The Perceived Benefits of High-speed Trains: A Case study of Nanning City, China

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Article info

Abstract

This study fills the conceptual gap by identifying the dimensions of perceived value of high-speed rail and examining the relationship between perceived value and travel decision, in order to gain an improved understanding of tourists' perceived value of high-speed rail, specifically in the Nanning high-speed rail sector. In this study, we collected 449 valid questionnaires through convenience sampling for analysis. The research results show that: (1) Through exploratory factor analysis, it is verified that the perceived value of high-speed rail includes four dimensions: time value, spatial value, experience value, and cost value. (2) Through variance analysis, it is verified that income significantly affects the four dimensions of high-speed rail perceived value and travel decisions. (3) Through correlation analysis, it is verified that the four high-speed rail dimensions all positively impact travel decision-making. (4) Through the multiple regression analysis, cost value has the greatest impact on travel decision. This study has highlighted the role of perceived value in travel decision. We believed that the findings offer reliable and important insights for research and practice of high-speed rail.

Introduction

Nanning East Railway Station began operations on December 26, 2014. Since then, Guangxi high-speed rail lines have continued to increase, allowing for passengers to shorten the distance between cities. The use of high-speed rail stations has changed the passenger quantity and the customer behavior of taking public transportation system. Previous research found that the degree of traffic development of the tourist destination is directly related to the total tourism revenue. For areas rich in tourism resources, the development of tourism can be promoted by promoting the development of the transportation industry. The construction of high-speed rail has dramatically affected the travel behavior of tourists and the driving effect of high-speed rail on tourism has become more and more obvious. Liu & Lee (2016) noted a significant positive relationship between customer perceived quality, satisfaction and choice of transportation, but the relationship between perceived value, satisfaction, and behavioral intentions is less clear. In the technology acceptance model, perceived value is an important influencing factor of behavioral intention (Boulding, Kalra, Staelin, & Zeithaml, 1993), and we assume that this relationship still holds in the high-speed rail industry. Many studies suggest that perceived value is an effective means of enhancing competitiveness.

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However, the structure of perceived value in passenger choice of transportation is not clear. Before studying the impact of perceived value on travel decision, it is necessary to clarify the factor structure of perceived value first.

    The contribution of this study can be explained from the following two aspects. First, this study makes theoretical contributions to the research on the perceived value of passengers choosing transportation modes by exploring and testing the structure of perceived value factors. A clear factor structure is conducive to more accurate measurement of passengers' perceived value of high-speed rail and other transportation. Secondly, this research is expected to make practical contributions to the transportation industry to improve its own service quality and increase passenger's satisfaction.

Objectives

    This study has two main research objectives:

    1. The factor structural of perceived value of Nanning local residents to high-speed rail.

    2. Influencing factors of high-speed rail on travel decisions of local residents in Nanning.

Conceptual framework

    According to customer perception value (Zeithaml, 1988), tourist behavior theory, and literature review research, this research followed the research verification of prior experts and scholars, and built a conceptual framework (Figure 1).
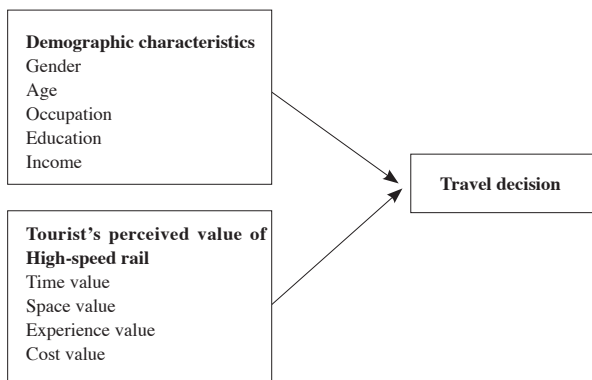

Figure 1 Conceptual Framework

Research Methodology

    1. Population and Samples

    This study examined the dimension of perceived value of high-speed rail and how perceived value affects travel decision. When selecting samples, we mainly focused on the respondent at Nanning East Station by convenient sampling approach. According to Yamane Taro's formula, this study should include at least 400 subjects. In order to avoid incomplete or missing part of the questionnaires during the collection process, 500 questionnaires were manually distributed and 449 valid questionnaires were used after excluding questionnaires of missing data and outliners. The survey period for this research questionnaire took place in March and April 2021.

    2. Research Instrument

    The main research instrument was a questionnaire. The questionnaires specifically included demographic characteristics, the theoretical scale of tourists' perceived value of high-speed rail, and the impact of high-speed rail on tourists' travel decisions. This questionnaire was analyzed through SPSS 25. (1) Demographic characteristics mainly considered the differences in the decision-making of high-speed rail travel between groups of different characteristics according to the basic situation of the tested objects obtained. The information was collected in five aspects: gender, age, occupation, education, and income of the surveyed subjects. (2) Perceived value of high-speed rail, included the relationship between time value, space value, experience value, cost value, and high-speed rail travel decisions. All items used in this part are scored using a Likert five-level scale. (3) The travel characteristics of high-speed rail tourists; the travel decisions of tourists largely reflected the personal preferences and tourism characteristics of tourists. The relevant preferences and travel characteristics of high-speed rail tourists are counted to be constructive to the subjects related to high-speed rail tourism. (4) Comments and suggestions: including the time, method, cost, purpose and accommodation of travelling, at the travel location, catering, shopping, purpose, type, etc.

    3. Collection of Data

    In this study, the method of convenience sampling was used to collect data using both paper and electronic questionnaires. This research follows a voluntary principle, and respondents are assured that the data collected will be used for research purposes only.

    4. Data Analysis (1) Descriptive statistical analysis of the essential demographic characteristics of the interviewees, such as gender, age, occupation, education level, and income level. Moreover, the perceived

value variables of tourists from the high-speed rail, the decision-making variables of tourists traveling, and the characteristics of Nanning residents traveling by high-speed rail were also investigated, and the descriptive statistical analysis was performed based on these variables. (2) Analyze the reliability of time value, space value, experience value, cost value, and travel decision in the perceived value. The exploratory factor analysis method was used to conduct validity analysis and extract common factors. (3) To understand whether there is a significant difference in the various dimensional variables of the perceived value of high-speed rail by tourists with different demographic characteristics. This study conducted a significant test of two groups that balance in gender through the independent sample T-test (One-Sample T-Test). In addition, the one-way analysis of variance (One-Way ANOVA) was used to test the relationship between tourist characteristics and the perceived value of high-speed rail. The demographic variables involved in the comparison includes age, occupation, education, and income. (4) Through correlation analysis, the correlation and degree of influence among time, space, experience, cost, and travel decision-making were explored.

Results

1. Descriptive analysis

The descriptive analysis of the demographic characteristics shows that the survey meets the basic requirements of the sample survey. The descriptive analysis of the tourist high-speed rail value perception variables shows that the highest perceived value of the interviewees is the experience perception value, followed by the cost-perceived value and the space-perceived value. While the lowest average value was time-perceived values. Moreover, the descriptive analysis of the characteristics of Nanning residents traveling by high-speed rail shows that tourists mainly make choices based on friends and relatives and travel for 2-5 days; Also, the high-speed rail fare in the range of 201-400 Yuan was considered to be acceptable to most subjects. Furthermore, the budget hotel was selected as the optimal choice for accommodation by a majority of the respondents. The respondents also indicated that they were willing to experience the local specialty snacks as they dine, and most selected shopping spots in tourist attractions.

Most of the subjects believe that their primary purpose of travel was leisure, religious worship, sightseeing and health preservation, while their preferred destinations were historical attractions, cultural tourism and park tourism.

Table 1 Statistical table of basic characteristics of the sample

Items	Categories	N	Percent (%)
Gender	Male	265	59.02
	Female	184	40.98
Age	<18 years old	12	2.67
	18-30 years old	129	28.73
	31-40 years old	127	28.29
	41-55 years old	143	31.85
	>55 years old	38	8.46
Occupation	Worker	4	0.89
	Farmer	22	4.90
	Government employee	69	15.37
	Institutional personnel	102	22.72
	Private company employees	90	20.04
	Operators	35	7.80
	Professional and technical personnel	26	5.79
	Teacher	21	4.68
	Student	40	8.91
	Self-employed	28	6.24
	Retirees	11	2.45
	Other	1	0.22
Educational background	Junior high school and below	19	4.23
	High school / technical secondary school / vocational high school	63	14.03
	Junior college	125	27.84
	Undergraduate	174	38.75
	Postgraduate and above	68	15.14
Current salary	1000 Yuan and below	23	5.12
	1001-3000 Yuan	43	9.58
	3001-5000 Yuan	117	26.06
	5001-7000 Yuan	147	32.74
	7001-10000 Yuan	94	20.9
	1001 Yuan and above	25	5.57

Table 2 Statistics on the impact of high-speed rail on travel decisions of Nanning residents

Items	Categories	N	Percent (%)
1. How long do you choose to travel by high-speed rail?	1 day	24	5.35
	2-3 days	132	29.40
	4-5 days	186	41.43
	6-7 days	82	18.26
	7 days and above	25	5.57
2. When you travel, how many hours will you choose to take the high-speed rail?	Less than 2 hours	29	6.46
	2-3 hours	95	21.16
	3-4 hours	195	43.43
	4-5 hours	97	21.60
	5 hours and above	33	7.35
3. How far away would you choose to take the high-speed rail when you travel?	0-250 km	26	5.79
	251-500 km	83	18.49
	501-1,000 km	170	37.86
	1,001-1,500 km	128	28.51
	1,500 km or more	42	9.35

Table 2 (Continue)

Items	Categories	N	Percent (%)
4. What price range would you choose to take the high-speed rail when you travel?	Less than 100 Yuan	25	5.57
	101-200 Yuan	89	19.82
	201-300 Yuan	172	38.31
	301-400 Yuan	135	30.07
	400 Yuan and above	28	6.24
5. When you travel, which way would you choose to take the high-speed rail?	Travel agency organization	38	8.46
	Organization	93	20.71
	Friends and relatives	192	42.76
	A person	107	23.83
	Other	19	4.23
6. When would you usually choose to travel by high speed rail?	Weekend	29	6.46
	Holiday	174	38.75
	Annual leave	149	33.18
	Winter and Summer vacation	84	18.71
	Other	13	2.90
7. The transportation options after taking the high speed rail to tourist destination are:	Subway	39	8.69
	Bus	65	14.48
	Taxi	124	27.62
	Private car or rental car	129	28.73
	Tour bus	85	18.93
	Other	7	1.56
8. Which type of accommodation would you choose in a tourist destination?	Family inn	27	6.01
	Economy hotel	214	47.66
	Relatives and Friends home	41	9.13
	Other	2	0.45
9. Which way of dining would you choose in a tourist destination:	Chinese and Western fast food	37	8.24
	Local specialty snacks	216	48.11
	Restaurant	152	33.85
	Bring your own food	37	8.24
	other	7	1.56
10. Which shopping place would you choose on your travel day?	Featured neighborhoods	40	8.91
	Mall	73	16.26
	Roadside shop	81	18.04
	Train station or airport shopping point	98	21.83
	Shopping spots in tourist attractions	140	31.18
	other	17	3.79
11. What is your primary purpose for traveling by high-speed rail:	Sightseeing	153	34.08
	Vacation and leisure	259	57.68
	Wellness	138	30.73
	Religious worship	210	46.77
	other	30	6.68
12. Which type of tourist destination would you choose when traveling by high-speed rail:	Natural scenery tourist spot	105	23.39
	Cultural tourism destination	193	42.98
	Historical sites	225	50.11
	Theme park tourist attraction	191	42.54
	Sporty tourist destination	154	34.30
	Industrial tourism spot	85	18.93
	Comprehensive tourist destination	56	12.47

2. Reliability and validity analysis

According to the overall reliability coefficient of Table 3 shows that the Cronbach Alpha based on standardized items is 0.888, indicating that the overall reliability of the questionnaire is relatively high.

Table 3 Overall reliability analysis

Overall reliability analysis		
Cronbach Alpha	Cronbach Alpha based on standardized	items
.888	.888	17

According to the validity analysis results, the KMO test coefficient was 0.850, and the KMO coefficient was between 0-1. The closer to 1 the questionnaire is, the better it is, indicating good reliability. According to the significance of the sphere test, it can also be seen that the significance of this test is infinitely close to 0, indicating that the correlation coefficient is not a unit rectangle and has good construct validity because it is suitable for exploratory factor analysis.

Table 4

KMO and Bartlett test		
KMO Measure of Sampling		0.850
	Approx. Chi Square	3953.261
Bartlett Test	Df	136
	sig.	.000

3. Exploratory factor analysis (EFA)

By extracting principal components, a total of 4 factors were extracted from the 14 items in the questionnaire for this article, and the four principal component factors were named according to the commonality between the rotated factor load and the original variables contained in each factor. The key influencing factors of tourists' perceived value of high-speed rail can be summarized into four aspects: experience value, time value, space value, and cost value. This is consistent with the dimensions of tourists' perceived value of high-speed rail proposed in the hypothetical model.

Table 5 Total Variance Explained

		Eigen		% of Variance (Unrotated)			% of Variance (Rotated)		
Factor	Eigen Value	% of Variance	Cumulative % of Variance	Eigen Value	% of Variance	Cumulative % of Variance	Eigen Value	% of Variance	Cumulative % of Variance
1	5.353	38.239	38.239	5.353	38.239	38.239	2.979	21.28	21.28
2	2.21	15.786	54.025	2.21	15.786	54.025	2.781	19.867	41.147
3	1.295	9.249	63.274	1.295	9.249	63.274	2.142	15.302	56.449
4	1.179	8.418	71.692	1.179	8.418	71.692	2.134	15.243	71.692
5	0.702	5.014	76.706						
6	0.586	4.182	80.888						
7	0.518	3.701	84.589						
8	0.405	2.889	87.478						
9	0.362	2.586	90.064						
10	0.335	2.392	92.456						
11	0.31	2.214	94.669						
12	0.273	1.95	96.619						
13	0.262	1.87	98.49						
14	0.211	1.51	100						

Extraction method: principal component analysis method

Table 6 Factor loading (Rotated)

Component Score Coefficient Matrix				
	Component			
Item	1	2	3	4
A1. The high-speed rail runs fast, which can save travel time	0.858			
A2. High-speed rail can meet my requirements for travel	0.841			
A3. High-speed rail operation has a high punctuality rate and short waiting time	0.892			
A4. High-speed rail can reduce the time loss of early travel to avoid mishaps	0.763			
B1. The high-speed rail has a wide radiation range, which can make it easier for me to reach other cities				0.846
B2. High-speed rail can increase tourists' desire to travel in cities along the railway line that they did not plan to pass by				0.779
B3. High-speed rail will increase tourists' desire for tourism in surrounding scenic spots centered on high-speed rail				0.714
C1. Good high-speed rail passenger service		0.759		
C2. The high-speed rail runs smoothly		0.791		
C3. High-speed rail seats are highly comfortable		0.842		
C4. It is more convenient for passengers to eat, go to the toilet and move their bodies during travel		0.757		
D1. The high-speed rail fare is lower than that of an airplane ticket of the same mileage			0.831	
D2. High-speed rail fares are not high			0.687	
D3. High-speed rail is cost-effective			0.845	

Extraction method: principal component analysis method.
Rotation method: Caesar normalized maximum variance method.

4. Analysis of variance

Through methodological analysis and research, it is found that gender factors of men and women show significant differences in space value, experience value, cost value, and travel decision-making, but there is no difference in time value between men and women gender factors; different ages have time value, experience value, and cost value There are significant differences in age in the four dimensions of travel decision-making, but there is still no significant difference in the dimension of space value. Different educational backgrounds have differences in the two dimensions of time value and travel decision-making. Tourists with a master's degree or above have the highest time value, experience value, cost value, and average value of the high-speed rail, while tourists with a bachelor's degree have the highest perception of the spatial value of the high-speed rail. The average value is the highest, indicating that to a certain extent, with the improvement of education level, the various dimensions of the perceived value of high- speed rail are also increasing; different occupations have differences in the three dimensions of space value, experience value, and cost travel decision-making. There is no significant difference between time value and travel decision- making in terms of occupation; tourists with different incomes have significant differences in the time value, space value, experience value, cost value, and travel decision-making of high-speed rail.

Table 7 Gender and various variables analysis table

Gender	Time value	Space value	Experience value	Cost value	Travel decision
Male	15.22±2.92	11.72±2.25	16.01±2.93	11.97±2.44	12.02±2.05
Female	15.19±3.27	11.06±2.37	15.08±3.16	10.77±2.44	11.37±2.42
t	0.085	2.971	3.148	5.129	2.972
p	0.933	0.003	0.002	< 0.001	0.003

Table 8 Analysis of differences between age and various variables

AGE	Time value	Space value	Experience value	Cost value	Travel decision
<18 years old	18.17±2.29	12.33±2.27	17.00±4.13	12.92±1.98	13.00±1.54
18-30 years old	14.79±2.96	11.13±2.13	15.01±2.59	10.53±2.31	11.12±2.47
31-40 years old	14.93±3.31	11.64±2.41	15.94±3.11	11.63±2.54	11.98±1.92
41-55 years old	15.29±2.87	11.53±2.40	15.88±3.11	11.99±2.46	11.94±2.29
>55 years old	16.29±2.82	11.32±2.26	15.32±3.47	11.84±2.52	12.03±1.87
F	5.044	1.333	2.644	7.894	4.355
p	0.001	0.257	0.033	<0.001	0.002

Table 9 Analysis of differences between academic qualifications and various variables

Academic qualifications	Time value	Space value	Experience value	Cost value	Travel decision
Junior high school	15.26±3.65	11.11±2.11	14.58±2.84	11.79±1.93	11.79±2.35
High school	14.51±3.38	10.86±2.30	15.35±3.30	10.86±2.52	11.24±2.37
Junior college	14.82±3.02	11.46±2.25	15.57±3.33	11.66±2.70	11.34±2.24
Undergraduate	15.35±2.96	11.65±2.42	15.70±2.64	11.39±2.40	11.99±2.26
Postgraduate	16.16±2.72	11.57±2.22	16.10±3.32	11.872.49	12.37±1.74
F	3.116	1.514	1.141	1.681	3.760
p	0.015	0.197	0.336	0.153	0.005

Table 10 Occupation and variable analysis table

Occupation	Time value	Space value	Experience value	Cost value	Travel decision
Jworker	16.50±2.52	10.25±1.50	14.25±4.19	11.75±2.87	11.50±1.73
Farmer	13.50±2.54	10.32±1.64	14.00±2.76	10.32±2.12	10.14±2.46
government employee	14.55±3.20	11.70±2.26	15.09±2.79	11.45±2.43	11.57±2.14
Institutional personnel	15.60±2.58	11.77±1.95	16.34±2.78	12.05±2.32	11.83±2.05
Private company employee	15.60±2.68	11.33±2.50	15.97±3.18	11.83±2.61	11.97±2.26
Operators	15.26±2.99	12.11±2.27	16.20±2.74	12.09±2.80	11.94±1.96
Professional and technical personnel	15.54±3.43	11.27±2.74	15.54±3.43	11.46±2.67	12.12±2.32
teacher	15.57±3.49	10.52±2.29	14.86±3.43	10.24±2.26	12.00±2.19
student	15.35±3.51	12.05±2.23	15.88±2.76	11.25±2.20	11.68±2.35
Self-employed	14.75±3.95	10.50±2.66	14.29±3.15	9.89±2.44	11.54±2.52
Retirees	14.27±3.82	11.09±2.59	15.36±4.03	11.09±2.51	12.36±2.62
other	16.00	9.00	20.00	12.00	15.00
F	1.497	2.297	2.480	2.935	1.617
p	0.129	0.010	0.005	0.001	0.091

Table 11 Analysis of the difference between income and various variables

Income	N	Time value	Space value	Experience value	Cost value	Travel decision
1000 Yuan and below	23	14.87±3.20	11.00±2.32	14.78±3.38	11.04±2.53	11.30±2.48
1001-3000 Yuan	43	13.81±3.47	10.88±2.22	14.67±2.30	10.19±2.26	10.65±2.27
3001-5000 Yuan	117	14.24±2.97	10.80±2.21	14.52±3.07	10.67±2.43	11.50±2.12
5001-7000 Yuan	147	15.44±2.82	11.61±2.46	15.83±3.10	11.84±2.50	11.88±2.35
7001-10000 Yuan	94	16.33±2.64	12.24±2.05	17.07±2.54	12.59±2.09	12.32±1.97
10001 Yuan and above	25	16.84±3.29	11.96±2.09	16.60±2.78	11.68±2.70	12.36±1.78
F		9.022	5.342	10.034	10.08	4.447
p		<0.001	<0.001	<0.001	<0.001	0.001

According to the correlation analysis results in Table 12, the correlation coefficients are all greater than 0, and they are all positive correlations. The correlation coefficient between time value and travel decision is 0.238, showing a positive correlation; the correlation coefficient between space value and travel decision is 0.378, showing a positive correlation; the correlation coefficient between experience value and travel decision is 0.391, showing a positive correlation; the correlation coefficient between cost value and travel decision is 0.427, which is positively correlated.

Table 12 Correlation analysis of each dimension (N=449)

	Time value	Space value	Experience value	Cost value	Travel decision
Time value	1				
Space value	0.348**	1			
Experience value	0.302**	0.487**	1		
Cost value	0.271**	0.447**	0.477**	1	
Travel decision	0.238**	0.378**	0.391**	0.427**	1

6. Multiple regression analysis

We evaluated the relationship between perceived value, demographic variable and travel decision by multiple regression. Table 13 shows the results as Academic qualifications significantly affect travel decision (b =0.210, p = 0.025). Space value significantly affects travel decision (b = 0.147, p = 0.025). Experience value significantly affects travel decision (b = 0.123, p < 0.001). Cost value significantly affects travel decision (b = 0.220, p < 0.001). However, time value has no affect on travel decision (b = 0.039, p = 0.242). According to standardized coefficient, cost value has the greatest impact on travel decision.

Table 13 Multiple regression of travel decision

Variable	b	S.E.	β	t	p
constant	4.418	0.794		5.562	<.001
Gender	-0.174	0.196	-0.038	-0.887	0.376
Age	0.060	0.100	0.027	0.598	0.550
Academic qualifications	0.210	0.093	0.098	2.253	0.025
Income	-0.014	0.092	-0.008	-0.154	0.878
Time value	0.039	0.033	0.053	1.172	0.242
Space value	0.147	0.048	0.153	3.047	0.002
Experience value	0.123	0.037	0.169	3.326	<.001
Cost value	0.220	0.045	0.247	4.932	<.001

Discussion

In order to explore the influencing factors that affect travel decision and clarify the factor structure of perceived value, this study used a questionnaire survey method to collect data, and found four dimensions of perceived value and their influence on travel decisions through analysis. their influence on travel decisions through analysis.

This study first discovered the four-factor structure of perceived value, including time value, space value, cost value and experience value. Different from previous studies, Cheng proposed a three-dimensional model of perceived value, namely, functional value, experience value and cost value, respectively. These two studies both included experiential value and cost value. The difference is that this study adds time value and space value, while Cheng's study added more functional value. Except for the different transportation studied, the time value and space value in the four-factor structure of this study are more in line with the perceived value structure of the transportation field. Scholars believe that multi-dimensional value perception has a better effect on behavior prediction than single-dimensional value perception. (Chen & Chen, 2010) Likewise, more factors will be more accurate for a measure of perceived value. Although the sub-dimensions of perceived value identified in this study are different from previous studies, this difference is more due to the characteristics of the high speed rail industry investigated. Further, the results also support the claim that, for the perceived value of different means of transportation, researchers should measure different factor structures to accurately measure the perceived value of travelers.

From the perspective of the impact on the perceived value of high-speed rail on tourists' decision-making, time value, space value, experience value, and cost value are all significantly positively correlated with tourists' behavioral decision-making, and the correlation is significantly positive. Time, space, experience, and travel decision-making are weakly correlated, and cost value is moderately correlated with travel decision-making.

According to multiple regression results, that cost value is still the primary reason respondents travel by high-speed rail. The most important reason for respondents to choose high-speed rail is to consider cost performance—the higher their awareness of the cost-effectiveness of high-speed rail, the higher their willingness to ride. Space value is the second-factor influencing tourists' high-speed rail travel decisions, and tourists have an impact on the space of high- speed rail areas—recognition of accessibility. The experience value is the third-factor influencing tourists' high-speed rail travel decisions, indicating that high-speed rail travel respondents desire a comfortable and convenient ride environment; At the same time, the gradual opening of major high-speed rails will also have a certain impact on respondents' actual decision-making on high-speed rail ride; although the average time perception is the lowest, it still has a positive impact on the respondents' high-speed rail rides.

This research also explores the internal relationship between personal attributes and the time value of highspeed rail, the value of high-speed rail space, the value of high-speed rail experience, the value of high-speed rail costs, and the impact of high-speed rail departure. Specifically, five aspects are included in the personal attributes: gender, age, occupation, education, and income. In this study, the gender factor showed significant differences in spatial value, experience value, cost value, travel decision-making, etc., while gender factor of men and women has no significant difference in time value; As for age factor, subjects of different ages have no significant difference in terms of time value, experience value, cost value, and travel decision-making. Age has significant differences in the four dimensions, but there is no significant difference in the spatial value dimension. Respondents of different educational backgrounds have significant differences in terms of time value and travel decision-making. Particularly, Tourists with a master's degree or above have the highest perception of the time value, experience value, cost value, and average value of high- speed rail, while tourists with a bachelor's degree have the highest perception of the spatial value of high-speed rail. Indicating that to a certain extent, with the improvement of education level, the various dimensions of the

perceived value of high-speed rail are also increasing. Additionally, subjects of different occupations have significant differences in the spatial value, experience value, and cost travel decision-making dimensions. And there is no significant difference between time value and travel decision-making in terms of occupation. Furthermore, tourists with different incomes have significant differences in the time value, space value, experience value, cost value, and travel decision-making of high-speed rail.

This study also analyzed the impact of high-speed rail on tourists' travel decisions, it was found that tourists mainly tend to choose travel for 2-5 days with friends or relatives, the high-speed rail fare in the range of 201-400 Yuan was considered to be acceptable to most respondents. Furthermore, Budget hotel was selected as the optimal choice for accommodation by a majority of respondents. The respondents indicated that they are more willing to experience the local specialty snacks as they dine, and most selected shopping spots in tourist attractions. Most of the respondents believed their primary purpose of travel was leisure, religious worship, sightseeing and health preservation, while their preferred destinations were historical attractions, cultural tourism and park tourism. Combining these high-speed rail tourists' decision-making preferences and tendencies has important practical significance for marketing, resource development, product mix, and scenic spot management.

Suggestion

In this study, we studied the perceived value of high-speed rail tourists and the impact on high-speed rail on tourists' travel decisions. Based on the results of data analysis, the following suggestions for high-speed rail tourism can be given: By studying the perceived value of high-speed rail, we know that cost value has the most significant impact on travel decisions. Generally speaking, high-speed rail fares are much higher than ordinary trains and cars and even higher than airfares on some routes. Compared with a significant weakness of other modes of transportation, the interviewed tourists have also verified this point from the results of on-site surveys. In order to expand the market share of high-speed rail and make it a travel option for more tourists, it is recommended that the government and railway departments implement flexible fare policies. For example, the introduction of high-speed rail fare preferential policies for students, the elderly, the disabled, etc.; The preferential people can enjoy preferential

tickets with valid certificates; the fares are appropriately adjusted according to the off-peak season of scenic spots, the off-season fares can be appropriately reduced, and the peak season fares can be appropriately increased. By this method, the passenger flow during peak seasons can be restricted, and the off-season high-speed rail travel rate can be increased. At the same time, also it should also be considered cooperating with scenic spots to launch coupons to attract more tourists to choose high-speed rail travel.

For travel companies, groups with a bachelor's degree or above, business managers and civil servants, and a monthly income of more than 5,000 Yuan are the first target market for high-speed rail tourism, and corresponding high-speed rail travel service packages can be provided for this group of people. Because of the short time of high- speed rail travel, tourism companies should develop medium- and short-term high-speed rail tourism products to shorten the travel time from the original seven days to 2-3 days; in response to the increase in self-guided tourists, tourism companies should launch a series of self-guided tours. According to tourist accommodation and catering characteristics, tourism companies should work with government departments to develop catering institutions with local characteristics and launch uniquely attractive local dishes and to create shopping classics with local characteristics.

Finally, through the respondents' travel purposes and preferences for tourist destinations, it can be known that tourist attractions along the high-speed rail, tourism enterprises, and government departments should work together. It is necessary to protect and open historic sites and tourist sites, develop cultural tourist sites and theme park tourist sites, and strengthen infrastructure construction.

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