



Research Article

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Study on consumer decision making in rural tourism based on factor analysis model

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ABSTRACT

The development of rural tourism will promote the rural economy and affect the whole national economy. It will help breaking the two structure in urban and rural areas, make adjustment of rural industrial structure and optimize tourism culture resources. The concept of this study is to analyze the tourist decision-making behavior based on the tourist's departure. In this paper, we conclude four indicators which affect the consumer decision making in rural tourism as price factor, market factors, safety factors and personal factors, and then we make empirical analysis by using factor analysis model. The result shows that food prices, accommodation prices, others recommend and local security level is the most important factor that will affect rural tourist decision-making.

Keywords: Consumer Decision Making, Rural Tourism, Factor Analysis Model, Rural Economy

INTRODUCTION

With the development of tourism industry is referred to the strategic position, the development of rural tourism will promote the rural economy and affect the whole national economy. It will help breaking the two structure in urban and rural areas, the development of rural economy will also help solve the rural issues, make adjustment of rural industrial structure, improve the tourism product system, produced many aspects of optimization of tourism culture resources of the role, thus the research on rural tourism has gained extensive attention [1]. Rural tourism, ecological green, back to nature to meet contemporary people the pursuit of value pursuit of health, has a broad market prospect. In addition, the rural tourism resource are rich in our country, and has a good basis for the development of rural tourism, rural tourism development is faced with hitherto unknown weather, geography and people [2]. Through the study of rural tourism tourist decision-making influence factor analysis, aims to provide guidance for the development of rural tourism products, functional upgrading, structural optimization.

Ager (1958) put forward the concept of rural tourism for the first time [3]. Gilbert and Tung (1990) think the main body of rural tourism is the farmer, the object is the tourist, carrier is a farm, ranch, and the content is to carry out a variety of leisure activities in the rural environment [4]. Pedford (1996) further expand the concept of rural tourism, increase of rural life history, such as the rural customs and folklore, local and family traditions, values, beliefs and common heritage elements [5]. Pems (2002) pointed out that the rural area tourism activities have increased significantly in all developed countries in the world, the development of backward rural areas plays a key role in the economic and social [6]. Arie Reichel and Oded Lowengart (2000) argues that rural tourism in most developed countries, is seen as a hindrance recession agriculture, increase farmers income and jobs, to prevent the loss of rural youth labor means [7]. There are many external factors influencing tourist decision-making, mainly including restricting travel factors, the attraction of the tourism destination, marketing stimulus level, family and reference group influence, cultural and sub cultural background, social status and role, group decision factors [8]. Jenkins (1978) used the family as an example, and then studies the holiday tourism decision-making according to family members' role [9]. Pearce (1987) made travel tourists as the research object, to extract the time, work, money,

family or personal health and family tourism decision making restrictive factors. Um & Crompton (1990) focus on the effects of attitudes to tourism destination decision. In addition, there are a large number of literatures on factors affecting tourist decision-making [10].

Tourist decision-making, whether it is for tourists, or to the tourism destination, will have a significant impact. Therefore, it received widespread attention both in academic research and in practice, and abundant research achievements. The concept of this study will be a decision from the tourist's departure, in-depth analysis of the tourist decision-making behavior, based on this, this study will further build tourist village tourism decision model, from the perspective of rural tourism, try to identify the factors affecting the tourism special rural tourism decision-making, further expand the scope of decision making on the tourists, this is to summarize and improve the effective decision theory of tourists.

EXPERIMENTAL SECTION

2.1 Factor model and principle summary

Factor analysis decomposes each of the original variables into two parts; one part is composed of all variables shared with a few elements, and the so-called is public factor; the other part is alone with each variable factor, which is the so-called special factors part. In the factor analysis, we usually only use the m ($m < P$) as main factor, namely according to variables that are associated with the selected first factor f_1 . After selected M , we divide U matrix into two parts. Because $F_a = U'X_a$, then we can get $X_a = UF_a$.

$$X_a = [U_1, \dots, U_m, U_{m+1}, \dots, U_p] \cdot \begin{bmatrix} f_{1a} \\ \vdots \\ f_{pa} \end{bmatrix} \quad (1)$$

One of the coefficient matrix of main factors is $U(1)$, which is called the loading matrix of factors. Due to the characteristics of vector U_i , it is typically representation by unit vector, so it needs to be normalized, i.e.

$$a_{ij} = U_{ij} \sqrt{\lambda_i} \quad (2)$$

Therefore, the factor loading matrix can be shown as:

$$A = (a_{ij}) = \begin{bmatrix} U_{11} \sqrt{\lambda_1} & U_{12} \sqrt{\lambda_2} & \dots & U_{1m} \sqrt{\lambda_m} \\ U_{21} \sqrt{\lambda_1} & U_{22} \sqrt{\lambda_2} & \dots & U_{2m} \sqrt{\lambda_m} \\ \vdots & \vdots & \vdots & \vdots \\ U_{p1} \sqrt{\lambda_1} & U_{p2} \sqrt{\lambda_2} & \dots & U_{pm} \sqrt{\lambda_m} \end{bmatrix} \quad (3)$$

From the above analysis, factor analysis and principal component analysis are very different. Principal component analysis of main component is expressed as linear combinations of original variable, but factor analysis is the original observation variables, which are expressed as a linear combination of the public factor. Principal component analysis number m and the original P are equal. It is a set of related variables, which are transformed into a set of independent variables. The purpose of factor analysis is to make the public factor number. m is smaller than the original variables p , so as to construct a simple model. In the principal component analysis, effect of the original observation variables on a principal component is determined by the main constituents of the corresponding feature vectors, and the original observation variables in a main factor of the load in the factor analysis are determined by the corresponding feature vectors.

2.2 Empirical analysis

It is a complex system to build the assessment of consumer decision making in rural tourism. According to the mode of operation and management tools, we conclude four indicators which affect the consumer decision making of rural tourism. The four indicators are price factor, market factors, safety factors and personal factors. According to these four indicators, we analyze 18 secondary indicators which are consistent with the main four indicators. The price factor include four indicators as "food prices", "accommodation prices", "commodity price" and "additional project price". Market factors include five indicators as "Others recommend", "Rural characteristics", "Rural culture", "Infrastructure", "Traffic is convenient or not". Safety factors include three indicators as "Local security level", "Transportation is safe or not" and "Accommodation is safe or not". Personal factors include five indicators as "Age", "Gender", "Record of formal schooling", "Income", "Psychological tendency" and "Professional".

In order to analyze and process the data of questionnaire, we use factor analysis. Index data of the processing methods of questionnaire contain extraction, rotating, and simplify the analysis, so we can find index system to reflect the consumer decision making in rural tourism. The statistical tool for data processing is the software of SPSS18.0. We distribute 600 copies of the questionnaires in Suzhou city, and there are 564 valid questionnaires, which has reached 94%. First, we using KMO test and Bartlett test to determine whether the data is suitable for factor analysis or not, as showed in table 1. The result shows that the test value of KMO is 0.785, and p value of Bartlett test is less than 0.05, which illustrates that the data of the consumer decision making is suitable for factor analysis.

Table 1: The result of KMO statistical test and Bartlett test

Kaiser-Meyer-Olkin		0.785
Bartlett test	Approximate chi-square	139.512
	df	25
	Sig.	0.000

Then we use SPSS to make the scree plot, as shown in Figure 1. In this graph, the abscissa represents the number of factors, and the vertical axis represents the characteristic roots. The curve means with the increase of the number of factors, and the characteristics of root decreasing rapidly. Characteristic changes of thirteen factors is very relatively small, so we basically think if we choose four or five factors is more appropriate. In order to explain that the factor analysis is better, we choose the first four principal factors.

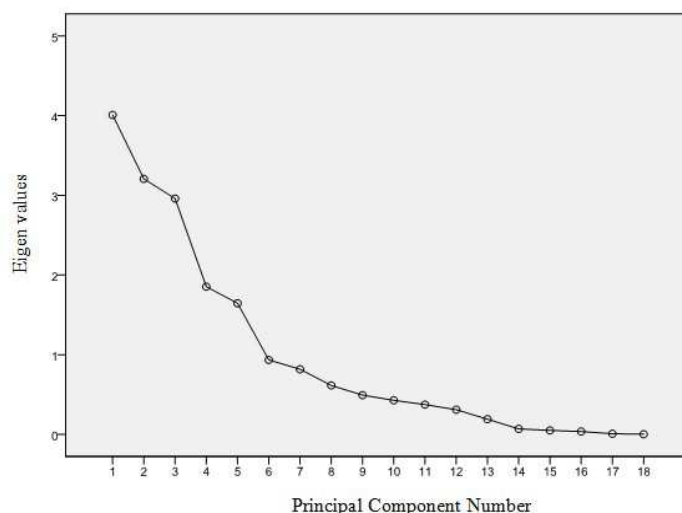


Figure 1. The Scree Plot of factors

In order to ensure the effectiveness of the model evaluation and hypothesis test, it is necessary to test reliability of variables. First of all, we use the whole measurement identifies to examine whether the measurement identity in load factor is less than 0.4. If it is less than 0.4, we need to remove it. The result of load parameter was shown as table 2.

After the standardized processing of factor loading, we find the load is between 0.504 and 0.783; means credibility of measurement scale is relatively high. So the index system has good internal consistency and reliability, and it is suitable to divide consumer decision making into four aspects as price factor, market factors, safety factors and personal factors. According to the result, we find that the food price is the most important factor in price factor; also the accommodation prices should be taken in to consideration as well. And we can find that others recommend and rural characteristics are more important for most people, so that rural tourism should pay more attention to the construction of rural characteristics. Local security level and transportation safe is also very important to most people, so rural tourism should enhance the safe guarantee work. Also, age and gender is important to personal factors that will affect consumer decision making.

Table 2: Estimation results of load parameter on measurement system factors

Level indicators	Secondary indicators	Factor loadings	Symbol
Price factor	Food prices	0.891	X2
	Accommodation prices	0.842	X1
	Commodity prices	0.795	X4
	Additional project price	0.732	X3
Market factors	Others recommend	0.835	X5
	Rural characteristics	0.774	X6
	Rural culture	0.745	X7
	Infrastructure	0.722	X9
	Traffic is convenient or not	0.692	X8
Safety factors	Local security level	0.801	X10
	Transportation is safe or not	0.786	X11
	Accommodation is safe or not	0.745	X12
Personal factors	Age	0.742	X16
	Gender	0.713	X17
	Record of formal schooling	0.689	X14
	Income	0.671	X15
	Psychological tendency	0.637	X13
	Professional	0.561	X18

CONCLUSION

In conclusions, consumer decision making in rural tourism is mainly affected by four indicators as price factor, market factors, safety factors and personal factors, and then we make empirical analysis by using factor analysis model. The result shows that food prices, accommodation prices, others recommend and local security level is the most important factor that will affect rural tourist decision-making. Then we put forward the policy suggestions as follow.

3.1 Strengthening the promotion of rural tourism characteristics

Rural tourism characteristics mainly include mainly refers to maintain good local features, local culture, natural and humanistic landscape harmonious, calm and relaxed atmosphere of the mind, it is the assurance of tourist core elements of rural tourism quality. Therefore, on rural tourism, must strengthen the construction of detonating sexual attraction, hand to excavate the depth of local culture in rural tourism, tourism activities and projects into the local flavor; on the other hand to protect the local ecological environment, ensure air quality, traditional and historical and cultural development of country tourism destination, creating a natural and human environment harmony, so that tourists have a relaxed, calm and relaxed mood for tourism, so as to achieve the effect, true to the regulating role of physical and mental health.

3.2 Provide more tourism experience

For rural tourism, the importance is participation in the main attraction and experience. There are a lot of rural tourism still stays in the ornamental stage of basic guide, participation and experience of tourists is not strong, it is difficult to give the visitors left a deep impression, so the revisit and recommendation intention is not strong, the long-term development of rural tourism is very disadvantageous, therefore, rural tourism operators should build rich, novel experience activities and projects, do not stay in the card type, single fishing and picking and other activities, these activities are not interesting enough, really difficult to arouse the interest of the tourist. We must actively explore innovative rural tourism projects, such as the country club etc.. At the same time, can be rural festivals and rural tourism integration, in order to improve the tourist experiential value.

3.3 Highlight the important role of catering service in rural tourism

Support of the attraction of rural tourism including local cuisine features, characteristics of tourism commodities, these elements are the extension of rural tourism experience of tourists. Pay attention to rural tourism attraction of these support the derivation, resulting in a series of derivative products to rural tourism, tourists more surprises, will bring tourists to additional value-added experience, will greatly improve the revisit and recommendation and willingness to pay, in the maintenance of the existing market at the same time, can quickly expand market share. A need to highlight the local characteristics of food, there are two rural tourism food attract tourists: one is the unique local flavor, such as the China on the tip of the tongue, two is the natural green harmless ingredients, can satisfy tourist demand pursuit of health. Therefore, rural tourism destination needs to improve on these two points, creating an ecological health, unique flavor, a variety of rural tourism food. On the other hand, to develop distinctive rural tourism commodity, the current rural tourism commodity existence of homogeneous, sugar and other issues, therefore, rural tourism destination needs to increase investment in tourism commodity, combined with local

characteristics, value and significance of developing the tourism commodity, make the tourist of rural tourism experience real derivative and extension.

3.4 Improve the construction of the system of rural tourism destination infrastructure

Through on-the-spot investigation, the author found that the part has a rural tourism intention of tourists think: a lot of rural tourism destination at present infrastructure system is not perfect, such as parking problem, which is the key factor to make rural tourism decision. In addition, in the questionnaire and the research results of this study also shows that the extent of complete infrastructure is a very important factor to influence tourists rural tourism decision. Specifically, from the following several points: one is the establishment of scientific planning of rural tourism development, in order to realize the development and protection of rural tourism is reasonable; the two is to strengthen infrastructure construction, improve the construction of rural tourism service center, strengthened from the scale, layout, function and so on; the three is the scientific design of rural tourism transportation system on the one hand, to improve accessibility, on the other hand, attention should be paid to the protection of the original style and environment, to avoid the ecological sensitive area.

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