

Research on the Tourism Public Opinion of Lijiang River Scenic Spot Based on Content Analysis Method

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Abstract—This paper analyzes the tourism public opinion in Lijiang River scenic spot and puts forward some suggestions for improvement. By using the content analysis method and using the ROST CM6 word segmentation system and the *Bazhuayu* content mining software, this paper analyzes the tourists' tourism public opinion evaluation text of the Lijiang River scenic spot on the *Ctrip*, and finds out the negative evaluation of five aspects, such as environment, traffic, pleasure-boat, ticket price and bamboo raft, and puts forward the solutions. The research method of this paper has certain reference significance for analyzing the public opinion of the tourism scenic spot, improving the tourism image and improving the service level.

Keywords—Lijiang River scenic spot; Content analysis method; Tourism public opinion; Web text

I. RESEARCH OBJECT AND RESEARCH METHOD

The author takes the "tourism public opinion" as the key words to search in CNKI. From 2013 to 2017, 21 papers were retrieved, with little research achievement. However, the tourism public opinion, a new network phenomenon, is increasingly valued by tourism enterprises and governments[1]. The analysis of tourism public opinion can not only understand the problems and hot events of tourist destinations in time, but also grasp the needs of tourists, and provide valuable decision-making information for tourism enterprises and tourist destinations[2].

A. Tourism Public Opinion

The tourism public opinion is the public opinion taking the tourism as the theme or related to tourism, which makes the tourists have a positive or negative impression on tourist destinations and hold feelings, intentions, attitudes and opinions on travel matters which they care about or are closely related to their interests[3]. The tourism public opinion is the social conditions and public opinions expressed on tourism network platform, micro-blog, WeChat and so on[4]. Compared with traditional questionnaires, the Internet public opinion can reflect tourists' perceptions and opinions more realistically and instantaneously.

B. Lijiang River Scenic Spot

Lijiang River scenic spot is located in Guilin, Guangxi Province. It is a typical Karst landform landscape, which is the first national scenic spot and the first national 5A tourist attraction in China.

C. Research Method

a) Text Mining

The text mining is to clean data and extract features after some text preprocessing by looking for text sources, and further mine and analyze, and finally presented in a visual way[5], as shown in Fig.1. Through a series of intelligent algorithms, the *Bazhuayu* large data acquisition platform used in this paper breaks, reorganizes and mines hundreds of thousands of individual comments without common characteristics, and finally a chart with very strong business guidance is presented, and we can know the tendency of tourists to the authentic evaluation for the Lijiang River scenic spot.

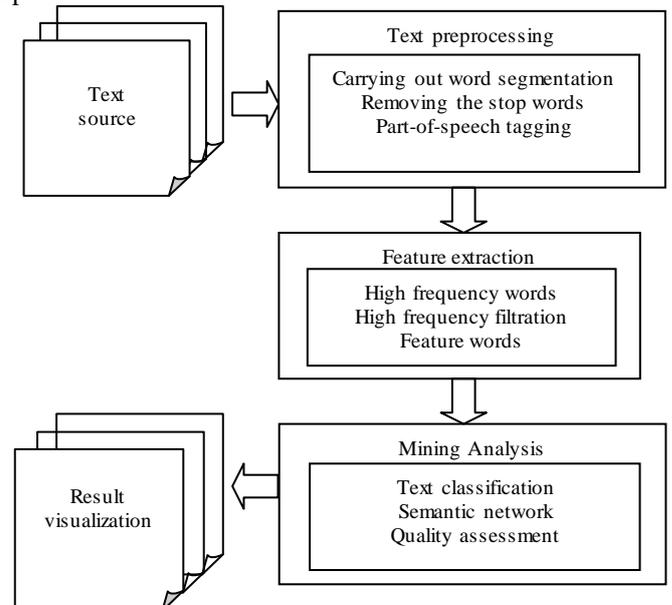


Fig. 1. Text mining simplification steps

b) Content Analysis Method

Network text content analysis is a method of combining quantitative and qualitative analysis with network text as the main content. It is a new way to quantify information, which helps to systematize the qualitative analysis and reveal the hidden content[6].

II. ANALYSIS OF THE TOURISM PUBLIC OPINION OF LIJIANG RIVER SCENIC SPOT

In this paper, the data of Ctrip was selected as samples. Ctrip provides all-round travel service for more than 250 million members, and the tourist review data on Ctrip was selected as samples with the characteristics of reality and data centralization. The author used Bazhuayu collector to collect relevant evaluation about the Lijiang River scenic spot on Ctrip through the crawler technology, and grouped them according to the data of travel. Then, the author sorted out the collected data through Excel software, and extracted the emotion analysis, typical opinions, keywords of the comment by Bazhuayu micro map.

A. The Basic Situation of the Public Opinion of the Lijiang River Scenic Area

The author selected the comments of tourists published under the “Lijiang River” directory on Ctrip from July 2015 to July 2017. In order to ensure the authenticity of the sample and the standardization of the research, the author selected the comments of personal experience and feelings during the tour of tourists, and removed the repeated and unrelated comments. Finally, 928 samples were obtained. In the two years of the author’s study, the overall comments on the public opinion of Lijiang River scenic spot showed the significant year-on-year upward trend. The number of positive evaluation was high, but there was also nearly 1/3 of the negative evaluation that need to be paid attention to. In the same year, there was a high summer commentary degree and a low winter commentary degree. This was due to the difference between the off-season and the peak season in the Lijiang River scenic Spot. As shown in Fig.2 below, there were 653 positive comments in 928 evaluation samples, accounting for 70.37%, while negative comments were 275, and accounting for 29.63%.

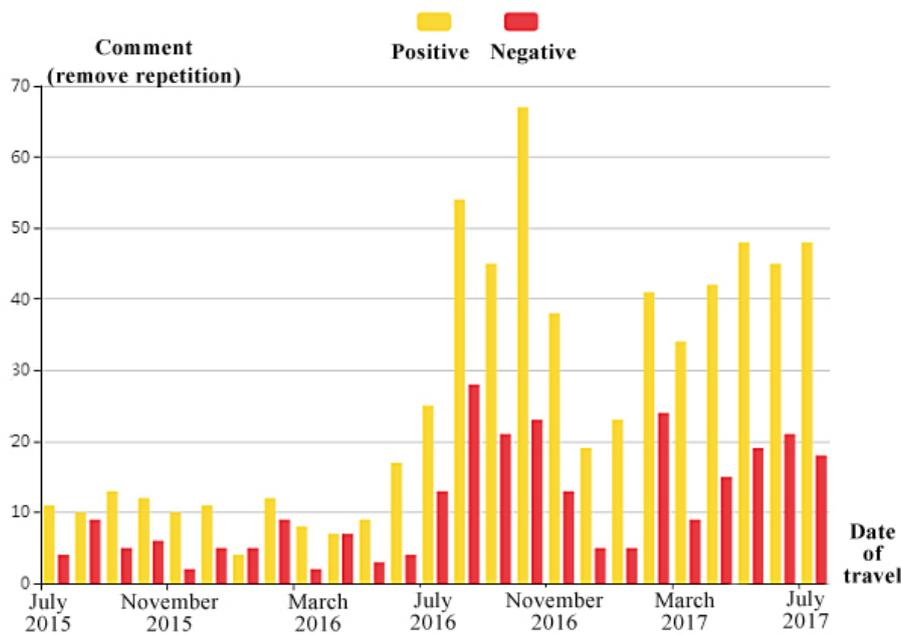


Fig. 2. The chart of the comment trend and the proportion of the positive and negative emotion

B. Analysis Results of Tourism Public Opinion in the Lijiang River Scenic Spot

According to the nouns and adjectives in tourists’ comments, we can roughly identify the public opinion that can represent tourists. In this paper, through the automatic word segmentation and the cluster statistics by using synonyms, after the preprocessing of the comment samples, the key words are classified according to the nouns and adjectives, and the weight statistical results from high to low are made. Then, the low related words, such as verbs are eliminated, and finally, the weight situation of the first 30 nouns and the first 40 adjectives appearing in the comments of tourists in Lijiang River scenic spot of Guilin is listed, and the public opinion of the scenic spot is analyzed.

The weight of the top 3 keywords of the noun: The weight of the “Lijiang River” as the key word is the highest and the weight is 167.3, the weight of “Guilin” is 91.65, and the weight of “bamboo raft” is 68.94(See Table I).

TABLE I. THE WORD LIST OF THE FIRST 30 NOUNS WEIGHT

Ran king	Nouns	Weight	Ran king	Nouns	Weight
1	Lijiang River	167.35	16	Photo	21.16
2	Guilin	91.65	17	RMB	19.10
3	Bamboo raft	68.94	18	Tourism	18.77
4	Yangshuo	60.19	19	Time	18.75
5	Scenery	47.78	20	Essence	18.20
6	Guilin Scenery	47.68	21	Sight	17.32
7	Landscape	43.61	22	Beautiful scenery	17.13

Cont. to TABLE I

8	Mountains and rivers	42.31	23	Drift	15.03
9	Pleasure-boat	36.12	24	Inverted reflection in water	14.26
10	Feel	34.26	25	Weather	13.61
11	Wharf	31.44	26	Misty rain	12.50
12	Scenic spot	29.46	27	Tourist	12.08
13	On board	27.06	28	Go sightseeing	11.21
14	Both sides	25.39	29	Explanation	11.01
15	Guide	23.48	30	Journey	10.43

The weight of the top 3 keywords of the adjective: The weight of the “the finest under heaven” as the key word is the highest and the weight is 48.24, the weight of “pretty good” is 29.46, and the weight of “lots of” is 18.68(See Table II).

TABLE II. THE WORD LIST OF THE FIRST 40 ADJECTIVES WEIGHT

Ranking	Adjective	Weight	Ranking	Adjective	Weight
1	The finest under heaven	48.24	21	Famous	3.47
2	Pretty good	29.46	22	Very large	3.33
3	Lots of	18.68	23	Muddy	3.04
4	Fine	17.19	24	Hazy	3.03
5	Clear	14.08	25	Famous	2.97
6	Pretty	10.49	26	Very good	2.92
7	Fine-looking	7.95	27	Clean	2.86
8	luxury	7.67	28	Disappointed	2.74
9	Pleasant	6.58	29	Enthusiastic	2.73
10	Beautiful	5.68	30	Rich	2.72
11	Bad	5.67	31	Worth-seeing	2.63
12	Cheap	5.63	32	Unpalatable	2.50
13	Regretful	5.43	33	Inadequate	2.42
14	Comfortable	4.62	34	Good-looking	2.41
15	Happy	4.17	35	Very difficult	2.40
16	Common	3.95	36	Almost	2.22
17	Convenient	3.92	37	Unique	2.19
18	Cosy	3.78	38	Relaxed	2.19
19	Graceful	3.73	39	Excited	2.15
20	Interesting	3.55	40	Delicious	2.15

The negative words: bad, regretful, muddy, disappointed, unpalatable, inadequate and very difficult. These represent most of the vocabularies in negative comments of tourists.

Through collective operation, we can integrate the words collectively contained in the evaluation, such as “beautiful scenery” and equivalent words, such as “scenery” and “sight”. Then, based on the ranking of the high weight of nouns and adjectives, we should classify and integrate them. Finally, the content analysis category that the tourists pay attention to in the Lijiang River scenic spot is constructed by 4 aspects: scenic spots, internal and external traffic, pleasure boat service and weather conditions.

The evaluation of tourists is mixed. There are many negative comments on the internal and external traffic and pleasure boat service, and there are few negative comments on scenic spots and weather conditions. According to the weight statistics of the negative comments, the data coincide with the author’s survey in the Lijiang River scenic spot, and the

negative comments of the users mainly focus on the two points: the pleasure boat food and many people.

a) Evaluation of Scenic Spots

The “Nine horses mountain”, “Huangbu Reflection” and “20 Yuan RMB” background scene in the Lijiang River scenic spot are the most popular and highly commentative scenic spots for tourists, and the overall feeling of tourists is more comfortable. Tourists’ public opinion on scenic spots shows a positive trend. In a specific period, the negative public opinion, such as water turbidity and bare soil will be reflected, but in general, they are positive public feelings.

b) Evaluation of Internal and External Traffic

Tourists have more negative public opinion on the cruise terminals, which is concentrated on the chaos of management in the Longtou mountain wharf. The positive public opinion is concentrated on the complete infrastructure of Mopan mountain wharf. The comfort level of the waiting area is high, but there are also some problems such as boarding safety risks.

c) Evaluation of Pleasure Boat Service

Most of the tourists choose the pleasure boat and bamboo rafting. The level of the existing pleasure boats of Lijiang River tour routes is generally low, which can not meet the high-level needs of multilevel tourists. Tourists are more satisfied with the tour guide. Complaints are mainly concentrated in catering, photography and promotion services, among which catering problems are the most prominent and the overall trend of public opinion is negative.

d) Evaluation of Weather Conditions

When tourists travel, they are most eager to see the spectacle of “misty rain” and the “reflection” scene. Tourists have the highest evaluation of the scenic spot during the sunny weather and the misty rain season. On rainy days, especially after long time of rainfall, turbid water is the main factor that affects the interest of tourists. On the cloudy day, public opinion is neutral, which is not the main reason for the negative public opinion of tourists. Tourists will only express regret or disappointment.

III. MAIN TOURISM NEGATIVE PUBLIC OPINION

A. Environmental Pollution

The main public opinion: turbidity, low water level, pollution, aquatic plants, etc.

The acts of excavation and exploding of mountains in the upstream quarry and uncontrolled dredging and fishing of electric fish have caused great damage to the waters of the Lijiang River, affecting the self-purification capacity of the water body, and the excessive growth of aquatic plants has become more and more serious. During the rainy season, this series of phenomena led to muddy water in the Lijiang River due to soil erosion. During the dry season, water shortages in the upper reaches of the reservoir due to low precipitation and the unreasonable structure of ecological forests in the water source area have caused the water level of the Lijiang River to continue to decline, and many riverbeds have been exposed. In

addition, there are a lot of tidal flats on the banks of the Lijiang River, and disorderly camping barbecues have caused the pollution of the environment.

B. Traffic Matching

The main public opinion: the battery car is disorder, and the signs are few.

The ship access at Mopanshan wharf is too narrow and the safety protection measures are insufficient. The simple boarding gallery bridge and the ticket inspections at the decks cause secondary traffic jams to be prone to safety accidents. The infrastructure construction of the Longtoushan wharf is lagging behind. There are no obvious traffic signs, public transport cannot be connected, tourists return to the county town by the battery car, the waiting area is too small, there is no guideline for queuing facilities, there is no staff to guide and the order of boarding is disordered. Self-driving cars into the parking lot exacerbate the congestion. There are fewer signs and the owners of the first self-driving tour are easily lost.

C. Pleasure Boat Service

The main public opinion: expensive and unpalatable lunches and too many sales on board.

Tourists generally believe that pleasure boat lunches do not suit their appetites, and their meal expenses are as high as 50 yuan. If they add vegetables, they will need to pay for additional expenses. The quality of small commodities is not high and the pricing is unreasonable. Tourists are not interested in buying. The camera service conflicts with tourists and affects the normal photographing of tourists. There is no fixed photo pick-up after disembarkation, and the staff is not operating properly.

D. Ticket Price

The main public opinion: high prices, and low cost performance

According to different pleasure boat levels, four-star pleasure boat ticket fare is 450 yuan during the peak season and 380 yuan during the off-season. Three-star pleasure boat (excluding meals) ticket fare is 270 yuan during the peak season, and 240 yuan during the off-season, and tourists generally feel that the fare is high.

E. Bamboo Raft Management

The main public opinions: The motor is loud and the quality of workmanship needs to be improved.

At present, the bamboo rafts on the Lijiang River are still driven by a fuel motor, which on the one hand causes noise disturbance to tourists. On the other hand, fuel spills will cause pollution to water bodies. Pleasure boat operations are scattered, tour time is inconsistent, and the level of completion is uneven. There is no recommended guideline for the bamboo raft route, which can cause congestion in the route.

IV. SUGGESTIONS FOR IMPROVEMENT OF TOURISM PUBLIC OPINION

A. Strengthening Upstream Water and Soil Conservation and Improving the Environmental Quality of the Scenic Spot

We propose to carry out ecological restoration of the mountainous areas destroyed by quarrying in the upper reaches of the Lijiang River, strengthen management and remediation of dredging and electric fishing, increase the variety of ecological forests, and change the forest structure of ecological forests in water sources. We propose to intensify the inspection of coastal beaches and the management of illegal barbecues, and use the dry season to clear up the riverbed of the Lijiang River and eventually create a beautiful Lijiang River scenic area for tourists.

B. Reasonably Improving Internal and External Traffic and Guiding Individual Travelers to Travel

We propose to upgrade the appearance and internal facilities of the pleasure boats on the Lijiang River. We propose to construct infrastructure for docks, qualify space for planning, separate people and vehicles, and build a comprehensive waiting hall that includes ticket sales and waiting vehicles. We propose to build a tourist station for hikers, plan and design a number of hiking routes and vigorously promote this green recreation.

C. Improving the Catering Quality of Pleasure Boats and Improving the Overall Service of Pleasure Boats

Lijiang pleasure boats cater to different stars, and the types of food and beverage for tourists can be selected before boarding, and adding local specialties and snacks. We propose to provide more kinds, exquisite and worthy tourist souvenirs for tourists to buy. WiFi coverage is implemented on pleasure boats to meet visitors' Internet access needs and increase their interaction with visitors.

D. Implementing Different Pricing and Improving the Level of Information Disclosure

The Lijiang River scenic spot shall be priced by subdividing tourists and introduce various types of tickets such as old tickets, children's tickets, student tickets, family packages, quarterly tickets, annual tickets, and group tickets. Different types of tickets will be offered to different groups of tourists during holidays. The booking interface on the website of the official website and the third-party ticket purchase website indicates the tour lines and attractions included in different fares.

E. Increasing the Training of Bamboo Raft Workers and Reduce Pollution such as Bamboo Raft Noise

The scenic spot should strengthen the training and regular assessment of the raft workers, and improve their safety protection and the ability to explain along the way to the tourists. The scenic spot needs to establish an early warning mechanism to adjust the ratio of bamboo rafts and lines according to the passenger flow. At the same time, it is necessary to optimize bamboo raft facilities, improve the

power system of bamboo rafts, and build green bamboo rafting facilities.

V. CONCLUSIONS

This article uses the comment text on the website of the tourists who visited the Lijiang River Scenic Spot as a research object. By using the text mining technology, through the in-depth analysis of the comments, and the extraction of high frequency vocabulary, according to the higher ranking of the weight of the nouns and adjectives, the classification and integration are carried out and the content analysis category that the tourists pay attention to in the Lijiang River scenic spot constructed by 4 aspects: scenic spots, traffic, pleasure boat service and weather conditions is determined. We use the content analysis method to analyze the public opinion, and find out the negative public opinion and its adverse effects in five main aspects, such as environmental pollution, traffic matching, pleasure boat service, ticket price, and bamboo raft management, and discuss the corresponding improvement measures, hoping to help other tourist attractions. Although this paper has made an attempt to study tourism public opinion, there are still some deficiencies in the diversity of data sources,

the use of quantitative research methods, and multimedia data mining, which need further study and supplement.

REFERENCES

- [1] Feng Mao: The Communication and Management of Tourism Network Public Opinion in the New Media Era[J], *Journal of Jilin Business and Technology College*, 2016, 32(2): 37-39.
- [2] Chun Lei: Monitoring of Network Public Opinions of Tourism Events and Their Alerting Indexes—Taking Hainan Island as an Example[J], *Journal of Sichuan Tourism University*, 2014(4): 45-48.
- [3] Yeqin Fu, Xuejun Chen and Na Cao: A Preliminary Study on the Impact of Network Opinion Crisis on Tourism Destination Image and Tourism Behavioral Intentions[J], *Journal of Qiqihar University(Phi and Soc Sci)*, 2016(2):59-63.
- [4] Tao Tang: Research on Method of Internet Public Opinion Analysis Based on Big Data[J], *Journal of Modern Information*, 2014, 34(3): 3-6+11.
- [5] Chengren Tao: Analysis of the Implementation Process and Algorithm of WEB Text Mining System[J], *Computer Knowledge and Technology*, 2004(2): 67-69.
- [6] Dandan Peng: Content Analysis Method -- An Effective Quantitative and Qualitative Analysis Method[J], *Business China*, 2013(16): 369.