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# Construction of Eco-tourism Sites Based on the Experience of Eco-tourism

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**Abstract** Taking Lingtong Grand Canyon in Jingxi County, Baise City, Guangxi, China as a research object, the face-to-face questionnaire survey on tourist is carried out, in order to obtain the basic situation of the interviewees, as well as their expectation for the eco-tourism experience. Factor analysis method is adopted to test the interviewees' expectation of the eco-tourism experience. Result shows that eco-tourism experience of tourist is mainly reflected in the ecological leisure experience, the ecological tourism experience, the ecological experience in scenic spot, and the self-realization experience. Analysis on the recognition of the expectation for eco-tourism experience shows that the interviewees' expectations of the eco-tourism experience are in the order of the ecological experience in scenic spot, the eco-tourism experience, the ecological leisure experience, and the self-realization experience. Difference analysis on the interviewees' expectations for the eco-tourism experience is carried out by market segmentation. Result shows that there are significant differences in the demand of eco-tourism experience among different types of tourisms. According to the investigation result, countermeasures for the construction and marketing of eco-tourism sites are put forward.

**Key words** Eco-tourism, Experience economy, Factor analysis method, Questionnaire survey, China

In the year 1970, Alvin Toffler argued in his book *Future Shock* that experience economy would become the backbone of future economic development. In the year 1998, the founders of Strategic Horizons LLP. pointed out that experience economy is the fourth stage of human economic life after the agricultural economy, industrial economy, and service economy<sup>[1]</sup>. In the 1980s, eco-tourism is introduced into China with the global upsurge of eco-tourism<sup>[2]</sup>. As a form of responsible tourism, eco-tourism with its objective of protecting environment and maintaining the good life of local residents has exerted its huge economic, environmental and social benefits. Therefore, both developed country and developing country begin to develop eco-tourism industry vigorously. Maryam Khan argued that eco-tourism in the future would be established on an ecological experience with reliable, interesting, and stimulating education<sup>[3]</sup>. When social economy and eco-tourism develop into a certain stage, people's eco-tourism consumption will gradually transfer from product and service consumption into eco-tourism experience. In the fierce market competition, it is not enough for the managers of ecotourism sites to rely on service and product only. Managers should pay particular attention to the experience of tourist<sup>[4]</sup>, find out the needs of tourists, develop the tourism products, and create good psychological feeling and unique experience value for the tourists. Based on this, Lingtong Grand Canyon in Jingxi County, Baise City, Guangxi, China is taken as a research object. According to the theory of eco-tourism, construction of eco-tourism sites is discussed in order to offer references for the innovation of eco-tourism sites.

## 1 Data source and research method

**1.1 Data source** Questionnaire survey on tourists in eco-

tourism sites is conducted and the result is studied in order to find out the demand of tourists for eco-tourism experience. According to the reports at home and abroad, pre-investigation on teachers and postgraduates is carried out after the design of the questionnaire. Based on the feedback opinions of students and teachers, the questionnaire is then carefully studied and amended. Questionnaire consists of two main parts. One part is the basic situation of the interviewees, including gender, age, place of residence and other demographic indices, as well as the type of travel, organization form of tourism, frequency of visiting eco-tourism sites, and other eco-tourism related indices. The other part is the eco-tourism experience index mainly using Likert scale. 1 –5 represent the values of "completely no expectation", "no expectation", "indifference", "having expectation" and "having strong expectation", respectively. Large-scale formal investigation on the tourists in Lingtong Grand Canyon in Jingxi County, Baise City, Guangxi, China is carried out from September to November, 2007. A total of 400 questionnaires are sent out and 367 questionnaires are retrieved. Among them, there are 302 valid questionnaires.

**1.2 Research method** After obtaining the result of questionnaires, interviewees' expectation for eco-tourism experience is studied by the factor analysis method. Then, both the mean values and the standard deviations of eco-tourism experience indices are calculated. And interviewees' cognition degree of the expectation for eco-tourism experience is analyzed. Finally, the basic information of the interviewees is subdivided and their differences in the expectation for eco-tourism experience are studied.

## 2 Result and analysis

**2.1 Factor analysis on the interviewees' expectation for eco-tourism experience** According to the investigation data,

a total of 15 indices used for evaluating the expectation for eco-tourism experience are analyzed and classified. And confidence test is carried out by internal concordance coefficient. Firstly, *KMO* and Bartlett test of sphericity are conducted.  $KMO = 0.873 > 0.700$ , approximate  $\chi^2 = 1024.343$ , and  $Sig(\chi^2) = 0.000 < 0.010$  indicate that data matrix is a correlation matrix rather than a unit matrix, which is suitable for factor analysis. Secondly, factor analysis is conducted with the 15 indices evaluating the interviewees' expectation for eco-tourism experience as the variables. Principal Components Analysis is used, and extraction quantity of factors is controlled at 4 by using varimax rotation factor analysis, so that the analysis result of factor is obtained. According to the variance values explained by accumulation, the four types of expectations for eco-tourism experi-

ence have covered 67.520% of the information. Thus, it can be preliminarily concluded that these four types of expectations for eco-tourism experience can explain most of the variable information and the absolute value coefficient of variable load is relatively high, indicating that there is significant correlation among the original variables of factors. Reliability test shows that the coefficient of reliability  $\alpha$  of 15 indices is 0.889. Reliability coefficients at four layers of expectation for eco-tourism experience are all greater than 0.700, showing a good internal consistency of each factor. According to the information contained in the original factor, the four factors correspond to the ecological leisure experience, the ecological tourism experience, the ecological experience in scenic spot, and the self-realization experience, respectively (Table 1).

**Table 1 The internal reliability test and the factor loading matrix after rotation**

Factor	Index	$F_1$	$F_2$	$F_3$	$F_4$	Reliability $\alpha$
Ecological leisure experience $F_1$	Getting rid of the dull life	0.476	0.303	0.334	0.299	0.841
	Alleviating the pressure of work and life	0.654	0.115	0.281	0.305	
	Feeling relaxed	0.764	0.262	0.188	-0.028	
	Boosting the self-esteem	0.790	0.325	-0.002	0.178	
	Increase the feelings of relatives and friends	0.763	0.186	0.140	0.209	
Ecological tourism experience $F_2$	Seeing the wildlife and the ancient famous trees	0.029	0.712	0.321	0.195	0.815
	Enhancing the understanding of nature	0.436	0.659	0.181	0.073	
	Understanding of the local folk customs	0.419	0.569	0.201	0.044	
	Toning up the body	0.534	0.638	-0.001	0.081	
	Enriching the knowledge	0.380	0.606	0.084	0.169	
Ecological experience in scenic spot $F_3$	Experiencing the intact habitat	0.208	0.172	0.778	-0.134	0.773
	Experiencing the outdoor fun	0.197	0.022	0.854	0.215	
	Enjoying the beautiful natural scenery	0.025	0.436	0.690	-0.045	
Self-realization experience $F_4$	Taking adventures	0.160	0.057	-0.028	0.860	0.782
	Challenging oneself	0.191	0.210	0.050	0.857	

Note: The cumulative explanatory variable of factor is 67.52%.

## 2.2 Cognitive analysis of the interviewees' expectation for eco-tourism experience

"Enjoying the beautiful natural scenery" and "experiencing the intact habitat" are the most expected experience for the eco-tourists interviewed, with the average value of 4.79 and 4.77, respectively. More than 82.0% of the interviewees prefer the ecotourism sites with both beautiful natural scenery and good ecological environment. "Taking adventures" and "challenging oneself" take the last place with their value being 3.95 and 4.10, respectively. More than 60.0% of the interviewees have related expectations. Based on the expectation research on eco-tourism experience after classification, we can obtain that the ecological experience in scenic spot ( $F_3$ ), ecological tourism experience ( $F_2$ ), ecological leisure experience ( $F_1$ ), and self-realization experience ( $F_4$ ) are 4.73, 4.57, 4.46 and 4.03, respectively. The specific values are reported in Table 2.

## 2.3 Difference analysis of the interviewees' expectation for eco-tourism experience

Market segmentation is the starting point and foundation for modern marketing. With the progress of economy and the improvement of living standard, tourist demand shows the characteristics of diversity, and eco-tourism sites have limited capacity to provide tourism products. Eco-tourism sites should find out the different demands of tourists at different market segments, and offer the tourism prod-

ucts to tourist according to their demand. According to the measurable, operational, profitable, stable, and defensible principles, eco-tourists can be divided into different tourist markets based on the personal information and travel-related information of the eco-tourists investigated. Taking age as the classification standard, the market is divided into the age below 24, the age between 25 and 34, and the age between 35 and 44. Taking education degree as the classification standard, the market can be divided into the college-educated market and above, and other low education market. According to the occupation of interviewees, the market includes civil servant, professional technician, enterprise manager, service and sale personnel, and student, which can be regarded as a market segment individually, since they all occupy a certain market share. According to the type of tourism, sightseeing, vacation and meeting take a larger market share, which can be taken as a segment market. Independent-sample *t* test or one-dimensional variance analysis on 15 factors evaluating the eco-tourism experience and 4 factors of eco-tourism experience is carried out based on the 9 indices of gender, age, education degree, occupation, permanent residence, economy, tourism type, tourism organization form, and eco-tourism frequency. Result shows that among the 15 factors evaluating the eco-tourism experience, there are significant differences in the "experiencing

the outdoor fun" among interviewees with different incomes and eco-tourism frequencies. Among the interviewees, people with medium income level have higher requirement for "experiencing the outdoor fun", the mean value of which is as high as 4.87. And the mean values of people with low and high income levels are 4.55 and 4.54, respectively. Tourists with high eco-tourism frequency have higher requirement for "experiencing the outdoor fun" than those with low eco-tourism frequency. The mean value of the former is 4.83, while that of the latter is 4.49. "Seeing the wildlife and the ancient famous trees" shows significant differences among the interviewees with different education degrees and tourism organization forms. Tourists with high education degree have significant higher requirement for

"seeing the wildlife and the ancient famous trees" than those with low education degree. The mean value of the former is 4.47 and that of the latter is 4.18. Team tourists have significant higher requirement for "seeing the wildlife and the ancient famous trees" than the individual travelers. The mean value of the former is 4.46 and that of the latter is 4.16. "Boosting the self-esteem" shows significant differences among the interviewees with different eco-tourism frequencies. Tourists with little eco-tourism frequency have significant higher requirement for "boosting the self-esteem" than those with great eco-tourism frequency. The mean value of the former is 4.58 and that of the latter is 4.16 (Table 3).

**Table 2 Cognition of the expectation for eco-tourism experience**

Factor	Index	Completely no expectation // %	No expectation // %	Indifference // %	Having expectation // %	Having strong expectation // %	Mean value	Standard deviation
Ecological leisure experience $F_1$	Getting rid of the dull life	0.7	-	12.7	33.3	53.3	4.39	0.758
	Alleviating the pressure of work and life	0.7	0.7	6.6	29.8	62.2	4.52	0.710
	Feeling relaxed	-	-	7.3	23.8	68.9	4.63	0.607
	Boosting the self-esteem	0.7	2.6	10.6	33.8	52.3	4.34	0.825
	Increase the feelings of relatives and friends	0.7	1.3	9.3	31.1	57.6	4.44	0.771
Ecological tourism experience $F_2$	Seeing the wildlife and the ancient famous trees	0.7	-	11.9	33.8	53.6	4.40	0.749
	Enhancing the understanding of nature	-	-	8.0	24.5	67.5	4.60	0.634
	Understanding of the local folk customs	-	1.4	8.0	23.0	67.6	4.57	0.701
	Toning up the body	-	0.7	4.7	25.3	69.3	4.63	0.607
	Enriching the knowledge	-	0.7	8.6	23.2	67.5	4.58	0.678
Ecological experience in scenic spot $F_3$	Experiencing the intact habitat	-	-	5.3	11.9	82.8	4.77	0.531
	Experiencing the outdoor fun	-	-	9.9	16.6	73.5	4.64	0.658
	Enjoying the beautiful natural scenery	-	-	2.6	15.2	82.1	4.79	0.466
Self-realization experience $F_4$	Taking adventures	1.3	4.0	29.1	29.8	35.8	3.95	0.965
	Challenging oneself	1.3	3.3	25.2	24.5	45.7	4.10	0.978

**Table 3 Differences in the expectation for eco-tourism experience**

Index	I	J	Mean value of I	Mean value of J	Mean difference	P value
Experiencing the outdoor fun	Tourist with low income level (1 500 yuan and below)	Tourist with medium income level (1 501 - 3 000 yuan)	4.55	4.87	-0.32	0.013
	Tourist with medium income level (1 501 - 3 000 yuan)	Tourist with high income level (3 001 yuan and above)	4.87	4.54	0.33	0.009
	Tourist having 1 eco-tourism each year	Tourist having more than 3 eco-tourisms each year	4.49	4.83	-0.34	0.015
Seeing the wildlife and the ancient famous trees	Tourist with low education degree	Tourist with high education degree	4.18	4.47	-0.29	0.040
	Team tourist	Individual traveler	4.46	4.16	0.30	0.035
Boosting the self-esteem	Tourist having 1 eco-tourism each year	Tourist having more than 3 eco-tourisms each year	4.58	4.16	0.42	0.009

### 3 Conclusion and suggestion

At present, tourists in eco-tourism sites have the characteristics of high education degree, high requirement and diversified occupation. Thus, the direction of innovation eco-tourism sites is to find out the demand characteristics of tourists and to offer tourism products meeting the needs of market.

(1) Requirement of eco-tourists for tourism experience is mainly concentrated in the four aspects of the ecological leisure experience, the ecological tourism experience, the ecological experience in scenic spot, and the self-realization experience. Among them, the ecological experience in scenic spot is mostly concerned by the interviewees. The ecological leisure experience and the ecological tourism experience are the projects that tourists can feel and participate in. Their construction should firstly protect the beautiful natural scenery and ecological environment in eco-tourism sites. Besides, projects of "boosting the self-esteem" and "taking adventures" have smaller market demand than the projects of leisure and sightseeing tourism. Therefore, scale of corresponding tourism projects should be controlled properly.

(2) Analysis on the expectation for eco-tourism experience in different segment markets indicates that tourists' requirement for eco-tourism shows significant differences among the tourists with different income levels, tourism frequencies, education degrees, and tourism organization forms. Therefore, eco-tourism sites should pay particular attention to the change law of tourist market and the change of tourists' requirement for tourism products. They should also target on a particular segment market to

offer the eco-tourism products and to obtain relative competitive advantage based on their own advantages.

(3) Under the era of experience economy, eco-tourists pursue the quantity and quality satisfaction of tourism products, as well as the emotional satisfaction. Therefore, eco-tourism sites should do well in experience marketing. Generally speaking, the pursuit of consumers is mainly the actual effect and psychological value of product or service. The psychological value of tourism products is related to the experience; and the tourism experience comes from the touch on the inner thoughts by tourism activities. Its sensory, emotional and cultural values constitute the value of tourism together with the tourism product and service. During the marketing of eco-tourism sites, we should pay attention to the overall coordination of the whole tourism products, and make use of the "critical moment" before, during and after the tourism in order to create a better experience for tourists.

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industry and provide support to them to form the products with competitiveness and cultivate the key enterprises and competitive products. Recycling economy should be developed to realize sustainable development. The pillar industry of Qinghai Province has large scale, but the technology content is low and the self-innovation capability is relatively weak, especially the core technology with independent intellectual property rights, so the technology innovation system of enterprises should be established to improve its technology innovation capability and level. in the process of accepting the industrial transfer of eastern areas, Qinghai Province should establish its own industrial cluster and establish the perfect industrial chain to form the strong auxiliary capability, which is help ful to improving the industrial competitiveness. The government should create favorable environment for developing pillar industries; accelerate the construction of infrastructure covering railway, public road and civil aviation and further improve the comprehensive transportation network and enhance the transportation security capability<sup>[6]</sup>.

**4.3 Attaching importance to the introduction of capital, technology and talents** Qinghai Province should fully make use of the favorable opportunity of national western China' development strategy and the foreign-capital attracting policies, and speed up the application of foreign capital and introduce advanced and key equipments, so as to promote the industrial restructuring, upgrade of products and the upgrade of indus-

tries. The government should strengthen the construction of the public service platform, which aimed at technical innovation. In view of the innovation demand of medium and small enterprises, the government should establish and perfect the technical service system; establish perfect technical sharing mechanism and perfect the resources of large-size scientific instruments, scientific information and scientific literature. Talents are the fundamental of developmental strategy of modernization, so accelerate the exploration and development of talents is an important task for the economic development of Qinghai Province. The excellent overseas talents should be introduced, and the favorable environment for talents should be optimized.

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