A Comparative Study of the Official Projection Image of Rural Tourism Destinations and Tourists' Perception Image——Taking the Chongdugou Scenic Spot as an Example

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Abstract: Taking the case of Chongdugou in Luanchuan as an example, taking the tourist travels and official Weibo texts of 5 online travel platforms of Maqi, Ctrip, Qunar, Tuniu and Tongcheng as samples, using ROST CM6 software to extract the tourists' perception of Chongdugou Scenic Spot The top 60 high-frequency words with the official propaganda text, word frequency analysis and social network analysis, contrasting the visitors' perception image with the official Weibo projection image, the study found that: (1) The image of the Chongdugou scenic spot can be divided into four main categories (tourism environment, tourism attractions, tourism activities and tourism behavior) and 10 sub-categories (location support, security facilities, natural resources, human resources, Transportation, accommodation, travel time, travelers, tourism experience and resource evaluation); (2) Visitors and officials have perceptions of 4 major categories and 10 major categories, the name of the scenic spot, core attractions, and travelers. The perception of tourism experience is relatively consistent; (3) There is a difference between the perceived image of tourists and the official projected image: tourists in the location environment pay more attention to nearby scenic spots, while the official pays attention to a wider range of publicity; tourists pay attention to parking lots in terms of security facilities; Concerned about natural resources, the official pays more attention to human resources; tourists pay attention to self-driving tour in transportation; tourists are more specific in terms of accommodation and accommodation; the official focus on holiday promotion in terms of travel time; the official description of resource evaluation is more comprehensive and abstract. On this basis, the Chongdugou scenic spot should carry out joint marketing, strengthen natural resource protection, develop human resources and improve infrastructure construction to enhance the image of rural tourism.

1. Introduction

The tourism development in China has generally gone through four stages, they are, resource orientation → market orientation → product orientation → image driving, respectively [1]-[2]. The image of tourism destination has become a critical factor for attracting tourists and improving the core competitiveness of scenic spots. It has been found that a sound tourism image can not only increase the revisiting rate of tourists [3], but also enhance the tourists' satisfaction and loyalty [4] to the tourist destination, and even have an influence on tourists' willingness and choice of tourism destinations for other potential tourists [5]. Therefore, the design and publicity of tourism destination image play a key role in the operation and management for tourism destinations.

Despite the vigorous growth in recent years, rural tourism also has such problems as serious homogenization competition and the loss of rural characteristics [6], which greatly damage the image in the eyes of tourists. In order to solve these problems under the market environment which is driven by images, the operators of tourist destination should create a unique image of rural tourism destination which is in line with the local customs and culture based on the local reality so as to improve tourists' impression on the destination and affect their decision-making.

Meanwhile, thanks to the rapid development of the Internet, "tourism + Internet" has become a new trend of growth as it provides an open and free platform for both tourism destinations and

tourists. On the one hand, the Internet offers a new marketing method for the image publicity of tourist attractions because many tourist destinations use official websites, official microblogs and WeChat for image publicity. On the other hand, the Internet also provides a place for tourists to collect, transmit and exchange tourism information. Tourists obtain the relevant information of tourist destinations through the Internet before travel and then they share their own tourism cognition, feelings and experiences on the Internet by means of tourism comments, travel notes, strategies, microblogs, WeChat, etc. after the travel[7], which in turn has a subtle impact on the tourism decisions of other potential tourists.

Network information has become an important data source for the study of tourism destination image, and many researches have been conducted on the   perception image of tourists[8]-[11] or official projection image [12]-[14], but there are few studies focusing on the comparison between the projected image and the perceived image, and the results are mainly from tourism cities, mountain and ecological scenic spots, while there are relatively small number of researches that exploring the comparative study on the projected image and the perceived image of rural tourism destinations.

Chongdugou in Luanchuan, Luoyang City is taken as an example, and the online travel notes of tourists as well as the publicity texts of official micro blog are taken as samples in this paper. The top 60 high-frequency words of tourist travel notes and official texts are extracted by means of the ROST CM6 software, and the social network analysis map is built by using the social network analysis options. Based on the comparative analysis of the perception image of tourists and the image projected by the official microblog, relevant suggestions for Chongdugou scenic area are proposed in this paper so as to improve the image of rural tourism destinations.

2. Literature Review

2.1. The Image Meaning of Tourism Destination

There are various ways that express "tourism destination image" in many studies at home and abroad, such as tourism image, tourism intention, destination image, etc., most of which are of similar connotations. Therefore, they are all called t "tourism destination image "in the paper in order to facilitate the purpose of research.

The concept of tourism destination image was first put forward by Hunt, and then it has drawn wide attention and is discussed by the academic community. Some scholars define the concept from the perspective of tourists: Hunt (1971) believed that the image of a tourist destination is tourists' impressions on other places other than their own residence [15]; Crompton (1979) held that the image of a tourist destination is the sum of beliefs, views and impressions of tourists on a certain tourist destination [16]; Kaynak (1984) argued that the image of a tourist destination is the impression of tourists on a certain destination [17]; for Wu Bihu (2001), tourism image is the tourists' overall understanding and evaluation of a tourist destination [18].

Some scholars also define the concept from the perspective of destination: Xie Chaowu et al. (2002) believed that the image of tourist destination is the integration, refine of their own resources and an ideological element that is selectively spread to tourists, and it is the representative image of the tourist destination for external publicity [19]; Feng Jieyun (2011) thought that the image of tourist destination is tourists' impression on the external image of tourist destination   by means of publicity [20].

In addition, scholars take the two aspects of tourism destination and tourists into consideration: Kotler (1991) proposed to divide tourism destination image into two aspects: "launching image" and "receiving image", respectively [21]; Grosspietsch (2006) proposed to divide tourism destination image into "projecting image" and "perceptual image" [22] based on Kotler's concept, which are recognized by many scholars. "Projection image" refers to the external image designed and publicized for the purpose of shaping in the mind of tourists, and "perception image" refers to the overall impression, perception and evaluation of the destination actually formed by tourists or potential tourists.

According to these researches, it is held in this paper that the image of tourist destination mainly includes two parts: the official projection image and the tourists' perception image, respectively. The official outputs the image of tourist destination to tourists by means of various marketing methods such as text, picture, video, etc. and then tourists receive these images and process them so that their own actual perception images of the destination are came into shape.

2.2. Comparative Study on Tourism Destination Image

In the process of image construction, due to the inconsistency of the subject's purpose and behavior, each subject may have different impression on the same thing, and some researchers began to make a comparative study on the terrain image of tourism purpose.

In terms of mountain scenic spot, it is found that the perception image of tourists in Wudang Mountain is consistent with the core part of the image projected on the Internet [23] based on the information from official website of Wudang Mountain, microblog and travel notes collected by Zheng Sai (2015); as for tourism city, it is found by Cheng Wei et al. (2016) that the perception image of tourists in Xi'an is inconsistent with the official image projected on the Internet according to the   comparison between the publicity photos of Xi'an official website with those of tourists' online travel notes; In terms of ecological scenic spots, Ye Xiaoqing (2017) drew a conclusion that tourists' perception of Lishui's tourism image is generally consistent with that of Lishui's regional image by adopting factor analysis method [25]; in terms of scenic spots, Shen Feifei (2018) found out the tourists' perception image of Chaohu is inconsistent with the image publicized by the government through comparing tourists' comments and government official texts[26]. There are differences in the government's publicity projection image [26]; in terms of festival activities, Jiang Xiaopei and others (2019) found that the image publicized by the government and the perception image of tourists have a high consistency by comparing the publicity text in Guangzhou Qiqiao Festival released marketers and the tourists' perception text on the spot, but there are differences in the dimension structure [27].

To sum up, it can be found that many kinds of tourism destinations, such as mountain scenic spots, tourism cities, ecological scenic spots, scenic spots and festival activities are included in the research of the image comparison of tourism destinations. The image comparison of rural tourism destinations is the major target of discussion in this paper.

2.3. Research on the Image of Tourism Destination Based on Internet Text

Questionnaire and interview on the research of tourism destination image are mainly adopted in previous studies. But nowadays, rapid development and popularization of Internet provides researchers with not only comprehensive information, but also convenient channels to get information and high-speed information processing technology. Therefore, more and more scholars study tourism destination images with the help of the Internet, for example, the use of network text information [28-29], digital footprint [30], and so on.

In foreign countries, Stepchenkova found that there were differences in the propaganda of Russian tourism image between the two countries by comparing the online text information of Russian tourism image on the relevant tourism platforms of the United States and Russia [31]; Choi et al. studied the texts and pictures of Hong Kong tourism image publicized on different kinds of websites with qualitative and quantitative methods, and concluded that there were differences in the tourism image of Hong Kong [32]; Larmelenko conducted the comparative analysis of the text content of relevant tourism websites to understand the image of Ukraine's tourism destination [33]; Athen found that there was a difference between the officially publicized image of Eastern Taiwan and the tourist perception image by comparing the theme released by the official and the tourist perception [34].

In China, Zhang Zhenzhen et al took Xi'an as an example and verified the authenticity and reliability of the online text information about the tourism destination image review in the tourism social networking website by comparing two different ways of questionnaire survey and online review [35], so far, the online text analysis method has gained increasing popularity. From the perspective of research content, most of the research results in China are about tourists' perception

image. Li Chunping and other scholars used the method of online text analysis to analyze the comments of domestic and foreign tourists on Xi'an Huimin Street, and explored the differences of tourism destination image from the perspective of comparison of different groups under different cultural backgrounds [36].

In conclusion, it is of great significance to study the tourism destination image, and it has become a generally accepted way to study the tourism destination image through the online text, and there are rich and various research results. The current research is mostly from the perspective of tourists' perception, but the impact of images publicized by official on tourists' decision-making cannot be ignored, so a comparison between the perception image of tourists and the official projection image is needed, but there are few research results in this field.

Therefore, Chongdugou in Luanchuan, Luoyang City was taken as the research object in this study, and through the tourist travel notes and official micro blog data collected on online tourism platforms such as Ctrip and Tuniu, and with the help of ROST CM6 software, word frequency analysis and social network analysis were conducted to explore whether there are differences in perception image and official projection image of tourists in Chongdugou in order to improve the tourism destination image of the scenic area, and provide new ideas for the design and promotion of tourism destination image of rural areas.

3. Research Design

3.1. Case Selection of Tourism Destinations

Chongdugou scenic spot, the case studied in this paper is located in Tantou Town, Luanchuan County, Luo Yang City, Henan Province. It is a national scenic spot with AAAA level. In 1999, villagers in Chongdugou took the lead in developing rural tourism thanks to its rich and unique tourism resources. Over decades of development, it has become a famous scenic spot with AAAA level in China. Chongdugou is famous for its mysterious historical legends and "three wonders". The Farm Hotel, one of the "three wonders", is acclaimed as the "the first Farm Hotel in China's village" by Wei xiao'an who is an authority in the industry of farm hotel.

The main reasons for choosing Chongdugou as the case study are as follows: first, it is very representative as it developed from an earlier time and has witnessed the development of rural tourism from its start to its boom; second, Chongdugou scenic spot has well developed, therefore, it has a more complete image of tourism destination, which is helpful to the study of its tourism image in this paper.

3.2. The Collection of Text Data

The data referred to in this study are all from the Internet, and are mainly composed of two parts: tourist travel notes and official micro blog, respectively.

Tourists' travel notes mainly come from online tourism platforms that provide tourists with a place to publish travel notes or make online comments as a third-party website. The information on these platforms is also the real feelings of tourists, which can reflect the perception image of tourists. Five famous websites were selected based on the ranking of online tourism platform: Wasp Nest, Ctrip, Tuniu, qunar and Tongcheng. The words "Chongdugou" were input into the travel notes introduction section of the website for retrieval, and the retrieval content was preliminarily screened. The screening conditions are as follows: (1) in order to ensure the timeliness of the selected samples, the data selection time is limited to 2015-2018; (2) in order to ensure the preciseness and effectiveness of the samples, the travel notes that only mention Chongdugou but have no actual travel experience are deleted, as well as the text content irrelevant to Chongdugou in the whole travel notes that take Chongdugou as a part of the whole journey. In the end, 87 travel notes were obtained, of which 63 were from Maqi , 10 were from Ctrip Travel, 6 were from Qunarian travel, 5 were from Touniu travel, and 3 were from Tongcheng travel, totaling 114993 words.

The official data is mainly from the official microblog of Chongdugou. With the increase of microblog users, tourism official microblog has become an important way for tourists to obtain

tourism information, which affects tourists to make decisions. Text data of the official publicity image from the official microblog of "chongdugou scenic spot" was obtained in this paper, and sample time was also limited from 2015 to 2018, excluding the content irrelevant to the official image, such as the love broadcast, weather forecast, spiritual story, etc., and finally 37 official texts, totaling 34670 words were collected.

3.3. The Method of Text Analysis

Content analysis method was adopted in this paper based on the research sample of tourists' online travel notes and official communication texts. Content analysis is a social science research method, which can describe the explicit content such as text quantitatively, systematically and objectively [37]. In the current network background, researchers begin to combine content analysis and network text data for research [38]. Therefore, relevant network texts were collected and arranged in this paper, the text content was explored with the help of content analysis method, and ROST CM6 software was also adopted in this paper to analyze the data.

ROST CM6 software is a kind of content mining system developed by Professor Shen Yang, School of Information Management, and Wuhan University. Aiming at web pages, forums, blogs, microblogs and other network information sources, it can carry out word segmentation, word frequency statistics, clustering, correlation, similarity, emotional tendency, co-occurrence, co-citation, timing, trend, word frequency explosion, semantic network and social network analysis, so as to realize content exploration, text analysis, knowledge processing and other purposes [39]. In 2009, Xiao Liang and others used the software to analyze the content of cross-strait comprehensive tourism websites, travel agency websites and Taiwan's official tourism websites, and found that the image of Taiwan's tourism destinations constructed and disseminated by various websites was different [40], which was the earliest application of ROST CM6 software in the field of research on tourism destination image. Since then, many scholars in this field began to use this software for research, which further confirmed the applicability of this software in the field of tourism image research [41]. In this paper, the text content collected was used to get the tourism destination image expressed by tourists' travel notes and official micro blog by using the function of high- frequency word analysis, and then the internal relationship of each image was analyzed by using the function of network semantic analysis.

3.4. Text Analysis Method

The text information should be preprocessed before the content analysis with the help of ROST CM6 software.

First of all, correct the typography and network terms of the text according to their semantics, change "anger releasing" to "anger releasing cliff"; "Lan penyou" to "Nan pengyou"; "Cu fa" to "Chu fa"; and "Tong xie" to "Tong xue".

Secondly, the search and replacement function of Microsoft Soft Word was used to merge synonyms, such as replacing "inn", "Farm Hotel", "Agritainment", "farmhouse" with "Farm Hotel" in order to facilitate the extraction of high-frequency words and improve the accuracy. The preprocessed text data was saved to a text document format which can be recognized by ROST CM6 software.

After the preprocessed text was imported into the rose CM6 software, it was necessary to load the words related to the travel notes of Chongdugou, such as "chongdugou", "Jinji River" and "Ditui River" into the user-defined dictionary and analyze the word segmentation and word frequency of the saved text documents, and then extract the words with high-frequency. And next the filter table was adopted to remove the words unrelated to the image for social network analysis.

4. Comparative Analysis of the Official Projection Image and Tourist Perception Image of Rural Tourism Destination

4.1. Comparative analysis of the words with high frequency of official projection image and tourist perception image

The words with high-frequency that have no meaning and have nothing to do with image were removed and the similar word groups were merged with the help of the ROST CM6 software. Then 60 words with high-frequency were selected according to the order of frequency from high to low, and the vocabulary of tourist travel notes and official micro blog of chongdugou with high-frequency was obtained (Table 1).

Table.1. High frequency vocabulary in tourist travel notes and official microblog of Chongdugou

number	Travel notes	frequency	Microblog	frequency	number	Travel notes	frequency	Microblog	frequency
1	Chongdugou	1422	Chongdugou	705	31	Xiefen cliff	75	Family	21
2	Farm Hotel	377	tourists	126	32	Snack street	74	China	20
3	time	326	Beer festival	89	33	Bohdi tree	74	room	19
4	waterfall	309	travel	78	34	flavor	73	watermleon	18
5	accommodation	202	Music festival	68	35	natural	68	Openning ceremony	18
6	Luanchuan	184	countryside	65	36	afternoon	67	excellent	18
7	route	176	luanchuan	64	37	stream	61	performance	17
8	family	171	Farm Hotel	57	38	ticket	61	waterfall	16
9	distance	157	carnival	55	39	travel	61	High-speed	16
10	Jinji River	148	Bean curd festival	49	40	Ticket price	60	passion	16
11	Luo Yang	143	friend	48	41	Xigou	60	Water town	16
12	Bamboo forest	129	Bamboo forest	42	42	sideway	58	natural	15
13	Climb mountain	128	Thousands of people	42	43	convenient	54	cool	15
14	Scenic spots	127	Free of charge	40	44	Cable car	51	classic	15
15	Climb down the mountain	121	Ticket price	37	45	summer	51	time	15
16	lunch	116	summer	35	46	performance	50	snacks	15
17	Self-driving	112	On-site	34	47	nearby	49	Jiangnan	15
18	sightseeing	111	Bodhi tree	32	48	weekends	49	performance	15
19	Water curtain palace	110	Luo Yang	31	49	room	49	Bamboo forest	15
20	Go back	105	Competition game	30	50	tourists	47	Central plain	14
21	scenery	105	Niulang home	28	51	cool	47	Rainy day	14
22	Cuidi River	101	performance	27	52	distance	47	Food feast	14
23	Parking lot	93	accommodation	26	53	characteristics	44	Along the way	14
24	Central plaza	91	Snack festival	24	54	Henan	43	Across China	13
25	Side way	91	Yanjing beer	24	55	morning	42	experience	13
26	tourism	90	scenery	24	56	Photo-taking	42	flavor	13
27	friend	85	Henan	23	57	route	41	Go down stairs	12
28	Nonggeng villiage	84	grand	23	58	Zhengzhou	39	happy	12
29	High-speed	84	feelings	23	59	comfortable	38	Dragon Boat Festival	12
30	night	81	Mid-Autumn festival	22	60	Laojun mountian	37	Mountian and wate	11

A preliminary understanding of the image of Chongdugou scenic area can be formed based on the analysis of the words with high-frequency. From the part of speech in Table 1, the top 60 high-frequency words are mainly composed of nouns, verbs and adjectives. No matter in tourist travel notes or in microblog texts, nouns account for the majority, which are mostly used to describe

places, scenic spots, names of attractions, etc. (Chongdugou, Luanchuan, Xiefen cliff, beer festival); verbs are mostly used to describe the main body (tourists or official) behavior (taking photos, feeling, traveling); while adjectives are mostly used to evaluate tourism resources (natural, convenient, grand).

4.2. Comparative analysis of the classification of words of local official projection image and tourist perception image high frequency

In order to further understand the official projection image and tourists' perception image of rural tourism destination, by referring to the relevant text [42], and synthesizing the high-frequency characteristic words of two samples of tourist travel notes and official micro blog text of Chongdugou scenic spot, (tourism environment, tourism attractions, tourism activities, tourism lines For) 10 sub categories (location support, safeguard facilities, natural resources, human resources, transportation, accommodation, travel time, travel personnel, main body behavior, resource evaluation), 60 characteristic words with high frequency are shown in Table 1, and high-frequency word of tourism destination image are shown in table 2.

Table.2. Classification Statistics of High Frequency Words in Tourism Destination Image

Major category	subcategory	Tourist note	frequency		frequency
Tourist environment	Surrounding support	Chongdugou, Luanchuan, Luo Yang, nearby, Henan, Zhengzhou, Laojun mountain	1917	Chongdugou, Luanchuan, Luo Yang, Henan China, central plain, across China	870
	Secure facilities	Parking lot, ticket price	214	Free of charge	77
Tourist attraction	Natural resources	waterfall, Jinji river, bamboo forest, climb mountain, scenic spots, go down mountain, scenery, Dicui river, water curtain palace, Bodhi tree, Xigou, Xiefen cliff, stream, along the route	1724	Bamboo forest, Bohdi tree, scenery, waterfall, bamboo forest	166
	Human resources	Central plaza, sideway, cable car, performance, village	425	Beer festival, music festival, carnival, performance Bean curd festival, competition game, performance, Snack festival, watermelon, opening ceremony Yanjing beer	448
Tourist activities	traffic	Time, distance, self-driving, return, high-speed, route	869	High-speed, time	31
	Food accommodation	Farm hotel, snack street, accommodation, lunch, flavor, room	891	Farm hotel, Niulangjia, accommodation, room, snack, flavor	158
Tourist behavior	time	night, afternoon, summer, weekend, morning	290	summer, Mid-autumn festival, rainy day, Dragon boat festival	83
	people	family, friend, tourist	303	tourist, friend, thousands of people, family member	237
	Tourist experience	sightseeing, travel, photo-taking	304	travel, on-site, feeling, experience	148
	Resource evaluation	natural, convenient, cool, distinctive, comfortable	251	countryside, grand, excellent, passion, water town, natural, cool, classic, jiangnan, happy	210

4.2.1. Comparison of tourism environment

In terms of tourism environment image of Chongdugou, there are some similarities between tourists and the official perception: (1) as the name of the scenic spot, the word "Chongdugou" ranks first in both tourists' travel notes and official micro blog texts, with appearance times of 1422 times and 705 times respectively, at least three times more than other high-frequency words, indicating that both sides have strong perception of the name of Chongdugou scenic spot; (2) "Luanchuan", "Luo Yang" and "Henan" which are used to describe the location environment of Chongdugou scenic spot appear in two kinds of texts, which shows that the official propaganda of

the location environment of Chongdugou scenic spot is very successful, and such kind of way enable tourists to correctly perceive the image, and the image perception of both sides for the location environment is relatively consistent.

Differences also appear between tourists and officials in their perception of the image of tourism resources: (1) by checking the travel notes and Table 2, it is found that tourists attach great importance to the "nearby" scenic spots in Chongdugou scenic spot. In the travel notes, many nearby scenic spots such as "Laojun Mountain", "Jiguan cave" and "Northeast Tiger Garden" are mentioned by tourists. Most tourists also often make "Luanchuan two-day tour", "Luoyang Three-Day Tour" and other tourism routes so that Chongdugou scenic spot is one of the destinations for sightseeing, but there are few descriptions of nearby scenic spots in the official texts. (2) The official description of the location environment is more extensive, with high-frequency characteristic words such as "Central Plains" and "China" appearing, indicating that the official propaganda is aimed at the national tourists, but most of the tourists attracted are from Henan province, which may be because Chongdugou scenic spot doesn't have a strong influence across China, and a national publicity is need to improve its image.(3) Among tourists' perception of infrastructure, the word "parking lot" is mentioned. Combined with travel notes, it can be found that tourists have a strong perception of parking lot. Many self-driving tourists pay attention to the situation of parking lot, which can rarely be seen in official texts.

4.2.2. Comparison of tourist attractions

(1) Comparison of tourists and official perception of the core attraction—the "Three Wonders" of Chongdugou scenic spot

Chongdugou scenic spot is famous for its "three wonders" (water, bamboo and farm hotel), so it is of great significance to analyze the image perception of the core attractions of Chongdugou by tourists and officials.

① "Water": high frequency words related to water in tourists' travels include "waterfall", "Jinji River", "water curtain palace", "Dicui River", "anger releasing cliff" and "stream"; high frequency words related to water in official microblog include "waterfall" and "water town". Both sides have a sense of "water". Tourists focus on the scenic spots related to "water", while the official publicity is carried out from the overall perspective to create the image of "water town" in Chongdugou scenic spot.

② "Bamboo": High frequency words related to water in tourists' travels include "bamboo forest"; high frequency words related to water in official microblog include "bamboo forest" and the "bamboo sea". Both mention the word "bamboo forest" and have a sense of "bamboo". Besides, the official once again starts from the overall image to publicize the image of the "bamboo sea" in Chongdugou scenic area.

③ "Farm Hotel": The high-frequency word "Farm Hotel" in tourist travel notes ranks the second with a frequency of 377; the official microblog "Farm Hotel" ranks the eighth with a frequency of 57. It can be seen that both tourists and officials have a strong sense of "Farm Hotel".

Generally speaking, tourists and the official have basically the same perception of the image of "three wonders", the core attraction of Chongdugou scenic area, but the official publicity image mainly starts from the overall image.

(2) Perception comparison of natural resources and human resources between tourists and officials in Chongdugou scenic spot.

There are great differences between tourists and the official perception of natural resources and human resources in Chongdugou scenic spot:

①Tourists have a stronger perception of natural resources than that of the human resources and the total number of high frequency words in natural resources is 1724, and the total number of high frequency words in human resources is 425. Chongdugou has a long history of development due to its natural resources and rural scenery. Therefore, in terms of natural resources, its image building is more stable and tourists' perception is stronger. "Jinji River", "Ditui River", "water curtain palace", "anger releasing cliff" and other major scenic spots are all natural resources. And tourists often

experience auxiliary tourism projects such as "slide way" and "cableway" in terms of human resources.

②Human resources are mainly publicized in official propaganda. The total number of high frequency words in human resources is 448, and that in natural resources is 166. Due to the gradual development of the scenic spot and the change of tourism demand, some modern activities are being designed and held, such as "Beer Festival", "Music Festival", "food festival", etc., all of which may not be fully perceived by tourists due to the short holding time or incomplete design.

4.2.3. Comparison of tourism activities

Both similarities and difference exist in the perception of tourism activities for tourists and local officials.

(1) In terms of traffic, words such as "high speed", "time" appear in both tourists and officials which show that the scenic area has good accessibility. The official microblog broadcast high-speed road conditions in holidays or peak seasons to remind tourists, so that the purpose of diversion and flow restriction can be achieved, thus providing convenience to tourists. Besides, the word "self-driving tour" in the high-frequency words of tourists is an example to show that tourists often drive their cars to the scenic spot, so other aspects as "along the way", "distance", "route" are taken into consideration.

(2) In terms of accommodation and food: The two factors are perceived both by tourists and officials. ① Food: Tourists have a more specific perception to food and they pay attention to the "flavor" of food. They have a detailed description in their travel notes, such as "eating" in a farm hotel or "strolling in a snack street". Food names like "corn grits", "scrambled eggs with tomatoes", "roasted chicken", etc., are listed by tourists and the description of taste "good taste", "distinctive", "delicious ", etc. are also included. However, the official perception is more comprehensive, which is generally to publicize the "delicious food" in Chongdugou so as to attract tourists to have a taste. ② Accommodation: Both tourists and officials have "Farm Hotel", "accommodation" and "room". Tourists' travel notes mostly describe their own accommodation experience, such as room facilities, conditions, prices, characteristics, etc.; while official microblog is generally to promote Farm Hotel, and has the recommendations of high-quality hotel, such as "Niu Lang Home".

4.2.4. Tourism Behavior Comparison

Both differences and similarities exist in perception of tourism activities between tourists and officials.

(1) Travel time. First of all, the high frequency word "summer" is included in both tourists and the official. Due to the unique geographical location and climate, Chongdugou scenic area has developed into a "summer resort", which is greatly publicized by the local official, thus creating its overall image of summer vacation, and tourists and official perception reach an agreement. However, there are differences in other high-frequency words about "travel time": tourists' travel notes describe personal experience more, so the description of time is more specific, such as "morning", "evening" and "afternoon"; but the official pays more attention to publicity in holidays and peak seasons, therefore, descriptions concerning the "Mid-Autumn Festival" and "Dragon Boat Festival" are included.

(2) People who take the trip. Both tourists and officials have the same perception of the people who take the trip, such as "family" and "friends", and the officials also generalize from the overall perspective, such as "ten thousand people".

(3) The experience of tourism. Verbs are used to describe tourists' experience in Chongdugou, which believe that Chongdugou is suitable for "traveling", "sightseeing", "taking photos", etc., while the official describes the scenic spot to attract tourists to "travel", "experience", "feel".

(4) Resource evaluation. Most of the tourists and the official are positive, such as "natural" and "cool", highlighting the natural characteristics and climate conditions of the scenic area. Besides, there are more words with high-frequency in the official evaluation of resources, most of which define the tourism image from the overall perspective, such as "village", "water town" and

"Jiangnan", the word selection of which are more abstract and comprehensive.

4.3. The comparison of semantic map between official projection image and tourist perception image

The social network analysis map of tourist travel notes and official micro blog text are generated with the social network and semantic analysis functions in the software of ROST CM6 in order to further explore the connection between text words and deeply study the official projection image and tourist perception image of rural tourism destination, and the social network analysis map are shown in Figure 1 and Figure 2.

Figure 1. Social network analysis of tourist travel notes

Figure 2. Social network analysis of official microblog

In the social semantic network analysis diagram, lines indicate that there is a connection between two high-frequency words, and the more lines are connected with words with high-frequency, the more high-frequency words are connected with other high-frequency words [43].

In the analysis map of tourists' perception of social semantic network, the main center points such as "Chongdugou", "Farm Hotel", "scenic spot", "waterfall", "Luanchuan" and "Jinji River" are formed. As an important center and one of the "three wonders" of Chongdugou, "Farm Hotel" is the main object of tourists' perception that is surrounded by other major scenic spots as "Dicui River", "Jinji River" and "Nonggeng village". It is shown that when tourists choose to stay in Farm Hotel, they will take the distance between them and the main scenic spots into account. And the connection chain of "Chongdugou " - "Luanchuan" - "Luoyang" shows tourists' perception of the

geographical location of this scenic spot.

In the analysis map of social semantic network of official microblog, the main center points such as "Chongdugou ", "tourists", "music", "Beer" are formed. A close network has been formed with the "tourists" at its center as the main target of official publicity is tourists. "Thousands of people", "Carnival", "on-site" and so on all show the enthusiasm of the on-site activities, thus arousing the interest of tourists. "Competition", "Beer Festival", "Carnival Festival" and so on are the specific introduction of these festival activities to tourists. It can be seen that the official microblog mainly focuses on the cultural activities with strong participation and interaction. In addition, from the high-frequency words such as "village", "water town" and "Central Plains", it can be seen that the official positioning of the tourism image of Chongdugou scenic spot; from the high-frequency words such as "develop", "build" and "hold", it can be seen that the official put an emphasis on the construction and development of Chongdugou scenic spot.

By comparing the network analysis maps of social semantics for both tourists and official microblog in a comprehensive way, it is easy to find that tourists' perception of Chongdugou image mainly focuses on the main tourist attractions of the scenic spot, especially the core attraction product "Farm Hotel". The official, however, conducts comprehensive image publicity from tourism resources, scenic spot construction, image positioning and other aspects.

5. Conclusion and suggestion

5.1. Conclusions

Chongdugou in Luanchuan, Luoyang city was taken for case study in this paper, and text date from travel notes of tourists on well-known online tourism platforms and the official microblog of Chongdugou were also collected. Based on the content analysis method, word frequency and social network analyses were adopted by means of ROST CM6 software to study the differences between the perception image of tourists and the official image publicized by local authority. Main conclusions are drawn as follows:

(1) The destination image of chongdugou scenic spot can be roughly divided into four main categories: tourism environment, tourism attractions, tourism activities, tourism behavior and 10 sub categories: location support, safeguard facilities, natural resources, human resources, transportation, accommodation, travel time, tourists, tourism experience and resource evaluation.

(2) Despite similarities, differences also exist in the perception image of tourists and the local authority of Chongdugou: ① in terms of tourism environment, both sides have paid much attention to the name and location environment of chongdugou scenic spot, but tourists' perception focuses on the nearby scenic spot, while the official focuses on the overall location, besides, in the security facilities, tourists attach great importance to "parking lot". ② from the perspective of tourism attractions, both sides have a relatively consistent perception of the core attractions in Chongdugou scenic area, however, when it comes to all tourism attractions, the image perceived by tourists is mainly natural resources, and the official publicity is mainly about human resources. ③ as for tourism activities, both sides have some perceptions about transportation, food and accommodation, but tourists have more intense perceptions because tourists also pay attention to issues related to "self-driving tour", and the description of food and accommodation for tourists is more specific. ④ in terms of tourism behavior, both sides have a relatively consistent perception of tourists and tourism experience, and when it comes to travel time, both sides refer to "summer", but tourists' perception time is more specific, with the official focus on holidays, both sides have a positive evaluation of resources, but the words with high-frequency are more specific, but the official counterparts are more abstract and comprehensive.

5.2. Suggestions

(1) Strengthen the cooperation and coordination between Chongdugou and nearby scenic spots to carry out joint marketing

Although tourists and officials have a basically same image perception of chongdugou scenic

spot, tourists have a stronger perception to nearby scenic spots, which is seldom mentioned by official. To this regard, the government should cherish joint marketing. It can design a variety of joint tour routes together with other scenic spots nearby (Laojun Mountain, Jiguan Cave, Longmen Grottoes, etc.) and then conduct a joint publicity, so as to create aggregation effect that is helpful to form a comprehensive tourism image, enhance its attraction. Consequently all participants are able to reap the gains.

(2) Attach great importance to the publicity, protection and construction of natural resources

The official publicity of natural resources is less than that of human resources. But as a rural tourism destination based on natural resources, Chongdugou scenic spot should undoubtedly strengthen its protection of natural resources. The sentence "the scenery is not as good as before" have appeared in tourists' travels. Despite the rapid development of scenic spots, the protection of natural resources should not be ignored and the original and natural beauty should be kept in rural scenic spots in particular.

(3) Boost the exploration of human resources and enrich the contents of tourism products

Some interactive experience and activities are included except the natural scenery in Chongdugou since more and more people are in pursuit of leisure tourism and immersive experience. However, the integration of natural resources and human resources should be bear in mind while carrying out human activities. Many kinds of cultural activities such as "Music Festival", "food festival", "bean curd feast" and "noodle feast" have been held in the scenic spot, but tourists do not have a strong perception towards these activities. The builders of the scenic spot should focus on the main orientation of Chongdugou and create some distinctive activities. In particular, because of its natural conditions of "summer vacation" and "cool" and other characteristics, Chongdugou scenic area has an obvious off-season. Therefore, it can design some activities suitable for off-season and attractive to tourists, so as to improve the whole tourism image and enrich tourism products.

(4) Strengthen scenic spots management and improve the infrastructure construction

It can be found that most tourists visit Chongdugou by self- driving tour based on the word frequency analysis of tourists' travel notes, so tourists have a stronger sense of traffic. Therefore, the "parking lot" has become the focus of tourists. However, the management of the scenic spot is not perfect enough. There are comments sayings in the travel notes, such as "the parking lot is chaotic" and "there are not many parking spaces". It can be seen that the infrastructure construction of Chongdugou scenic spot has not met the needs of tourists, and further improvement and improvement are still required.

5.3. Defects and prospects

There are still some defects in this study: first, although tourist travel notes can reflect the perception of tourists to some extent, travelers share their travel experience only when they are content with the scenic spot, as a result, there may be a lack of research on dissatisfied tourist groups in the scenic spot. Therefore, comments and travel notes of tourists should be combined together in the future research; second, only the official micro-blog transmission way was selected to study the official publicity image. But because of the different nature of the different transmission channels, the contents of publicity may also be different. Therefore, different transmission channels should be comprehensively analyzed in the future research, such as official website and WeChat official account. Finally, only text data is selected in this paper for study, therefore other forms of research like pictures, videos should be involved.

References

[1] Liu Feng. Study *on the Design of Regional Tourism Image -- Taking Ningxia Hui Autonomous Region as an Example* [J]. Economic Geography, 1999 (3): 97-101.

[2] Li Mingjia *A Study on the Perception Difference and Dynamic Change of Tourism Destination Image from the Perspective of Officials and Tourists* [D]. Inner Mongolia University, 2018.

[3] Nicola Greaves, Heather Skinner. *The Importance of Destination Image Analysis to UK Rural Tourism*[J]. Marketing Intelligence & Planning,2010,28 (4): 486-507.

[4] Christina Geng-Qing Chi,Hailin Qu. *Examining the Structural Relationships of Destination Image, Tourist Satisfaction and Destination Loyalty: An Integrated Approach* [J]. Tourism Management, 2007, 29 (4): 624-636.

[5] Liu Li. *Tourism Destination Image Perception and Tourists' Tourism Intention: a Comprehensive Study Based on the Perspective of Film and Television Tourism* [J]. Tourism Tribune, 2013, 28 (9): 61-72.

[6] Zhang Ying. *A Study on the Image Perception of Rural Tourism Based on the Content Analysis of Online Texts*[J]. Journal of Fujian agricultural and Forestry University (PHILOSOPHY AND SOCIAL SCIENCES EDITION), 2016,19 (2): 65-70.

[7] Soojin Choi,Xinran Y. Lehto,Alastair M. Morrison. *Destination Image Representation on the Web: Content Analysis of Macau Travel Related Websites*[J]. Tourism Management,2006,28(1): 118-129.

[8] Fang Yu, Huang Xiang. *A Study on the Tourism Destination Perception in Wuhan Based on the Method of Web Text Analysis* [J]. Journal of central China Normal University (NATURAL SCIENCE EDITION), 2017,51 (5): 709-714.

[9] Kang Xinying. *A Study of the Image Perception of Theme Park on the Basis of Network Text Analysis -- Taking Shanghai Disney as an Example* [J]. Journal of Pingdingshan University, 2018,33 (5): 82-89.

[10] Wang Houhong. *A Study on the Image Perception of Huangshan Scenic Spot on the Basis of Network Text Analysis*[J]. Journal of Liaoning University of science and technology, 2018,20 (3): 87-88 + 95.

[11] Chai Shousheng, Zhu Fujun. *Image Perception of Tourism Destination in Qingdao Based on Weblog* [J]. Journal of China University of Petroleum (SOCIAL SCIENCE EDITION), 2018,34 (04): 24-31.

[12] Yang Xueke, Wu Jianqing, Zhang Xiaohong, Jiang Siqin, Li Kaijing. *Image Analysis of Tourism Destination Projection Based on Internet Text: Zhangjiajie Case* [J]. Graduate Journal of Sun Yat sen University (Natural Science, Medical Edition), 2014,35 (1): 82-97.

[13] Liu Yafei. *Research on the Tourism image of Henan Province Based on the Internet Text*[J]. Tourism overview (the second half of the month), 2016 (5): 157 + 159.

[14] Huang Weijie, Chen Sibin, Zhou Zijian, Ji Jing. *From "Jiangnan Ancient Water Town" to "Internet Ancient Town" -- Exploration of Wuzhen Media Image Interpretation in Official Discourse Space* [J]. Holiday tourism, 2019 (1): 148-149.

[15] HUNT J D. *Image as A Factor in Tourism Development*[J]. Journal of Travel Research, 1975, 13(3): 1- 7.

[16] CROMPTON J L. *An Assessment of the Image of Mexicoas A Vacation Destination and the Influence of Geographical Location upon the Image*[J]. Journal of Travel Research, 1979, 17 (4):8 －23.

[17] Kaynak E, Macaulay J A.*The Delphi technique in the measurement of tourism market potential:*

The case of Nova Scotia[J].Tourism Management, 1 984,5 (2): 87-101.

[18] Wu Bihu, song Zhiqing. *A Technical Procedure of Regional Tourism Image Analysis* [J]. Economic geography, 2001 (4): 496-499＋512.

[19] Xie Zhaowu, Huang Yuanshui. *On the Participatory Organization Model of Tourism Image Planning*[J]. Tourism Tribune, 2002 (2): 63-67.

[20] Feng Jieyun. *Perception of Tourism Destination Image in Beijing: a Multidimensional Discourse Analysis of Chinese and Western Tourist Blogs* [J]. Tourism Tribune, 2011, 26 (9): 19-28.

[21] Kotler p, Barich H. *A Framework for Marketing Image Management*[J]. Sloan Management Review, 1991,32(2)：94－104.

[22] Grosspietsch M. *Perceived and Projected Images of Rwanda: Visitor and International Tour Operator Perspective*s[J]. Tourism Management, 2006, 27: 225-234.

[23] Zheng Sai. *The Comparative Analysis of Wudang Mountain Tourism Image Based on Internet Text* [J]. Journal of Hubei Polytechnic, 2015,28 (5): 50-53.

[24] Cheng Wei, Guo qinlan. *Analysis of the Differences between the Projected Image of the Destination and the Perceived Image of Tourists -- Taking Xi'an as an Example*[J]. JOURNAL OF NORTHWEST UNIVERSITY (NATURAL SCIENCE EDITION), 2016,46 (6): 902-906.

[25] Ye Xiaoqing. *An Empirical Study on the Projection Image of Tourism Destination and Tourists' Perception -- a Case Study of Lishui, Zhejiang Province, a National Ecological "Double Demonstration Area"*[J]. Journal of Lishui University, 2017,39 (3): 41-47.

[26] Shen Feifei. *A Comparative Study on the Image of Chaohu Tourist Destination Based on Online Text Analysis* [J]. Journal of Huzhou Normal University, 2018,40 (2): 87-93.

[27] Jiang Xiaopei, Dai Guangquan. *A Comparative Study on the Projected Image and Perceived Image of Guangzhou Qiqiao Cultural Festival Based on the Analysis of Online Texts* [J]. Tourism guide, 2018,2 (4): 52-69.

[28] Wang Yongming, Wang MEIXIA, Li Rui, et al. *Image Perception Research of Fenghuang Ancient City Tourist Destination Based on Web Text Content Analysis* [J]. Geography and geographic information science, 2015,31 (1): 64-67.

[29] Song Zhenchun, Zhao Caihong, Li Xudong. *Social Cognitive Research on Outbound Tourism in China: an Analysis of Online Texts from the Perspective of Cross-Cultural Communication* [J]. Tourism Tribune, 2018,33 (3): 75-88.

[30] Zhang Qi, Chen Ke, Ma Fawang, Dong Fengli. *Research on the Image Perception of Rural Tourism Based on Digital Footprints -- Taking the Rural Tourism Spots around Shenyang as an Example* [J]. Agricultural economy, 2018 (3): 33-35.

[31] Svetlana Stepchenkova, Alastair M. Morrison. *The Destination Image of Russia: From the Online Induced Perspective*[J]. Tourism Management,2005,27(5): 943-956.

[32] CHI G Q, QU H. *Examining the Structural Relationships of Destination Image, Tourist Satisfaction and Destination Loyalty: an Integrated Approach*[J]. Tourism Management, 2008,29(4) :624-636.

[33] LARMOLENKO S, SCHNEIDER P. *Destination Image Representation Online: Content Analysis of Ukraine Travel Related Websites* [J]. Clinical Anesthesia, 2016,10(3) : 137 － 59.

[34] Mak, A.H.N. Online Destination Image: Comparing National Tourism Organization's and Tourists' Perspectives. Tourism Management. Volume 60.2017:280-297.

[35] Zhang Zhenzhen, Li Junyi. *Comparison between Questionnaire Survey and Online Text Data*

in Tourism Image Research -- Taking Xi'an Tourism Image Perception as an Exampl [J]. Tourism science, 2014,28 (6): 73-81.

[36] Li Chunping, Zhang Jian. *A Study on the Difference of Perception of Tourism Destination Image between Domestic and Foreign Tourists Based on the Analysis of Internet Text -- Taking Xi'an Huimin Street as an Example* [J]. Tourism Forum, 2017,10 (6): 97-110.

[37] Krippendorff K.Content Analysis: *An Introduction to its Methodology*[M] .Beverly Hills,CA:Sage ,1980:1-40.

[38] Beerli A, Martin J D. *Factors Influencing Destination Image* [J]. Annals of Tourism research, 2004, 31(3): 657 － 681.

[39] Yin Xiaona, Zheng Xiangmin. *A Study on Cultural Perception of Tourists in Sanfang and Qixiang Based on Online Text Analysis*[J]. Journal of Beijing No.2 Institute of international studies, 2015,37 (9): 62-66 + 33.

[40] Xiao Liang, Zhao Liming. *The Image of Taiwan's Tourism Destination Spread by the Internet -- Content Analysis Based on Related Websites across the Taiwan Straits* [J]. Tourism Tribune, 2009, 24 (3): 75-81.

[41] Wang Yongming, Wang MEIXIA, Li Rui, et al. *Image Perception Research of Phoenix Ancient* City *Tourist Destination Based on the Analysis of Network Text Content* [J]. Geography and geographic information science, 2015, 31 (1): 64-67, 79.

[42] Zhong Ning, Wu Xiaogen, Wang Xia, Mu Xiaoyu. *Research on Image Differences of Yixing Tourist Destination Based on Online Text Analysis*[J]. Resource development and market, 2018,34 (8): 1168-1172.

[43] Zhang Wenting, Luo Peicong. *A Comparative Study of Tourist Perception and Official Communication of Destination Tourism Image Based on Internet Text -- a Case Study of Tulou in Yongding, Fujian* [J]. Journal of Fujian Normal University (NATURAL SCIENCE EDITION), 2017,33 (1): 90-98.