



# A Study on the Image Perception and Emotional Evaluation of Lugu Lake Tourism Based on Online Travel Notes

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**Abstract.** Lugu Lake, as the birthplace of Mosuo culture, boasts unique geography, history, culture and natural landscape. It serves as a typical case for tourism destination image research. This study employs various analytical methods to explore tourists' perception and emotional evaluation of Lugu Lake based on online reviews from three major OTA platforms. The findings reveal that tourists mainly perceive Lugu Lake itself, national culture and place name image while being attracted by Mosuo culture and lake scenery. Tourists' perception of Lugu Lake's tourism image presents a "core-sub-core-periphery" structure closely related to Lijiang, Zuohun, Mosuo etc. Tourism reception services play an important role in arousing tourists' emotional identification with the destination. Environmental perception is key to forming such identification while perceived value also has significant impact.

**Keywords:** Lugu Lake; image perception; emotional evaluation; tourist behavior.

## 1 Introduction

The research on the image of tourism destinations dates back to the 1970s and began to be introduced to China in the 1990s. Since Mayo first proposed the concept of "destination image," despite long-term and in-depth discussions in academic circles both domestically and internationally, there is still no widespread consensus on the precise definition of tourism destination image. Hunt (1975) pointed out that destination image is the sum of a person's beliefs, thoughts, and impressions of a destination, representing the impression held by individuals towards a non-residential place.<sup>1</sup> Crompton (1979) described the image of a tourism destination as a comprehensive reflection of tourists' opinions, beliefs, and impressions towards a specific destination.<sup>2</sup> In this paper, the image of a tourism destination is regarded as a comprehensive impression formed by actual or potential tourists through various information dissemination channels after mental processing of the various components within the tourism destination. This includes

multiple aspects such as cognitive image and emotional image. These constituent elements of the image interact with each other, jointly influencing tourists' cognition and attitude towards the tourism destination, and further affecting their tourism decision-making and behavior.

The rapid development of the internet has led to an increasingly diverse range of participants. Using comments and narratives related to tourism experiences posted by tourists on the internet, known as "Tourist-Generated Content" (TGC), as a data source, provides a more authentic, reliable, and intuitive "emic" perspective for analyzing tourists' perceived images compared to traditional research methods that rely on structured data obtained through questionnaires. User-Generated Content (UGC) offers a unique opportunity to capture tourists' first-hand experiences and insights, complementing traditional research methods.<sup>3</sup> In their research, Li Ting and Wu Gang (2021) employed content analysis, grounded theory, and descriptive statistics to explore the tourism image perception of Mount Wutai among post-trip tourists.<sup>4</sup>

After reviewing the existing literature, it can be observed that most studies tend to utilize grounded theory methods in combination with diverse technological techniques such as word frequency analysis, semantic network analysis, and sentiment analysis within content analysis. However, there is still insufficient attention paid to ethnic cultural tourism destinations when discussing tourism destination images, especially in terms of in-depth case studies. Lugu Lake is the birthplace of Mosuo culture. The Mosuo people adhere to a mother-lineage family system and a unique practice of "walking marriage," both of which carry rich humanistic spirits and provide representative and typical materials for ethnic cultural tourism research. Given this, this study takes Lugu Lake as a research case and comprehensively employs content analysis and grounded theory methods to deeply explore tourists' image perception and emotional evaluation of Lugu Lake tourism.

## **2 Research Data and Research Methods**

### **2.1 Research Area and Subject**

This study selects Lugu Lake, located at the border of Sichuan and Yunnan provinces in China and surrounded by mountains, as the research object. Lugu Lake is renowned for its unique characteristics of mother-lineage culture and religious beliefs of "Lamaism" and "Dabaism", earning it the reputation of "the Oriental Daughters' Kingdom" and "the Last Pure Land of Human Mother-lineage Culture". Along the shores of Lugu Lake, there reside approximately over 20,000 people from various ethnic groups, with Mosuo people as the main population. Locally, the Mosuo people still maintain the family system of respecting mothers and having the uncle oversee rituals while the mother manages finances. In the realm of marriage, the local area still retains the unique practice of "walking marriage", where men visit women's households.<sup>5</sup>

## 2.2 Data Source and Preprocessing

After a rigorous data collection process, this study crawled a total of 1,573 online review data from three major online travel service platforms (OTA), namely Ctrip, Qunar, and Mafengwo, using the Octopus Collector. These data cover user feedback prior to December 12th, 2023. To ensure the authenticity and accuracy of the data, we used the data cleaning function of the software to remove duplicate comments during the collection process. Subsequently, we used Word to perform necessary text processing on the review content to facilitate deeper content analysis.

## 3 Image Perception of Lugu Lake as a Tourist Destination

### 3.1 Composition of Image Perception of Lugu Lake as a Tourist Destination

The present study establishes a dictionary database for text analysis and prediction by integrating HowNet's dictionary with the built-in dictionary of ROST CM6. A filtering word list is employed to cleanse the network text, eliminating insignificant morphemes and tallying high-frequency words. Following this process, we obtain 66 top high-frequency characteristic words that represent the tourism image of Lugu Lake, as depicted in Table 1. To facilitate intuitive analysis, a word cloud tool is utilized to generate a visual representation. Through this visual display, as shown in Figure 1, tourists' perceptions and impressions of Lugu Lake can be more comprehensively understood.

The perception of the tourism image of Lugu Lake encompasses two aspects: firstly, the lake itself; secondly, the cultural heritage and local identity associated with the Mosuo ethnic group. The distinctive cultural traits of the Mosuo people, such as "Mosuo community," "walking marriage," and "women's kingdom," have left a profound impression on tourists, serving as unique symbols etched in their memories. Particularly noteworthy is the extraordinary matriarchal marriage system practiced by the Mosuo people, which captivates travelers seeking diverse cultural experiences due to its novelty and singularity. Consequently, it has earned acclaim as an enigmatic "realm of women." Iconic landmarks like the "Walking Marriage Bridge" and "Lig Peninsula," along with natural wonders such as blooming water-based poplar flowers and graceful seagulls further enhance visitors' perception of Lugu Lake. Collectively, these elements contribute to crafting a distinct tourism image for Lugu Lake while providing unforgettable travel experiences for tourists.

**Table 1.** High-Frequency Feature Words and Word Frequency Statistics for the Image Perception of Lugu Lake as a Tourist Destination

High-frequency morpheme	Word frequency	High-frequency morpheme	Word frequency	High-frequency morpheme	Word frequency
Lugu Lake	5109	Viewing Platform	400	Wharf	310
Lijiang	744	Lige Peninsula	394	Fall into the water	301
Guesthouse	733	Lakeside	387	Lover's Beach	293
Circumambulation around the	623	Pig Trough Boat	384	Bonfire party	281

lake					
Grass Sea	571	Mosuo	379	Walking Marriage	270
Walking Marriage Bridge	564	Lige	368	Luoshui Village	256
Mosuo People	532	Sunrise	359	Kingdom of Women	224
Yunnan	529	Sichuan	351	Gemu Goddess Mountain	205



Fig. 1. Word Cloud of Hot Words Related to Lugu Lake as a Tourist Destination

### 3.2 Levels of Image Perception for Lugu Lake Tourism

The original files were imported into ROST CM6 software for social network and semantic network analysis. The co-occurrence matrix vocabulary and corresponding co-occurrence matrix files between morphemes were constructed, and the generated co-occurrence matrix files were imported into Gephi software for visual analysis of the data through the construction of a semantic complex network. In this study, the Fruchterman Reingold mode in Gephi software was selected, as it exhibits excellent symmetry and local aggregation. The position of a node in the network graph reflects its connection degree with other nodes.

Revised sentence: The Fruchterman Reingold pattern generated semantic complex network diagram of Guhu Scenic area web text is presented in Figure 2. "Lugu Lake" occupies the central position as the focal point of tourists' image perception, with closely related words such as "Lijiang", "walking marriage", "inn", "around the lake" and "Mosuo". These words collectively depict Lugu Lake's tourism image, encompassing multiple dimensions including geography, culture and accommodation. The outer sections of the network map contain complementary and enriching words such as "god-

dess", "lover", "daughter", "pier", "peninsula", Ninglang" and bonfire". Through semantic complex network analysis, we can identify semantic linkages to gain deeper insights into tourists' perceptions and experiences of Lugu Lake.

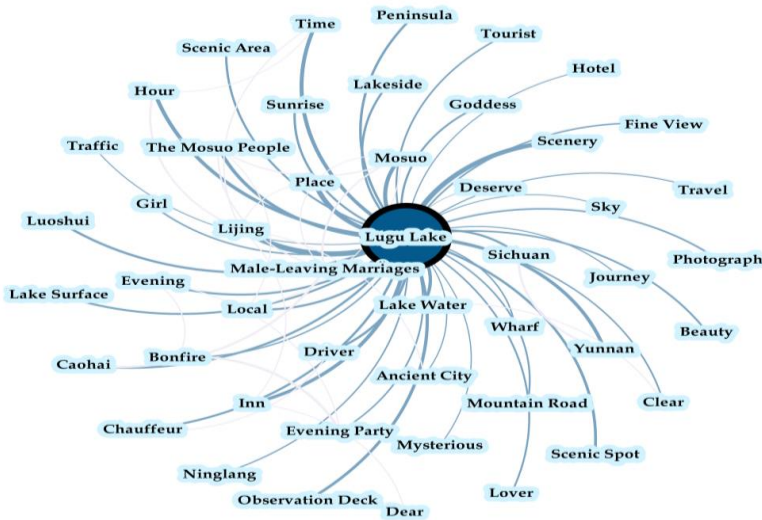


Fig. 2. Semantic Complex Network Analysis of Online Texts about Lugu Lake

## 4 Emotional Evaluation of Online Travelogues about Lugu Lake

### 4.1 Statistical Analysis of Emotional Evaluation of Lugu Lake

Through the analysis of ROST CM6 software (see Table 2), positive emotions constitute 63.21% of online comments on Lugu Lake, encompassing highly positive emotions (22.83%), moderately positive emotions (16.94%), and generally positive emotions (23.43%). Neutral emotions account for 25.39%, while negative emotions make up 11.40%, including generally negative emotions (8.12%), moderately negative emotions (2.12%), and highly negative emotions (0.29%).

As shown in Table 3, tourists' emotional perception of Lugu Lake mainly focuses on positive aspects such as "beautiful scenery," "fairyland," "liking," and "singing and dancing." As a plateau lake, Lugu Lake's unique scenery and the cultural characteristics of the Mosuo people are important factors attracting tourists. At the same time, the scenic area's management capabilities have also been recognized by tourists, manifesting in positive emotions such as "cleanliness," "quietness," and "satisfaction."

However, the difficult journey to Lugu Lake is one of the main factors affecting tourists' emotions. Negative vocabularies such as "threat," "simplicity," "regret," and "difficulty" reflect tourists' dissatisfaction with the tourism service experience, related supporting facilities, and road traffic conditions. These factors have a negative impact on tourists' emotions.

**Table 2.** Analysis of Emotional Evaluation for Lugu Lake

Emotion type	Sample size	proportion/%	Emotional level	Amount	Level proportion/%
Positive emotion	4391	63.21	High level (21 and above)	1586	22.83
			Moderate level (11~20)	1177	16.94
			Low level (0~10)	1628	23.43
Neutral emotion	1764	25.39			
Negative emotion	792	11.40	Low level (-10~0)	564	8.12
			Moderate level (-20~-11)	147	2.12
			High level (-21 and below)	20	0.29
Sum	6947	100.00			

**Table 3.** Emotional Evaluation Vocabulary List

Positive Lexical Elements:	Negative Lexical Elements:
Excellent; Scenic beauty; Recommended; Clear; Worthwhile; Warm; Fairyland; Enjoyable; Clean; Anticipated; Love; Appealing; Comfortable; Delighted; Singing and dancing; Free; Simple and honest; Liked; Admirable; Unique; Gorgeous; Peaceful; Tranquil; Satisfied.	Threatening; Difficult; Too small; Crude; Unbearable; Unsteady; Unwilling; Suffering; Regretful; Hard; Thrilling.

#### 4.2 Grounded Analysis of Emotional Evaluation for Lugu Lake

After a detailed analysis of the textual content, 25 lexical elements that accurately reflect tourists' image perception and emotional evaluation of Lugu Lake were extracted and coded at the primary level. Through further attribution analysis of these primary codes, eight secondary codes were derived. Finally, three tertiary codes were identified, namely "Perceived Value," "Tourism Reception Services," and "Environmental Perception."

Based on the data in Table 4, the sunrise chart of tourists' perception and evaluation of Lugu Lake is constructed using Excel software (Fig. 3). The chart illustrates tourists' perception and evaluation of Lugu Lake, categorized into three levels: "perceived value," "tourism reception service," and "environmental perception." Within these categories, "perceived value" comprises two subcategories: cost performance and satisfaction, which respectively capture tourists' emotional assessment and cost performance evaluation of their trip. Under the category of "tourism service reception," it encompasses transportation, dining, and overall service quality. Emotion analysis reveals that while tourists express dissatisfaction with transportation conditions, they highly appreciate local delicacies such as Shiguoyu.

**Table 4.** Grounded Theory Coding Table

Tertiary Coding	Secondary Coding	Primary Coding	Frequency
		Beautiful	165
		Clear	149
	Landscape Impres- sion	Quiet	96
		Azure	77
Environmental Per- ception		Spectacular	29
		Mysterious	123
	Cultural Cognition	Romantic	29
		Unique	22
	Cultural Respect	Respectful	16
		Humorous	78
		Enthusiastic	31
	Service	Simple	31
		Reliable	29
Tourism Reception Services		Considerate	20
		Delicious	25
	Food and Beverage	Abundant	24
		Tasty	17
		Rugged	13
	Transportation	Thrilling	11
		Steep	10
		Satisfying	21
	Satisfaction	Great	20
		Unforgettable	18
Perceived Value		High cost-perfor- mance ratio	17
	Price-Performance Ratio	Affordable	11

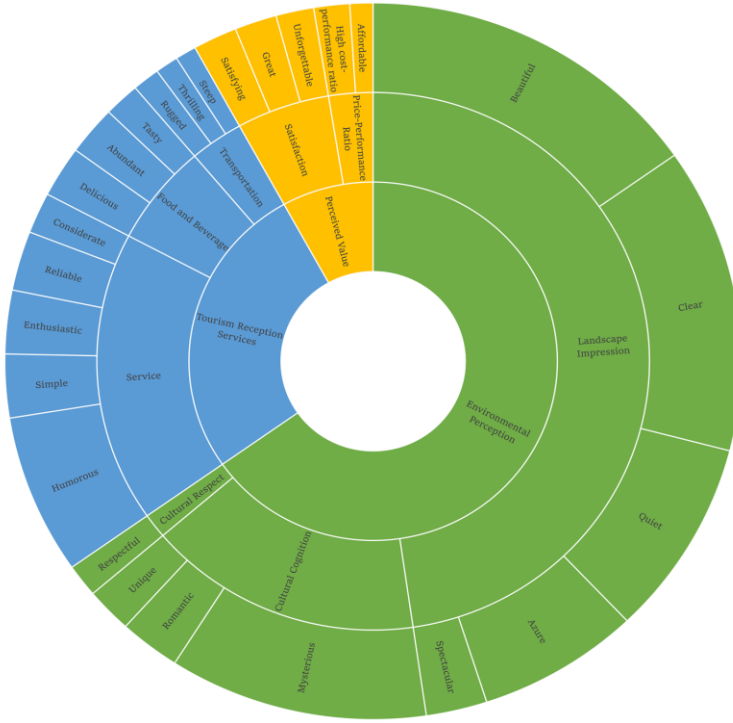


Fig. 3. Grounded Theory Sunburst Chart

## 5 Conclusion

Lugu Lake serves as the focal point of this study, and through the utilization of online review data, various methodologies including word cloud and word frequency analysis, sentiment analysis, complex network analysis, and grounded theory have been employed to delve deeply into tourists' image perception and emotional evaluation of the destination. The research findings reveal the following: (1) The tourists' perception of Lugu Lake's tourism image is primarily constituted by the lake itself, its ethnic culture, and geographical name imagery. The unique Mosuo culture and breathtaking lake scenery stand out as the primary attractions and focal points of tourists' visits. (2) The tourists' perception of Lugu Lake's tourism image exhibits a layered structure of "core-secondary core-periphery," with Lugu Lake at the center and close relationships among Lugu Lake-Lijiang, Lugu Lake-Walking Marriage, and Lugu Lake-Mosuo forming significant linkage chains. (3) Tourism reception services occupy a pivotal position in tourists' travel experiences, exerting a significant influence on the formation of emotional identification. Simultaneously, tourists' environmental perception of Lugu Lake serves as a crucial factor in shaping their emotional identification. As a comprehensive evaluation of tourists' overall travel experience, perceived value also holds significant importance in the formation of emotional identification.



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