determined.

3.2 Construct the index system.

After literature research, characteristics of health products, extension projects in tourism, accessibility, facilities and infrastructure, tourism environment, overall image, price, service and management are selected as the first level index factors, and several second level factors are set under each first level index factors (Wang and Fan, 2015). Then the importance questionnaire is designed and a questionnaire pre survey in Tangshan hot spring resort is conducted. After analyzing the results, the importance factors whose score is less than 3 is removed (Figure 6). Through interviews with expert and tourists, increase the wisdom tourism projects as a first level index factor and increase product characteristics, the combination of surrounding attractions, scheduled online, network marketing are selected as second level index factors. Tourism information and communication equipment are adjusted to the wisdom of tourism projects and the second level index factors under the first level index factor of price are adjusted to be impossibility price and other items at their own expense price.
After research and many times of previous surveys, we finally set up a multi-level and multi-dimensional index system, including 8 first level index factors (A) and 26 second level index factors (B). The details are shown in Table 1 below.

<table>
<thead>
<tr>
<th>First order index factor (A)</th>
<th>Two level index factor (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properties of health products (A1)</td>
<td>Hot spring water condition (B11)</td>
</tr>
<tr>
<td></td>
<td>Brewing environment (B12)</td>
</tr>
<tr>
<td></td>
<td>Type of bathing pool, scale (B13)</td>
</tr>
<tr>
<td></td>
<td>Other health care projects (B14)</td>
</tr>
<tr>
<td></td>
<td>Health care product (B15)</td>
</tr>
<tr>
<td></td>
<td>Convalescent of convalescence (B16)</td>
</tr>
<tr>
<td>Tourism extension project (A2)</td>
<td>Leisure holiday event (B21)</td>
</tr>
<tr>
<td>Accessibility (A3)</td>
<td>Surrounding scenic spots (B22)</td>
</tr>
<tr>
<td></td>
<td>External traffic (B31)</td>
</tr>
<tr>
<td></td>
<td>Parking lot (B32)</td>
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<tr>
<td></td>
<td>Public transport (B33)</td>
</tr>
<tr>
<td>Tourism infrastructure (A4)</td>
<td>Health facilities (B41)</td>
</tr>
<tr>
<td></td>
<td>Accommodation facilities (B42)</td>
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<td></td>
<td>Indicator (B43)</td>
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<tr>
<td>Tourism environment (A5)</td>
<td>Space capacity (B51)</td>
</tr>
<tr>
<td></td>
<td>Security situation (B52)</td>
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</tbody>
</table>

3.3 The evaluation methods of satisfaction.

3.3.1 Put forward the question

For a causality system, output can always be expressed by the combination relation of its input variables, that is, if output $y$ and input variables $x_1, x_2, ..., x_n$ are available, it can be fitted by a set of coefficients $\theta_1, \theta_2, ..., \theta_n$ and can be expressed as:

$$ y = \theta_1 x_1 + \theta_2 x_2 + ... + \theta_n x_n $$

(1)

It can also be written in the form of matrix:

$$ Y = \begin{bmatrix} y(1) \\ y(2) \\ ... \\ y(m) \end{bmatrix} \quad \theta = \begin{bmatrix} \theta_1 \\ \theta_2 \\ ... \\ \theta_n \end{bmatrix} \quad X = \begin{bmatrix} x_1(1) & x_2(1) & ... & x_n(1) \\ x_1(2) & x_2(2) & ... & x_n(2) \\ ... & ... & ... & ... \\ x_1(m) & x_2(m) & ... & x_n(m) \end{bmatrix} $$

(2)
Thus, when the measured data $X$ is a nonsingular array, the parameters of the system can be obtained: $\theta = X^{-1}Y$. But the model of the actual system is always approximate. The measured data and output data will not be absolutely accurate. Moreover, the error of the measuring device, the error of reading and the random error existing in the system will make the observation data cannot accurately reflect the system characteristics (Wang and Ren, 2015). So a random variable $\epsilon_i (i = 1, 2, ..., m)$ is used to reflect the above random errors, thus the relationship between observation data of $m$ and system parameters can be expressed as:

$$y(i) = \theta_1 x_1(i) + \theta_2 x_2(i) + \cdots + \theta_n x_n(i) + \epsilon_i$$  \hspace{1cm} (3)$$

It can also be expressed as:

$$Y = X\theta + \epsilon, \epsilon = [\epsilon_1, \epsilon_2, ..., \epsilon_m]^T$$  \hspace{1cm} (4)$$

Among them, the $\epsilon$ is error vector and it is also called the residual.

3.3.2 Solve the problem

It is known from the above that the key of the algorithm is to determine the system $\theta$. The principle is to minimize the output error of the model. For the one-component system:

$$J = \sum_{i=1}^{m} [y(i) - x(i)\theta]^2 \rightarrow \min$$  \hspace{1cm} (5)$$

For the estimated value of any parameter $\theta$, the residual sum of squares is:

$$J = \sum_{i=1}^{m} [y(i) - x(i)\theta]^2$$  \hspace{1cm} (6)$$

As a result, there is:

$$\frac{\partial J}{\partial \theta} = \{\sum_{i=1}^{m} 2[y(i) - x(i)\theta][-x(i)]\}$$  \hspace{1cm} (7)$$

It can be obtained from the mathematical analysis that when the $J$ is minimum, there is $\frac{\partial J}{\partial \theta} = 0$, that is:

$$\sum_{i=1}^{m} [x(i)y(i)] \sum_{i=1}^{m} x^2(i) \theta = 0$$  \hspace{1cm} (8)$$

It can be obtained from this that the least squares estimator $\theta$ is:

$$\theta = \frac{\sum_{i=1}^{m} [x(i)y(i)]}{\sum_{i=1}^{m} x^2(i)}$$  \hspace{1cm} (9)$$

Similarly, for a multicomponent system, to make a minimum residual sum of squares and according to the above method of one-component system, the residual sum of squares should be satisfied:

$$\frac{\partial J}{\partial \theta} = -2X^T Y + 2X^T X \theta$$  \hspace{1cm} (10)$$

According to the definition of the least square estimation, $\theta$ should satisfy:

$$-2X^T Y + 2X^T X \theta = 0$$  \hspace{1cm} (11)$$

Therefore:

$$\theta = (X^TX)^{-1}X^TY$$  \hspace{1cm} (12)$$

The $\theta$ obtained above is the least squares estimation of parameters $\theta$. For matrices $(X^TX)$, in practical applications, only the number of samples is enough, can it be guaranteed to be a nonsingular matrix.
4. PROMOTION COUNTERMEASURES FOR TOURIST SATISFACTION OF WELLNESS TOURISM PRODUCTS BASED ON IPA MODEL

4.1 Establishment of service quality management system

The operators of wellness tourism resort has carried out effective management of front-line service personnel to make them have strong service consciousness and skills. But in order to make the resort a better development and attract more regular tourists, resort operators should also continue to strengthen the management of service quality (Ma, 2014). First of all, establish a comprehensive quality management system. Follow the IS09000 quality standards and introduce PDCA management cycle method (Figure 7) to guarantee an overall quality control on each link of the service and ensure that every visitor will be able to enjoy the high quality of service, so as to reduce the dissatisfaction and complaints and acquire greater regular and market share. Second, have training to front-line service personnel. The front-line service personnel are the service provider who directly face the tourists. Their image and temperament, behavior, attitude, service skills will affect the experience of visitors, so the resort shall carry out regular training and assessment for the front-line staff to improve their own quality in learning and competition, in order to better serve the tourists. Third, promote smile service and emotional service (Yu and Xie, 2012). Smile is the universal body language in the world. It can play a very good role of communication role and a crucial role in the process of tourism service, because smiling service can bring good first cause effect and leave a good first impression on tourists. It can also affect the mood of tourists and impress visitors emotionally, so that they can better cooperate with the service staff and help to conduct the service work smoothly.

Figure 7. PDCA Management Cycle Method

4.2 Develop characteristic health care tourism products

In terms of hot spring resources and developed hot spring wellness tourism products, Tangshan hot spring resort has great competitiveness in east of China and even in the whole China. However, the simple products of hot spring tourism with medical caring and nursing cannot meet the growing demand for health products because tourists' pursuit of diversity. It is hope to achieve effect of fitness and healthy caring through full participation or experience from vision, taste, smell and hearing of tourist (Luo and Hang, 2011). To occupy a larger tourist market, resorts must bid farewell to a single wellness tourism product, and combine the forest ecosystem health care, medical treatment and health care, diet regimen, sports health preservation and hot spring health caring to develop "1+X" health tourism product system. The "1" is the core products, namely hot spring wellness tourism products and "X" is the extension of products, that is other forms of health products. Form a comprehensive health cultivation model of hot spring health, forest health caring, medical caring, dietary and exercise for nature-cultivation. In addition, we should pay more attention to the planning and creativity and increase the novelty of wellness tourism products to conform to the trend and meet the different needs of different markets.

5. CONCLUSION

With the acceleration of population aging and the increasingly serious problem of sub-health, more and more people begin to pay attention to health preservation. And wellness tourism is favored by more and more people and has been strongly supported by policies, which has great development space and broad tourism market. In this paper, the IPA model is chosen as the evaluation mechanism of the research. Through literature research, questionnaire survey and in-depth interview, the influencing factors of hot spring health tourism satisfaction evaluation is determined and a tourist satisfaction index system for hot spring health tourism products is built. From these, the influencing factors of tourists' satisfaction are analyzed and effective strategies for improving
their satisfaction are put forward, aiming at providing favorable reference for the optimization of wellness tourism products and the sustainable development of their fields.

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