Study on Tangshan Hot Spring Tourism Experience valuation

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Abstract. The study of hot spring tourism experience factors not only needs to consider the general composition of hot spring tourism products, but also consider the tourists' feelings and needs in hot spring tourism. Based on the characteristics of Tangshan Hot Spring Tourism, the study identified 21 factors that influence the travel experience of Tangshan Hot Springs through field visits, questionnaire surveys, etc., and used the principal component analysis method (using SPSS software) to carry out the importance of factors. The evaluation analysis shows that hot spring tourists pay more attention to the health and safety conditions and service quality of Tangshan Hot Springs. Finally, this paper puts forward some countermeasures and suggestions for improving the tourism experience of Tangshan Hot Spring through vigorously improving the service quality, accelerating the construction of supporting facilities, and deepening the cultural connotation.

1. Introduction
The tourism experience refers to the sum of mental health achieved through contact and interaction with the external environment (including tourist service personnel, other tourists, and the tourism environment) during the process of tourist attraction visit, or various knowledge and pleasure obtained. The sum of satisfaction and satisfaction [1]. In this way, the hot spring tourism experience can also be defined as the process by which the experiencer interacts with the environment, management, and services in the hot spring resort (hot spring resort) in the process of experiencing the hot spring resort (hot spring resort). The sum of all kinds of knowledge, sneak and satisfaction. Therefore, the hot spring tourism experience factor is a factor that has an effect on the experiential hot spring experience. So what factors will affect the experience of the spa experience and ultimately determine the degree of satisfaction with the experience. This article mainly carries out a quantitative study on the composition and evaluation of the Tangshan hot spring tourism experience factor in order to provide a useful reference for improving the tourism experience of Tangshan hot spring.

2. The Constitution of Tangshan Hot Spring Tourism Experience Factor
For the study of spa experiential factors, we must not only consider the general composition of hot spring tourism products, but also consider the tourists' feelings and needs in hot spring tourism. Tangshan Hot Springs ranks first in the four major spa resorts in China and is a world-renowned spa resort. Its perennial water temperature is 60-65°C and contains more than 30 kinds of minerals and trace elements. It is most suitable for the development of spas, fitness and entertainment, hot spring vacations and other projects. In 2014, it was named "China's Best Leisure and Holiday Destination." In October 2015, Tangshan Hot Spring Resort became the first national tourism resort. Based on the characteristics of Tangshan Hot Spring Tourism, this study determined through forms such as field visits and questionnaire surveys (this survey completed the questionnaire survey in the form of online forums and field surveys from August 2017 to December 2017). The variable factor of the Tangshan hot spring tourism experience. In this
survey, a total of 140 questionnaires were sent, 128 questionnaires were returned, 28 invalid questionnaires were eliminated, and 100 valid questionnaires were totaled. Statistical calculations of valid questionnaires showed that the tourism experience factor of Tangshan Hot Springs can be divided into two levels and 21 factors in total. See the figure below (the number after the second factor is the number of questionnaires affecting the experience effect) [2].

3. Analysis and Evaluation of Tangshan Hot Spring Tourism Experience Factors
Because of the many factors involved in the satisfaction of spa tourists’ experience, in order to facilitate better research, principal component analysis (using SPSS software) was selected for the analysis of factor importance. Principal component analysis is to convert a given set of related variables into another set of irrelevant variables through mathematical steps or through software operations, and then arrange these new variables in descending order of variance. The importance of each factor is obtained, and its calculation formula is as follows.

First calculating the correlation coefficient matrix:

\[
R = \begin{pmatrix}
    r_{11} & \cdots & r_{1p} \\
    \vdots & \ddots & \vdots \\
    r_{p1} & \cdots & r_{pp}
\end{pmatrix}
\]

\( (r_{ij}, \ j=1, 2, \cdots, p) \) is the correlation coefficient of the original variables \( x_i \) and \( x_j \), \( r_{ij} = r_{ji} \), its computation formula is:

\[
r_{ij} = \frac{\sum_{k=1}^{n}(x_{ik} - \bar{x}_i)(x_{jk} - \bar{x}_j)}{\sqrt{\sum_{k=1}^{n}(x_{ik} - \bar{x}_i)^2} \sqrt{\sum_{k=1}^{n}(x_{jk} - \bar{x}_j)^2}}
\]

(2)

Then calculate eigenvalue and eigenvector, Solution of characteristic equation \( |\lambda I - R| = 0 \), and make it according to the descending order \( \lambda_1 \geq \lambda_2 \geq \cdots \geq \lambda_p \geq 0 \); Respectively, and the eigenvector corresponding to the value of \( \lambda_i \), \( e_i (i=1,2,\cdots,p) \), requires \( \|e_i\| = 1 \) , namely the \( \sum_{j=1}^{p} e_{ij}^2 = 1 \) , which said vector \( e_{ij} \) is first \( j \) a component of \( e_i \). Secondly calculate principal component contribution rate and the cumulative contribution rate:

\[
\frac{\lambda_i}{\sum_{k=1}^{p} \lambda_k} \quad (i = 1,2,\cdots,p)
\]

The cumulative contribution rate:

\[
\frac{\sum_{k=1}^{i} \lambda_k}{\sum_{k=1}^{p} \lambda_k} \quad (i = 1,2,\cdots,p)
\]

Generally take the cumulative contribution rate of 80% - 95% of the characteristic values of \( \lambda_1, \lambda_2, \cdots, \lambda_m \) And the first \( m (m \leq p) \) or less principal components. To calculate principal component loads: \( l_{ij} = p(z_i, x_j) = \sqrt{\lambda_i} e_{ij} (l_{ij} = 1,2,\cdots,p) \)

Finally, we get the importance of each factor.

According to the data provided by the questionnaire survey, we can first analyze the distribution map of Tangshan Hot Spring tourism experience factors.
Figure 1. Distribution of characteristic factors of Tangshan Hot Spring Experiencers

Figure 2. Distribution of characteristic factors of Tangshan Hot Spring Product

Figure 3. Distribution of natural environmental factors in Tangshan Hot Spring

Figure 4. Distribution of cultural atmosphere factors in Tangshan Hot Spring

From the above distribution maps, it can be seen that the characteristics of the experiencers themselves, the characteristics of Tangshan Hot Springs, the natural environment of Tangshan Hot Springs, the cultural atmosphere of Tangshan Hot Springs, and the quality of service are basically in a normal distribution, which proves that the questionnaire survey results can be used normally.

Due to the large amount of data recovered, weighted averages are applied to the secondary factors, that is, the selected number corresponding to the secondary factor is listed separately, the sum of the two factors is added up, the sum of the selected numbers is added, and finally an average is obtained. The number is then weighted by percentage to arrive at the ranking of the secondary factor impact [3]. As shown below.

As can be seen from the figure above, there are 8 factors that affect the most important factors, accounting for 38% of all factors, and 7 secondary factors, accounting for 33%, which together account for more than 70%, indicating that Tangshan Hot Spring Tourists Experience satisfaction is influenced
more by the above factors; the more important factor is 20%, and the other factors only account for less than 1%.

Table 1: Principal component Analysis result graph (Total variance interpretation table)

| Component analysis | Eigenvalue of the first principal component | The squared sum of the extracted load | Total Variance percent | Cumulative percent | Total Variance percent | Cumulative percent |
|--------------------|-------------------------------------------|--------------------------------------|-----------------------|-------------------|-----------------------|-------------------|
|                    | Total                                      | Variance percent                     | Cumulative percent    | Total             | Variance percent      | Cumulative percent |
| 1                   | 1.783                                      | 35.662                               | 35.662                | 1.783             | 35.662                | 35.662            |
| 2                   | 1.351                                      | 27.023                               | 62.684                | 1.351             | 27.023                | 62.684            |
| 3                   | 0.934                                      | 18.671                               | 81.355                | 0.934             | 18.671                | 81.355            |
| 4                   | 0.574                                      | 11.480                               | 92.835                | 0.574             | 11.480                | 92.835            |
| 5                   | 0.358                                      | 7.165                                | 100.000               |                   |                       |                   |

Extraction Method: Principal component Analysis

From the above table, it can be seen that the service quality and the supporting rate contributed 35.662% to the satisfaction of the Tangshan hot spring tourism experience, the contribution rate of the Tangshan hot spring cultural environment was 27.023%, and the contribution rate of the Tangshan hot spring tourism product characteristics was 18.671%. The contribution rate of the natural environment of the hot springs and the individual characteristics of the tourists is rather small and can be ignored.

Countermeasures and Suggestions for Improving the Tourist Experience of Tangshan Hot Spring

4 Suggestions for Measures to Enhance the Tourism Experience of Tangshan Hot Springs

After field investigation and voucher investigation, there is still a relatively single function in the operation and management of Tangshan hot spring tourism, which is mainly based on leisure and convalescence. Based on the above evaluation and analysis of the tourism experience factors of Tangshan Hot Springs, the following countermeasures are proposed for reference.

4.1. Vigorously improve the service quality of Tangshan Hot Spring Tourism.

The survey and evaluation show that in the hot spring tourism, visitors experience not only comfortable bathing and beneficial health care, but also pay more attention to the quality of services provided by hot spring tourism companies.

4.2. Accelerate the construction of supporting facilities for Tangshan Hot Spring Tourism.

In addition to the construction of hot spring facilities, the six major supporting facilities such as food, lodging, and travel, shopping and entertainment are also of utmost importance. Questionnaire survey shows that tourists pay great attention to the accessibility and comfort of hot spring tourism traffic. If there are problems such as road congestion, uneven pavement and unclear traffic signs during the journey, it will inevitably affect the mood of tourists entering the scenic spot. Therefore, improving road condition is the basis for enhancing the experience of tourists[4].

4.3. Deeply explore the cultural connotation of Tangshan Hot Spring Tourism.

The development of hot spring tourism products requires not only the external landscape design, but also the visual effects. At the same time, the internal factors of the culture must also be reflected by the behavior of the travel service personnel, the rehearsal of cultural activities and the participation of the tourists, so that the tourists can bathe in hot springs. At the same time, I participated in various cultural activities such as the theme of the festival and the cultural festival to experience and perceive the joy of culture. For the excavation of traditional culture, it is possible to think of the hot spring tourists who have come to Tangshan to participate in experiencing the culture of Daming, the culture of monks, and the culture of the Republic of China.
5 Conclusion
Tangshan hot spring tourism companies need to do a good job of market research and risk assessment while developing hot springs. They should try their best to meet the travel motivation of tourists. After the tour, they must specially arrange follow-up visits and provide feedback to improve the services. Each hot spring pool needs to be marked with components of hot spring water, indications and types of contraindications, and precautions, etc. to help visitors choose their own hot spring pool for bathing, and service personnel should also have knowledge of hygiene and safety, and report and handle it in a timely manner. Related issues. It is necessary to proactively introduce a variety of green foods developed from hot springs, such as hot spring rice, hot spring aquatic products, and hot spring vegetables. According to the individual needs of tourists, provide food or health food cooked with hot springs, to provide visitors with fresh tips on the tongue.

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