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Analysis of Henan Tourism Demand Difference Based on Data Mining and Intelligent Analysis



Abstract: - Relevant tourists fields in Henan have conducted in-depth investigations on Henan tourism, in order to provide reference for subsequent tourism research; Based on the increase in the number of Henan tourists, studying outbound tourism activities from the perspective of tourists can explore its development law and formulate effective marketing strategies. Based on this, this paper proposes a data mining method to analyze the differences between different consumer groups in tourism needs and marketing strategies. The joint example analysis shows that our data mining analysis is very reasonable and effective. Our data experiments show that based on the increase in the number of Henan tourists going abroad, the tourism strategy designed in this paper can promote tourists' interest and increase the number of trips.

Keywords: tourism strategy;marketing strategies;Henan tourists.

I. INTRODUCTION

The word "tourism" is becoming more and more popular, from "the world is so big I want to see", to " Where to play this weekend", whether it is a trip abroad, long-distance travel, the city around the range of attractions have become a tourist destination [1-3]. However, the current systematic research on foreign tourism is still shallow, and the systematic and integrated research on foreign tourism at home and abroad is still in the initial stage [4]. Secondly, previous domestic and Henan studies have been conducted from the perspectives of traveler behavior, foreign tourism marketing, and Sino-foreign relations, which are longitudinal comparisons between respondent groups, but lack horizontal comparisons and differences between cluster groups, and the research perspective has certain limitations [5].

Therefore, this study combines motivation theory and conducts a comprehensive analysis from the research perspective of both supply and demand, focusing on both the restrictive factors that influence travelers' decision to travel abroad, with particular attention to the impact of fluctuations in Sino-foreign relations on travel abroad, while providing corresponding marketing advice to different perceived groups from a marketing perspective [6]. We selects community residents in Henan province as the research object, and clusters them according to their perceptions of restrictive factors, Sino-foreign relations, and marketing strategies for traveling abroad, and analyzes the differences between community residents with different dimensions according to the demographic characteristics between different clustered groups, which can effectively understand the new requirements of domestic community residents for traveling abroad[7].

Meanwhile, this study draws on the proven analytical methods in the field of data mining to model the needs of tourism groups in order to obtain more accurate and efficient marketing strategy planning and make a strong contribution to the tourism industry [8].

II. RELATED WORK

They conducted a descriptive study in [9] on the phenomenon of Chinese tourists going abroad to make explosive purchases, and used in-depth interviews to investigate the reasons for Chinese tourists going abroad to make explosive purchases by using foreign duty-free store managers, foreign teachers and duty-free store clerks. [10] taking the impact of crisis event occurrence on tourists' perceived image as the research content, we borrowed the 3-11 earthquake in foreign countries as the research case event, so as to compile the factors affecting the change of tourism perceived image and the main measures to enhance tourism perceived image after the earthquake, and make suggestions on crisis event initiatives in terms of information transparency, preferential initiatives and media effects. [11] taking inbound tourism flow as the focus of the study, the empirical study analyzes the diffusion path of tourism

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flow from three dimensions: source, transit, and destination, and analyzes the inbound tourism flow driving model from the perspective of source, transit, and destination at three levels: individual tourist, tourism industry supply, and city macro, respectively, and concludes that tourism flow is influenced by three-dimensional forces as well as destination city preference, city question tightness, two-way flow imbalance, diffusion path ways and other related research findings. Foreign countries on the number and growth rate of tourists from mainland China to foreign countries from 2005 to 2015 [12], and the comparative study analyzed that the changes in the number of tourists studied showed characteristics such as large scale, high proportion, heavy status and fluctuation and accordingly, it is divided into three development periods such as stable growth, fluctuating growth, and blowout growth.

[13] content information mining from travel blogs, the study takes three contents such as foreign region identification, tourist attraction identification and keyword detection as the focus of the study, and through content mining for morphological analysis and word frequency - inverse document frequency analysis methods to draw research conclusions about the most popular tourist regions and the keywords with the highest word frequency for different country groups [14] . [15] using the Shiretoko Peninsula in northeastern Hokkaido, a foreign country as the scope of study, we used multivariate logical analysis as the key point of study to dig deeper into the demographic characteristics and expectations of tourists in ecotourism destinations, motivation and actual dissatisfaction and loyalty behavior generated. [16] used foreign inbound Korean tourists as the research object and focused on the issue of the role played by tourism prices in attracting inbound tourism consumption factors, and developed inbound demand models for six price indicators and predicted the most effective price indicators for outbound tourism demand in terms of economic indices such as relative prices, proxy exchange rates, fuel price transportation costs, jet fuel costs, effective relative prices, and real exchange rates, respectively.

III. ANALYTICAL MODEL BASED ON DATA MINING

First, we collected and obtained information about the respondents by taking the form of a questionnaire. Specifically, we analyzed the following categories of characteristic information.

A. Demographic characteristics

The 906 valid questionnaires were analyzed in Table 1.

Table 1 Demographic characteristics of respondents

Category	Dimension	Percentage(%)
Sex	Male	39.89
	Female	61.05
Age(years)	18~25	44.61
	26~45	35.89
	46~60	16.58
	≥61	1.97
Physical condition	Very healthy	5.21
	Healthy	48.97
	Neutral	35.99
	Unhealthy	8.87
	Very unhealthy	0.00
Education level	High school/junior high school and below	12.05
	College/bachelor's degree	63.45
	Master and above	24.33
Annual per capita household income (yuan)	≤100000	50.87
	100001~200000	28.89
	200001~300000	11.82
	300001~500000	4.88
	>500000	4.12
Occupation	Student	31.11

	Career Staff	24.52
	Enterprise employees	22.79
	Self-employed/Freelancer	13.69
	Retirees	3.07
	Government employees/military	2.45
	Others	2.23
Level of knowledge about tourism	Very well informed	0.67
	Understand	11.79
	Neutral	21.01
	Don't know	50.21
	Very unaware	16.55

B. Analysis of Respondents' Outbound Travel Needs

The questions related to tourism demand in this research questionnaire were multiple responses, so the types of overseas tourism resources, expected service items, expected supporting services, single-time per capita cost and channels to learn about overseas tourism information were tested separately with the demographic characteristics of the respondents by chi-square test, and it was found that there were differences in the choices of respondents with different demographic characteristics and the differences were statistically significant (Table 2). On the basis of statistical significance, further demand variance analysis was conducted on the above influencing factors and demand categories.

Table 2 Analysis of respondents with different demographic characteristics and demand for outbound medical tourism

Variable	Indicator	Demand				
		Resource Type	Services	Supporting Services	Cost /person	Understanding Channels
Sex	χ^2	16.575	71.055	5.189	31.185	5.835
	p	0.022*	0.000*	0.395	0.000*	0.325
Age(years)	χ^2	19.799	95.619	28.598	36.945	25.520
	p	0.535	0.000*	0.018*	0.001*	0.049*
Physical condition	χ^2	13.699	24.235	5.221	33.795	10.031
	p	0.887	0.455	0.899	0.005*	0.879
Education level	χ^2	13.255	35.858	13.215	10.038	20.998
	p	0.508	0.029*	0.05	0.452	0.022*
Annual per capita household income (yuan)	χ^2	37.965	79.855	9.112	315.558	36.525
	p	0.097	0.000*	0.985	0.000*	0.014*
Occupation	χ^2	42.315	81.055	33.808	97.859	44.001
	p	0.195	0.000*	0.115	0.000*	0.050*
Level of knowledge	χ^2	13.172	31.255	10.582	59.525	27.198
	p	0.993	0.505	0.965	0.000*	0.132

There were differences in the demand for the types of tourism resource places among the respondents of different genders. Frequency analysis of the data shows that the proportion of women choosing hot springs (69.85%) is significantly higher than that of men (46.96%), which is consistent with the data published by the China Hot Spring Tourism Network. The proportion of women who chose coastal, rural, grassland and scenic areas was slightly higher

than that of men, while the proportion of women who chose wetlands was slightly lower than that of men; there was no significant difference between men and women for the choice of forests and cities (Table 3).

Table 3 Effect of gender on the demand of outbound medical tourism resource place type (%)

Sex	Hot Springs	Forest	Coastal	Wetland	Countryside	Urban	Grassland	Scenery
Female	69.88	39.55	66.58	16.78	32.25	29.65	35.56	35.58
Male	46.89	39.21	62.01	21.02	26.58	29.23	32.05	31.23
Difference	22.99	0.34	4.57	-4.24	5.67	0.42	3.51	4.35

There were differences in the demand for tourism service items among respondents with different demographic characteristics. Respondents' choice of outbound travel item categories differed by gender, age, education level, per capita annual household income and occupation, with the top three items with the highest proportions being health care, spa and health checkup in that order. The top three categories of outbound travel were health and wellness, spa and health checkup. In terms of age, the highest proportion of respondents aged 46 and above chose health and wellness programs, especially for the group aged 61 and above, which was much higher than other travel programs. In terms of education level, horizontally, the top 3 items chosen by respondents with high school/junior high school and below and college/bachelor's degree are health care, health checkup and spa, while those with master's degree and above are spa, health care and traditional, and the proportion of respondents with high school/junior high school education and below choose health care items is much higher than other items; vertically In the longitudinal perspective, respondents with college/bachelor's degree and master's degree and above have a much higher proportion of respondents choosing cosmetic surgery, spa and out-of-state fertility programs than those with high school/junior high school and below.

Respondents with an annual per capita household income of \$100,000 to \$300,000 chose health care, health checkups and hot spring spas as the top three travel items, while respondents with an annual per capita household income of \$300,000 or more chose disease treatment items at a significantly higher rate than respondents at other income levels[21-23]. Respondents with an annual per capita household income of RMB 300,000 to 500,000 yuan chose cosmetic surgery and childbirth abroad significantly more than other income groups; no significant differences were found in other items. In terms of occupation, the proportion of government employees/military, institution employees and students choosing health and wellness programs was lower than that of spa spa, while the proportion of people in other occupations choosing health and wellness programs was higher than that of spa spa; the proportion of retired people choosing health and wellness programs was much higher than that of other tourism programs, and the proportion of students choosing both spa and traditional programs was significantly higher than that of other occupational groups (Table 4).

Table 4 Demand for overseas tourism programs among respondents with different demographic characteristics (%)

	Indicator items	Disease Treatment	Health Care	Rehabilitation	Health Checkup	Spa	Secondary Care	Out-of-country fertility	Traditional Medicine
Sex	Male	27.65	49.52	22.94	37.98	42.29	12.13	7.48	23.58
	Female	25.25	52.98	19.68	42.01	63.25	13.06	19.25	43.31
Age(years)	18~25	24.02	56.23	22.05	43.59	68.82	14.23	15.98	36.55
	26~45	25.55	46.77	18.36	35.43	49.15	12.98	18.35	30.29
	46~60	33.37	48.69	25.12	40.0	33.59	10.00	2.69	15.99
	≥61	27.62	61.23	16.69	38.95	33.35	0.00	0.00	5.58

Education level	High school/junior high school and below	32.25	62.38	23.89	44.96	33.05	10.62	4.62	27.56
	College/bachelor's degree	25.89	52.01	21.92	40.81	12.59	15.17	15.26	35.39
	Master and above	23.79	45.36	17.95	35.01	13.31	16.62	16.71	35.99
Annual per capita household income (yuan)	≤100000	25.88	57.65	21.75	42.66	58.98	13.23	10.23	40.31
	100001~200000	22.13	46.89	17.55	39.25	56.69	13.36	17.25	32.22
	200001~300000	25.25	45.58	18.72	38.35	46.87	10.98	14.98	24.35
	300001~500000	43.29	34.09	18.28	34.11	43.25	11.39	36.39	38.65
	>500000	43.34	45.88	45.96	22.58	29.82	8.35	16.23	10.82
Occupation	Government employees/military	18/22	50.05	4.58	32.12	54.59	13.10	9.12	31.98
	Career Staff	21.28	45.85	17.21	40.28	55.2	10.75	16.87	35.59
	Enterprise employees	32.22	50.58	20.20	33.19	48.01	10.59	16.11	25.97
	Self-employed/Freelancer	37.28	49.29	19.04	38.16	36.23	13.98	14.36	37.51
	Retirees	27.89	58.65	10.36	31.05	41.69	3.55	0.00	13.78
	Student	22.12	27.62	23.15	44.59	68.87	17.03	13.53	48.51
	Others	14.26	47.59	23.85	66.69	57.35	0.00	9.55	19.06

Respondents of different ages have different needs for complementary services. The top three items with the highest proportion of demand for overseas travel support services by age group were translation, accommodation arrangement and transfer services, with translation services ranking among the top three items with the highest proportion of demand by age group and accounting for more than 60% of the total, while travel consultation accounted for the lowest proportion. There are differences in the demand for overseas travel support services among respondents of different age groups, but the overall differences are not significant (Table 5).

Table 5 Demand for overseas medical tourism supporting services by respondents of different age groups (%)

Age(years)	Pick-up and drop-off services	Accommodation and food arrangements	Travel consultation	Translation	Featured Activities	Insurance
18~25	53.33	69.16	48.85	63.68	59.95	63.23
26~45	60.25	57.55	33.55	63.27	51.25	59.32

46~60	58.97	62.68	24.02	62.58	45.65	48.69
≥61	61.22	50.05	12.11	66.69	44.59	38.92

There are differences in the single per capita cost of overseas travel that respondents with different demographic characteristics are willing to accept. There are differences in the single per capita cost of an overseas trip that respondents of different gender, age, physical condition, annual per capita household income and occupation are willing to accept. Except for respondents with an annual per capita household income of 500,000 yuan or more, the proportion of respondents with different demographic characteristics choosing a single trip costing less than 30,000 yuan is significantly higher, and the proportion tends to decrease as the single trip cost increases. Based on demographic characteristics, the proportion of those willing to accept single per capita cost above 50,000 yuan was summarized and found that the proportion of men accepting single per capita cost above 50,000 yuan was significantly higher than that of women; as age and income increased[24-26], the proportion of those willing to accept single per capita cost above 50,000 yuan increased, and the trend was more obvious in terms of income; in terms of occupation, the proportion of those willing to accept single per capita cost above 50,000 yuan was significantly higher than that of women. In terms of occupation, the top 3 highest proportions were self-employed, employees of enterprises and employees of institutions in order, with the proportion of self-employed choosing much larger than the latter two (Table 6).

Table 6 Willingness of respondents with different demographic characteristics to accept a single per capita cost (%)

Indicator items	Within 30,000 Yuan	30,000~50,000 Yuan	50,000~100,000 Yuan	100,000~300,000 Yuan	300,000~500,000 Yuan	500,000 Yuan or more	50,000 Yuan or more
Sex							
Male	57.58	24.65	10.55	4.51	1.67	1.1	1.98
Female	72.26	19.89	6.29	10.12	0.21	0.65	8.12
Age(years)							
18~25	71.55	20.55	5.25	0.99	1.25	0.52	7.95
26~45	65.68	20.07	11.45	2.42	0.61	0.93	15.29
46~60	56.68	58.02	8.05	6.02	0.00	1.34	15.35
≥61	55.68	27.89	5.59	5.58	0.00	5.58	16.72
Physical condition							
Very healthy	55.35	25.55	10.65	4.29	4.35	0.00	19.17
Healthy	68.69	20.56	9.58	1.36	0.00	0.00	10.85
Neutral	65.12	22.15	5.92	3.89	1.21	1.82	12.85
Unhealthy	64.25	24.72	6.53	1.25	1.25	2.49	11.20
Annual per capita household income (yuan)							
≤100000	77.65	19.39	2.41	0.45	0.33	0.00	3.05
100001~200000	65.68	26.75	6.97	1.59	0.00	0.00	8.55
200001~300000	48.65	21.59	21.55	3.78	3.75	0.95	29.93
300001~500000	40.92	25.05	22.78	9.12	0.00	2.9	34.12
>500000	16.25	13.55	27.05	21.68	5.45	16.23	70.31
Occupation							
Government employees/military	68.28	22.78	4.59	4.59	0.00	0.00	9.15
Career Staff	70.15	19.08	9.98	0.48	0.47	0.00	10.92
Enterprise employees	65.52	24.55	7.22	2.42	0.98	0.51	11.02

Self-employed/Freelancer	45.20	23.59	15.36	8.89	2.45	5.69	32.31
Retirees	69.17	24.25	3.52	3.56	0.00	0.00	6.92
Student	72.65	21.45	4.99	0.73	0.38	0.00	6.03
Others	80.99	14.36	0.00	4.79	0.00	0.00	4.79

Respondents with different demographic characteristics have different needs for information understanding channels. In terms of information channels for overseas travel, the top three groups with an annual per capita household income of 500,000 RMB or more and those who are self-employed are travel service agencies, recommendations from friends and family, and recommendations from doctors and related professionals in domestic hospitals. The top 3 choices for other demographic characteristics were the Internet, recommendation from friends and family, and recommendation from domestic hospitals and doctors and related professionals, which shows that these 3 channels are currently the main channels for people to learn about overseas travel information, and the 4th place is travel service agencies, while the proportion of respondents choosing traditional TV and radio, newspapers and magazines is low. The proportion of self-employed persons, retired persons and employees of business units who get information through recommendations from friends and family is higher than that of other occupational groups, and the proportion of employees of business units, self-employed persons and students who get information through recommendations from doctors and related professionals in domestic hospitals is higher than that of other occupational groups (Table 7).

Table 7 Distribution of information channels of overseas travel among respondents with different demographic characteristics (%)

Indicator item	Network	Medical tourism service providers	TV and radio	Newspaper and magazine	Recommended by friends and family	Recommended by domestic hospital doctors and related professionals
Age(years)						
18~25	24.19	12.05	8.85	10.16	20.21	24.86
26~45	22.55	12.38	7.23	6.52	25.35	26.25
46~60	16.89	16.19	8.75	7.45	26.55	24.28
≥61	17.98	12.87	10.29	10.28	28.22	20.15
Education level						
High school/junior high school and below	18.19	15.30	9.95	7.03	28.52	21.12
College/bachelor's degree	24.02	12.69	8.79	9.38	21.83	24.35
Master and above	22.19	12.19	6.15	6.35	23.95	29.39
Annual per capita household income (yuan)						
≤100000	23.15	11.52	9.97	9.71	22.36	23.55
100001~200000	21.68	12.52	7.45	6.97	25.59	26.25
200001~300000	23.69	15.35	6.05	6.03	23.69	25.46

300001~500000	20.22	13.85	5.36	9.59	20.25	30.98
>500000	16.58	25.35	1.29	6.35	20.37	30.28
Occupation						
Government employees/military	26.55	10.25	10.22	12.25	22.58	18.9
Career Staff	21.59	12.52	8.69	6.92	23.07	28.54
Enterprise employees	25.75	10.98	7.68	7.93	24.85	23.12
Self-employed/Freelancer	17.53	18.12	5.97	4.85	28.06	15.85
Retirees	16.95	15.29	10.87	9.32	27.72	20.03
Student	24.15	12.22	8.89	10.72	27.71	24.89
Others	15.65	9.45	9.54	9.39	19.42	25.22

IV. EXPERIMENTAL RESULTS

A. Restrictive Factors for Traveling

There is a degree of variation in the perceptions of community resident respondents regarding the limiting factors of travel abroad. In order to determine the segmentation of community residents, this study used cluster analysis to further investigate the reasons for the differences in the perceptions of community resident respondents regarding the limiting factors of travel abroad. The study chose a cluster number value of 3 to classify three types of cluster groups: negative perception type, positive perception type, and neutral perception type[27]. The clustering of the community resident respondents in the three types is shown in Table 8 and Figure 1.

Table 8 Analysis of the differences in the perceptions of restrictive factors of travel to foreign countries among the community resident respondents of different clusters

Title	Cluster group 1	Cluster group 2	Cluster group 3	<i>F</i> value	<i>Sig</i>
	Positive perception type	Negative perception	Neutral perception		
Frequent natural disasters (e.g., earthquakes and tsunamis, typhoons, etc.)	5.00	4.00	3.00	215.225	0.000***
Fluctuating Sino-Japanese relations	5.00	4.00	3.00	259.958	0.000***
Cumbersome visa procedures for Japan	5.00	4.00	3.00	284.941	0.000***
The overall cost of travel is too high	5.00	4.00	3.00	365.121	0.000***
Higher exchange rate directly increases the cost of travel	5.00	4.00	3.00	354.239	0.000***
No direct flights to destinations	5.00	4.00	3.00	217.785	0.000***
Too few paid holidays	5.00	4.00	3.00	270.459	0.000***
Language barriers in traveling to Japan	5.00	4.00	3.00	237.875	0.000***

Note: * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

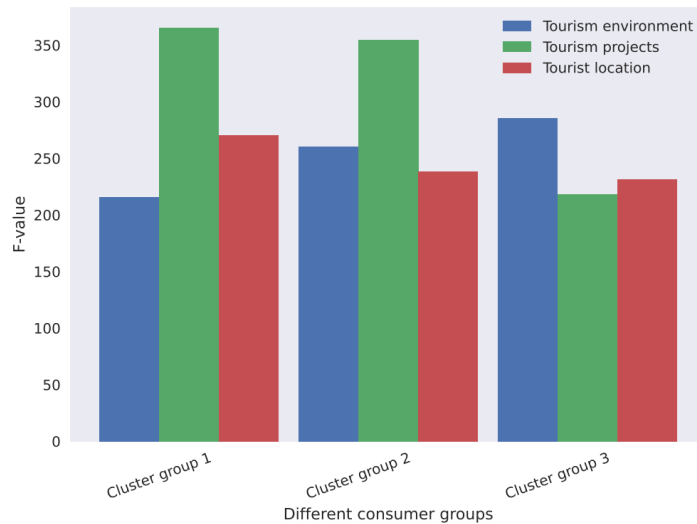


Figure 1 Influence of different tourism factors on F-value

Among all the community residents interviewed, the number of negative perception clusters was 261, the number of positive perception clusters was 109, and the number of neutral perception clusters was 342. The group with the largest proportion of respondents was 342, accounting for 47% of the total number of respondents. The variance analysis shows that "frequent natural disasters," "fluctuating Sino-foreign relations," "cumbersome foreign visa procedures," "high overall travel costs" "higher exchange rates" "destinations without direct flights" "too few paid holidays" "The presence of communication barriers" and other limiting factors of travel abroad F -statistics are accompanied by probabilities less than 0.001, indicating that the differences between negative perception type, positive perception type and neutral perception type and their significant. The intensity of tourism demand of different consumer groups is shown in Figure 2.

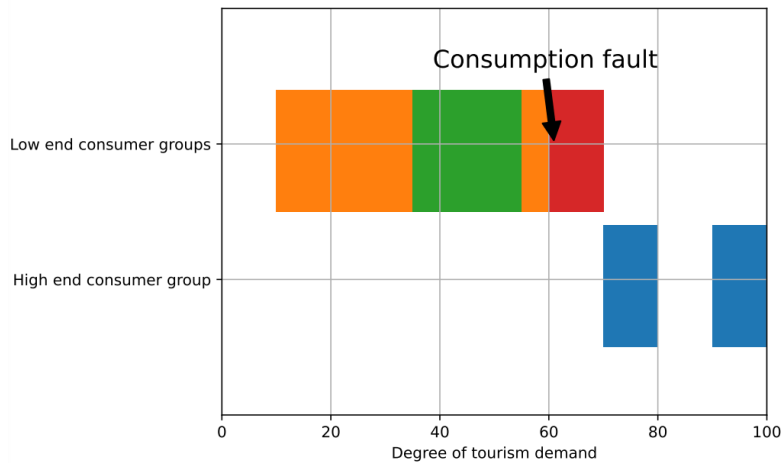


Figure 2 Different consumer groups' demand for Tourism

B. Cluster analysis of travel planning abroad

As can be seen from Table 9 and Figure 3, there are very significant differences in community residents' perceptions of the impediments of Sino-foreign relations to travel plans abroad across different clustering groups. In order to determine the subgroups of this study regarding community residents, this study used cluster analysis to further investigate the reasons for the differences in community residents' preferences. The study chose a cluster number value of 3 to classify three types of cluster groups: negative perceptions of Sino-foreign relations, positive perceptions of Sino-foreign relations, and neutral perceptions of Sino-foreign relations. The clustering of the respondents of the three types of community residents is shown in Table 9.

Table 9 Differential analysis of the perceptions of community resident respondents from different clustering groups regarding the perceived impediments of Sino-foreign relations to travel plans abroad in 2017

Title	Cluster group 1	Cluster group 2	Cluster group 3	F value	Sig
	Positive perception type	Negative perception	Neutral perception		
The tendency of Chinese and foreign media to hinder travel plans to Japan	5.00	4.00	3.00	455.305	0.000***
Attitudes and policies of both governments hinder travel to Japan	5.00	4.00	3.00	524.158	0.000***
Fears of friends and relatives	5.00	4.00	3.00	528.135	0.000***
It is not safe to travel to Japan	5.00	4.00	3.00	519.658	0.000***
I will feel less favorable towards Japan	5.00	4.00	3.00	553.025	0.000***
I am worried that Japanese people will be unfriendly to me.	5.00	4.00	3.00	455.687	0.000***

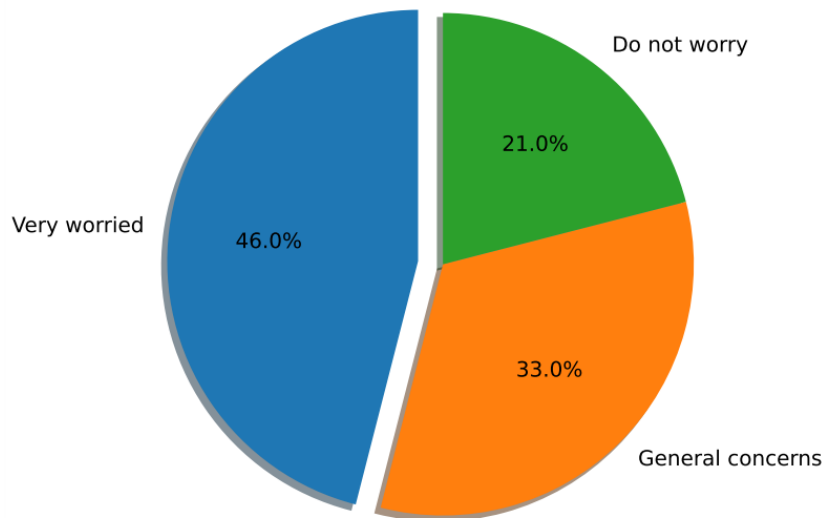


Figure 3 Consideration of human environment in tourism demand

Among all the community residents, the number of negative perceptions of Sino-foreign relations was 270, the number of positive perceptions of Sino-foreign relations was 130, and the number of neutral perceptions of Sino-foreign relations was 316, accounting for 44.1% of the total number of respondents. The analysis of variance shows that the probability of the F-statistics of the six questions are all less than 0.001, indicating that the differences among the three clusters are extremely significant.

C. Cluster analysis of recent tourism promotions to foreign countries

As can be seen from Table 10 and Figure 4, there is a degree of variation in the community residents' respondents' perceptions of the impact of recent travel promotions abroad. In order to determine the segmentation of community residents in this study, cluster analysis was used to further investigate the reasons for the differences in community

residents' perceptions of the impact of outbound tourism promotions. A cluster number value of 2 was chosen for the study to delineate two types of cluster groups: promotion-independent and promotion-dominant. The clustering of community resident respondents of both types is shown in Table 10.

Table 10 Differential analysis of the perceived impact of recent travel promotions to foreign countries by community resident respondents of different clustering groups in 2017

Title	Cluster group 1	Cluster group 2	F value	Sig
	Promotion-independent	Promotion-led		
I will consider traveling to Japan if there is a low price promotion by travel agencies in the near future	2.00	5.00	1025.365	0.000***
I would consider traveling to Japan if there is a recent airline promotion	2.00	5.00	1080.935	0.000***
I would consider traveling to Japan if there is a new tour itinerary in the near future	2.00	5.00	705.035	0.000***
I would not consider traveling to Japan in the near future, regardless of the promotions	3.00	3.00	.660	.430

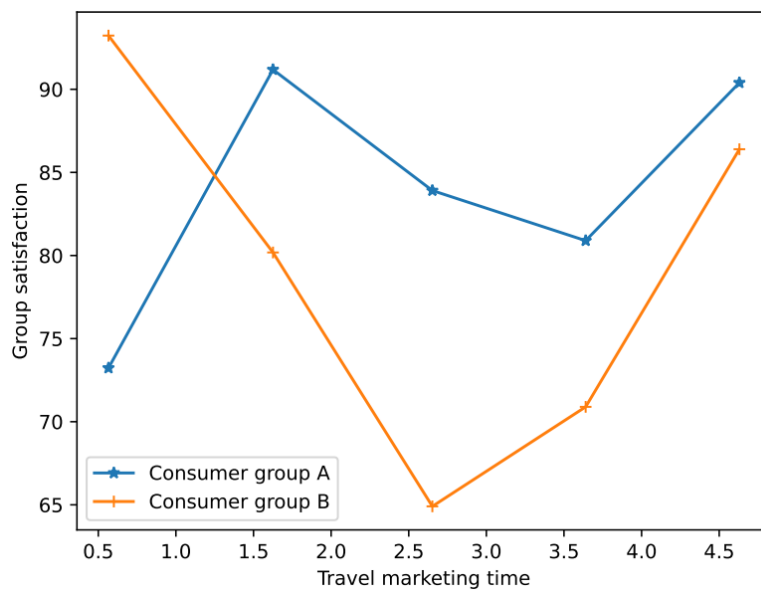


Figure 4 Changes in consumer satisfaction with marketing

Among all the community respondents, the number of cluster group 1 (promotion-independent) was 361, the number of cluster group 2 (promotion-led) was 352. The analysis of variance shows that the F-statistics of the first three items (I would consider traveling abroad if there is a recent low price promotion by travel agencies; I would consider traveling abroad if there is a recent airline promotion; I would consider traveling abroad if there is a recent new travel route) are less than 0.001, indicating that the difference between the promotion-independent and promotion-dominant types is significant.

V. CONCLUSION

Based on the findings of the study, we found that effective marketing strategies can be designed in at least five aspects, specifically: developing a portfolio of tourism services, building a reasonable price gradient, making full use of the Internet and travel assistance agencies for marketing, improving tourism-related ancillary services, achieving word-of-mouth marketing and improving service quality through training and motivating employees, and

combined with our proposed demand forecasting model, we With our proposed demand forecasting model, we are able to effectively predict the travel demand of different consumer groups and thus make targeted travel marketing recommendations to enhance the user's travel experience, the quality of travel services and the attitude of service providers to influence the consumer's experience and satisfaction.

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