Research on Brand Image Perception of RV Camp Based on Web Text Analysis—A Case Study of Tuju RV Camp in Huangshan

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Abstract. As a burgeoning tourism destination, the brand image perception of RV campsites requires in-depth research. Based on the "cognitive-affective" model and using network text analysis, this study collected effective travelogues and reviews from five major OTA platforms as research data to analyze the brand image perception of Huangshan Tuju RV campsite. The study found that: (1) the cognitive image of this RV campsite can be divided into five categories: natural environment, supporting facilities, leisure and entertainment, management services, and travel companions; (2) consumers' perception of the brand image of the RV campsite exhibits a core-periphery structure; (3) overall satisfaction with the brand image of the RV campsite among tourists is relatively high.

Keywords: RV camp · Network text analysis · Image perception

1 Introduction

Currently, the scale of RV camping in China is constantly expanding, but the economic benefits are not satisfactory. Improving the overall service quality of RVs and shaping a good brand image is crucial for enhancing tourists' satisfaction and revisit rates, as well as for improving the economic benefits. RV campsites in US have transformed from simple ten-supply destinations with perfect supporting facilities [1]. Domestic RV campsites are in the primary stage of development, and most of them have problems such as low professional level, inadequate infrastructure, improper site selection, and no brand image building. There are few studies on the image of RV campsites [2]. Also, online travel notes and comments on third-party platforms about RV campsites have come one the important factors affecting consumer decisions [3]. Therefore, based on the online text, this study takes Huangshan Tuju Caravan Camp as an example to examine tourists' perceptions of the brand image of caravan campsites, which is conducive to more targeted image management of campsites by managers.

2   Literature Review

Currently, scholars and researchers focus on research topics related to tourist destinations, including their influencing factors, destination branding, measurement methods, and more. Most studies emphasize that the destination image is the overall image that tourists obtain through cognitive, emotional, and holistic evaluations based on their physical and mental experiences [4]. An increasing number of researchers are starting to study RV parks as tourist destinations [5]. Li Feng (2019) divides the perceived factors of tourists regarding RV parks into six categories [6]. The research methods on destination images mainly use structured methods such as factor analysis, regression analysis [7], and IPA analysis [8], and unstructured methods such as questionnaire surveys [9], expert discussions [10], and others. Overall, there is limited research and methodology on the destination image of RV camping sites. With the Internet becoming an important channel for tourists to obtain information and share travel experiences, few studies explore the perception of tourists towards the destination brand image of RV campsites based on online texts.

3   Study Design

3.1   Data and Methodology

This study selected the Huangshan Tuju RV campsite as the research object, using consumer travel notes from OTA platforms such as Qunar, Mafengwo, Ctrip, Elong, and Dianping as the main data sources. Data was collected using Python software, with a period from April 3, 2016, to April 3, 2022, resulting in a total of 1481 travel notes. Content analysis was used to analyze the data, applying the "cognition-emotion" theory for cognitive analysis, social semantic network analysis, and sentiment analysis, to summarize the perception and image of tourists toward RV camping.

The pre-processed data was word-sorted using Rost cm6 software, and the text before the word-sorting was analyzed using the socio-semantic network analysis function to generate a semantic network relationship graph, and finally the words of tourists' emotions were text-mined to obtain the types and intensity of tourists' emotions towards the tourist destination.

3.2   Cognitive Image Analysis

The top ten nouns, verbs, and adjectives were counted and sorted in Table 1.

Analysis shows that tourists often travel with children and families and are concerned about the location and infrastructure of tourist attractions. RV campsites can provide accommodation, dining, services, and entertainment services. Verbs can reflect tourists' activity arrangements and behaviors during their travels. Tourists are more concerned about leisure and entertainment experiences and infrastructure construction in camping accommodations. Adjectives mainly describe tourists' perception of the environmental scenery during their travels, and tourists have more positive emotions and fewer negative emotions during their play process. The top 50 high-frequency words were selected for analysis, as shown in Table 2.

**Table 1.** Analysis of high-frequency word classes

Ranking	1	2	3	4	5	6	7	8	9	10
Noun	RV	Environment	Children	Breakfast	Huangshan	Family	A/C	Facilities	Friends	Hygiene
Verb	Barbecue	Experience	Camp	Register	Self-Servicing	Suggest	Choose	Gather	Swimming	Parking
Adjective	Suitable	Surrounding	Happy	Clean	Convenient	Entertaining	Graceful	Satisfying	Abundant	Fresh

Table 2. High-frequency word ranking statistics table (top 50)

Ranking	High-Frequency Words	Ranking	High-Frequency Words	Ranking	High-Frequency Words	Ranking	High-Frequency Words	Ranking	High-Frequency Words
1	RV	11	Friends	21	Services	31	Bathroom	41	Party
2	Environment	12	Surrounding	22	Check-in	32	Self Service	42	Inadequate
3	Suitable	13	Experience	23	Convenient	33	Satisfying	43	Projects
4	Breakfast	14	Hygiene	24	Mosquitoes	34	Abundant	44	Swimming
5	Barbecue	15	Camps	25	Flavor	35	Fresh	45	Not Much
6	Children	16	Landscapes	26	Entertaining	36	Suggest	46	Comfortable
7	Huangshan	17	Camping	27	Evening	37	Quiet	47	Staff
8	Family	18	Location	28	Rooms	38	Internal	48	Casual
9	Air	19	Happy	29	Graceful	39	Complete	49	A/C
10	Facilities	20	Clean	30	Integral	40	Choose	50	Next Time

In the high-frequency word list, "RV" is the most commonly used term on camping grounds, indicating tourists' destination choices. "Environment", "Huangshan" and "Air" also rank high, indicating that the quality of the natural environment directly affects tourists' choices of camping grounds. The top-ranking "Children" and "Family" indicate that most RV campers travel with family and friends. "Suitable" reflects tourists' awareness of RV camping as a new choice for leisure vacations. "Breakfast" shows that food plays an important role in tourists' minds during their journeys. "Barbecue" belongs to the leisure and entertainment activities of RV campsites, and travelers traveling in groups are more willing to participate in more group entertainment. "Facilities" refer to the basic supporting facilities of RV campsites, including Wi-Fi, dining, and showers. Furthermore, this study divides cognitive images into five categories.

(1) Natural environment. Representative vocabulary includes "Environment", "Air", "Landscape", etc. Related comments include "Good environment! Good air!" and "The surrounding environment is damp, and mold spots are inevitable." This indicates that travelers are highly concerned about the natural scenery, health, and natural climate of the camping ground, and the rate of revisits by tourists is closely related to this factor.·

(2) Supporting facilities. Representative vocabulary includes "Breakfast", "Facilities", etc. Related comments include "There is even a swimming pool inside…" and "The shower room is bigger than expected, and the air conditioners is great." Tourists generally have a high level of satisfaction with the campsite's basic facilities. A well-equipped RV campsite helps tourists to have a comfortable travel experience.

(3) Leisure and entertainment. Representative activities include "Barbecue", "Entertaining", etc. Related comments include "More people can come for barbecue, hot pot, playing cards…" and "various facilities such as CS, go-karting, archery…." Travelers are highly aware of this category, but there are also some negative comments. Travelers place great importance on the variety of activities and the rationality of the schedule.

(4) Management and services. Representative words include "Hygiene", "Clean", "Service", etc. Related comments include "there is still a smell in the car, and the service details need to be improved", and "what I can't stand is the strong smell in the car, and the hygiene could be improved a bit more". Travelers have a high level of awareness of management and services, but most of them have negative emotions toward the details of hygiene, prices, and service inside the motorhome. The branding of motorhome campsites cannot do without such cognitive elements.

(5) Travel companions. Representative words includes "Children", "Family", "Friends", "Couples", etc. Related comments include "suitable for parent-child travel, traveling with friends, children love it, and the kids say they want to come again next time", "it's suitable for family travel!". Most RV campsite consumers travel with companions, which is different from other tourism products. As a result, the travel companions and their perceptions directly affect the cognition of tourists.
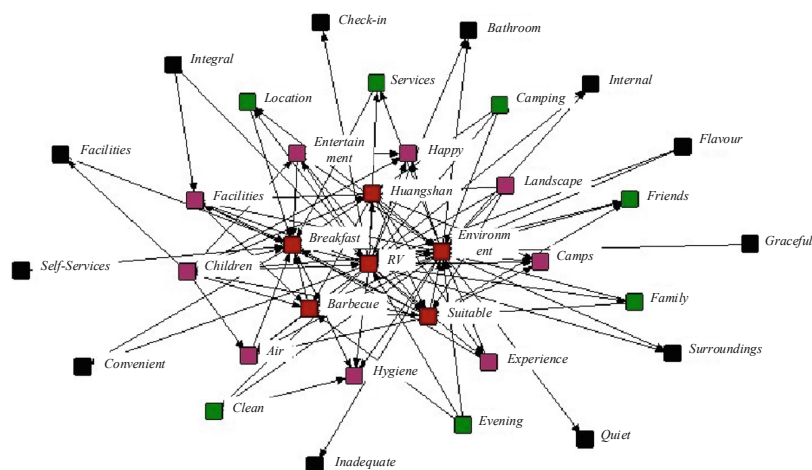
Fig. 1. Social semantic network relationship graph.

3.3 Social Semantic Network Analysis

To better illustrate the associations and the degree of correlation between high-frequency words, this study utilized the Rost cm6 software to construct a semantic network relationship diagram for the brand image of RV campsites, as shown in Fig. 1.

Based on the diagram, The semantic network diagram presents a shape that expands around a central point and can be divided into three parts:

(1) Core part: The words in this part have the highest frequency of occurrence and the closest association in the comments, including "RV", "Environment", "Suitable", "Breakfast", and "Barbecue". This indicates that tourists are most concerned about the environment, infrastructure, leisure and entertainment, and basic services of RV campsites during their travels. These cognitive elements highlight the core image of the RV campsite brand.

(2) Sub-core part: The words in this part have close links with the core words and are frequently used, such as "Children", "Air", "Facilities", "Happy", "Hygiene", etc. This reflects the travel companions of tourists, the infrastructure and management services of the travel destination, and also reflects that most tourists have a happy experience while traveling in RV campsites.

(3) Peripheral part: The words in this part have a lower frequency of co-occurrence and are distributed more scattered, mainly including "Service", "Family", "Clean", "Bathroom", "Graceful", etc. This part is the associative words of the core and sub-core parts and complements the other parts. It reflects tourists' perception of RV management services and provides supplements to their travel companions.

3.4 Emotional Image Analysis

The study found that emotional images have an impact on the perceived image of a tourist destination, and analyzing emotional images can help managers better understand

Table 3. Emotional analysis statistical results

Emotional category	Positive emotions			Neutral emotions	Negative emotions		
Percentage (%)	77.97			12.57	9.46		
Strength	Low	Middle	High	–	Low	Middle	High
Percentage (%)	38.41	26.09	25.03	9.46	8.09	2.25	0.13

tourists' satisfaction and loyalty. The results of the emotional analysis are shown in Table 3.

According to the analysis, tourists' positive emotions towards RV camping tourism account for 77.97%, neutral emotions account for 12.57%, and negative emotions account for 9.46%. The overall satisfaction of tourists is relatively high, but there is still a small proportion of people who did not meet their expectations. In terms of positive emotions, generally positive emotions have the highest proportion, and one-quarter of tourists have a high intensity of positive emotions, indicating that most tourists are satisfied with their experience at the RV campsite. Although the overall satisfaction of the RV campsite is high, 20% of tourists still had a poor travel experience, so managers need to focus on areas that need improvement and enhance the brand image of the RV campsite.

After sorting, it was found that tourists have high satisfaction with the natural environment, infrastructure, and travel companions at the Huangshan Tuju RV campsite, while negative emotions are mainly concentrated on management services and leisure activities. When negative words are inserted into the original text, it is found that the unqualified hygiene inside the RV, the humid environment, the presence of mosquitoes, the low professional quality of a minority of staff, unreasonable prices of goods, and few amusement facilities are the main reasons for tourists' negative emotions.

In summary, managers should continue to optimize the elements that tourists are highly satisfied with to maintain their satisfaction and loyalty. Regarding management services and leisure activities with more negative comments, managers should promptly maintain the infrastructure, train unqualified employees, and most importantly, revise the imperfect management system and carry out systematic optimization of the RV campsite.

4 Conclusion

This study is based on web text data, crawling data through Python, using Rost cm6 as the analysis tool, combined with content analysis method, according to the "cognitive-emotional" hierarchical order of the tourist perception of Huangshan Tuju RV camping, the main conclusions were obtained The main findings are as follows.

(1) Using content analysis, the cognitive and emotional components of tourists' perceptions of caravan campsites are analyzed from three aspects: cognitive image, socio-semantic network and emotional image. The use of online text analysis makes the data sources more extensive, making up for the lack of data obtained from traditional questionnaires and bringing a new research perspective to the study of caravans

(2) Travelers' perceptions of caravan campsites can be divided into five categories: natural environment, supporting facilities, recreation, management services and travelling partners. In the future, managers of caravan campsites still need to optimize the accommodation, recreational facilities and activity programs of the campsites, improve the service level of the staff, develop cultural products for caravan tourism and build the campsites into integrated mobile homes.

(3) Socio-semantic network analysis can show the overall image of caravan campsites more intuitively, and this study divides them into core parts, sub-core parts and peripheral parts. The core part is the focus of caravan camp branding, and managers should give priority to the elements of the core part when shaping the brand image. Most of the negative emotions of travelers appear in the peripheral part of the network diagram, and managers should optimize the peripheral part in time to create a unique brand image for the campground.

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