

Study on the Spatial Production of Ancient Town Tourism: The Case of Puer Tea Horse Ancient Town

Yi Li¹, Yao Yang^{1*}, Shouju Yi¹

¹School of Economics and Management, Pu'er University, Yunnan, China

*Corresponding author

Keywords: Production of Space; Ancient Town Tourism; Puer Tea Horse Ancient Town; Current Situation Analysis; Optimization Strategies

Abstract: The space of ancient town tourism is both a product of social production and shapes the social relationships and forms within the space. This paper takes the Puer Tea Horse Ancient Town as a case, drawing on Lefebvre's theory of the production of space. It uses research methods such as field investigation, participatory observation, and questionnaire surveys. The paper explores the development status and existing problems of the tourism space production of Puer Tea Horse Ancient Town from three dimensions: spatial practice, representation of space, and spaces of representation. It finds that the government, enterprises, and residents are the diverse subjects of spatial practice; tourists perceive space production; and the three dimensions of space representation reflect different value demands. Finally, the paper proposes strategies for optimizing the tourism space production of Puer Tea Horse Ancient Town from four aspects: scientific planning to advance spatial construction, integration of cultural tourism spaces, enhancing tourist satisfaction, and increasing employment opportunities to improve the sense of well-being and gain for local residents.

1. Introduction

China's modernization emphasizes the coordination of material and spiritual civilization[1]. However, the current surge of consumerism has led to the homogenization and hollowing-out of cultural tourism products, eroding the content and diversity of tourism spaces. Space is both a product of social production and shapes the capital, power, and interaction within it[2]. Tourism, as a special form of spatial production, continuously produces the space of tourist destinations and reshapes social relationships and consumption patterns within the space. Puer Tea Horse Ancient Town, located in the southwestern part of Yunnan Province, is a typical postmodern themed tourism complex embodying authenticity. Through case analysis of Puer Tea Horse Ancient Town, this study discusses the current situation, problems, and countermeasures of ancient town tourism space production, providing useful insights for high-quality management and sustainable development of ancient town tourism[3].

2. Literature Review

2.1. Production of Space

In the late 1970s, the social field witnessed a "spatial turn," with Henri Lefebvre proposing the theory of the production of space, interpreting it as a unity of spatial practice, representation of space, and spaces of representation. This theory reveals that social space is not merely a physical phenomenon but an expression and medium of social relations, significantly impacting social science research [2,4]. Globally, this theory has been an important tool for understanding and analyzing spatial phenomena and has been widely used in urban development studies [5,6], issues of "center-periphery" in geographical landscapes [7,8], and fairness in social resources [9-11], among others. Moreover, the theory of the production of space has strong explanatory power for tourism phenomena, providing a new framework and tool for research on tourism destination planning and management, tourism behavior [6,8], tourism policy, and the interaction between tourism and the environment [9-

11].

2.2. Ancient Town Studies

Current domestic research on ancient towns primarily focuses on three aspects: cultural history, tourism economic income, and protection and development. Cultural history research examines the origins, evolution, and cultural connotations of ancient towns [12], detailing their development process, spatial layout, and architectural style. Research on tourism economic income focuses on the economic value and development direction of ancient towns, emphasizing the balance between economic interests and cultural protection to ensure sustainable development [13]. Studies on protection and development mainly focus on environmental protection and characteristic development of ancient towns, following a profit-oriented approach, formulating personalized development measures, and being market-driven to promote diversification of ancient town themes [14]. International research mainly involves urban design [15], historical culture and social change [16], and tourism and economic development [17], providing theoretical frameworks and practical references for the protection and development of ancient towns. With the development of the tourism industry and the improvement of ancient town protection and development, ancient town research faces new opportunities and challenges.

3. Research Design

3.1. Case Study Location

Puer Tea Horse Ancient Town, located in front of the Puer Tea Horse Road ruins, is a typical postmodern authenticity-themed tourism complex in the southwestern part of Yunnan Province. It creates the ancient road culture and horse gang culture through characteristic ethnic performances, architectural styles, and artistic performances, relying on the dissemination of tea-horse culture and operating in tandem with the tea-horse road ruins, allowing tourists to trace the historical value of the tea-horse road and experience the connotations of tea-horse culture in Puer Tea Horse Ancient Town.

3.2. Research Methodology and Data Sources

3.2.1. Research Methods

This study adopts a mixed research methodology, combining field investigation, participatory observation, and questionnaire surveys to analyze the current status and issues in the tourism space production of Puer Tea Horse Ancient Town.

3.2.2. Questionnaire Design

The first part collects personal information of the respondents, while the second part consists of 13 questions to measure respondents' perceptions of the space at Puer Tea Horse Ancient Town. The main body of the questionnaire, based on the survey scale for investigating the impact of tourism space production at Puer Tea Horse Ancient Town (Table 1), covers six dimensions: food, clothing, specialty tourism products, music interaction with tourists, dance for tourist viewing, and entertainment activities at Puer Tea Horse Ancient Town, with a total of 20 indicators presented in a Likert scale format.

Table 1 Survey Scale for Impact of Tourism Space Production at Puer Tea Horse Ancient Town

Dimension	Metric
Pu'er tea and horse ancient city of delicious food	T ₁ Tea, coffee, and other drinks
	T ₂ Flower cake, dried fruit and other specialties
	T ₃ Barbecue, salad and other snacks
	T ₄ Ethnic specialties (dried bean soup and rice, Dai flavor, etc.)
The costume of Pu'er tea	T ₅ Han Chinese Clothing
	T ₆ Ethnic minority clothing (Hani, Yi, Lahu, Wa, Dai, etc.)

Characteristic tourism products of Pu'er tea and ma Ancient city	T ₇ Pottery (tea set, etc.)
	T ₈ Pu'er tea and its crafts
	T ₉ Silver trim (bracelet, necklace, etc.)
	T ₁₀ Bamboo weaving, straw weaving crafts
	T ₁₁ Pu'er coffee and coffee food (coffee biscuits, coffee sugar, etc.)
The ancient city of Pu'er tea and horse interacts with tourists in the music	T ₁₂ ancient music
	T ₁₃ TikTok Hot songs (music with ethnic minority factors, such as Hani, Yi, Lahu, Wa and Dai)
Pu'er tea horse ancient city interacts with tourists and for tourists to watch the dance	T ₁₄ Ancient dance
	T ₁₅ Ethnic minority dance (Hani, Yi, Lahu, Wa, Dai, etc.)
Entertainment activities in the ancient city of Pu'er tea and horse	T ₁₆ Band playing
	T ₁₇ Costume performance
	T ₁₈ needfire evening
	T ₁₉ Beat the drum with music
	T ₂₀ Games (script kill, video game city, etc.)

3.2.3. Data Processing

(1) Field Investigation Analysis

Ten individuals were selected for in-depth interviews: tourists (T₁, T₂, T₃, T₄, T₅), local residents (R₁, R₂), and staff (W₁, W₂, W₃) (Table 2). The interview content (Table 3), mainly semi-structured, was collected in March 2023, gathering data on the historical culture inherited by Puer Tea Horse Ancient Town, understanding its spatial planning and cultural programming, collecting related news, articles, public accounts from the internet to understand the government's attention to Puer Tea Horse Ancient Town and the design and development concepts of enterprises. The experiences of tourists and the entertainment activities in the town were also collected. The interview findings are summarized as follows: firstly, there are significant issues with the spatial layout of Puer Tea Horse Ancient Town, particularly in the distribution of leisure and entertainment areas; secondly, there is a disparity in local resident participation; thirdly, contradictions exist among stakeholders, leading to asynchronous development of the scenic area; fourthly, tourists' experiences are relatively monotonous, with difficulty in unifying general and unique demands.

Table 2 Participant Information

number	sex	Age / year	occupation	number	sex	Age / year	occupation
T ₁	man	21	student	R ₁	man	46	peasant
T ₂	woman	22	student	R ₂	man	40	driver
T ₃	man	20	student	W ₁	woman	32	individual household
T ₄	woman	26	Enterprise employees	W ₂	man	45	professional
T ₅	woman	35	Enterprise employees	W ₃	woman	50	professional

Table 3 Interview Questions for Puer Tea Horse Ancient Town

target	question
visitor	1. How do you feel about your experience in Pu'er Tea and Ma Ancient City?
	2. What do you think of the current construction achievements of Pu'er Tea and Ma Ancient City?

	3. Have you ever had any unforgettable experience during your trip?
	4. What are your opinions and suggestions on the development of Pu'er Tea and Ma Ancient City?
local populace	1. What is your impression of the ancient city of Pu'er tea and horse?
	2. What do you think the construction of the ancient city of Pu'er tea has to do with you?
	3. Have you participated in the planning of the ancient city of Pu'er Tea and Ma?
	4. What changes did the development of Pu'er Tea and Ma Ancient City bring to you?
staff	1. What suggestions do you have for the construction of the ancient city of Pu'er Tea and Ma?
	2. What do you think of the development status of Pu'er Tea and Ma Ancient City?
	3. What do you think are the problems with the current development of Pu'er Tea and Ma Ancient City?
	4. What do you think is the future development direction of Pu'er Tea and Ma Ancient City?

(2) Questionnaire Analysis

After consulting experts and conducting a preliminary survey, adjustments were made to form the final questionnaire. The final survey was conducted in March 2023, mainly targeting tourists from various locations who filled out and returned the questionnaire online.

550 questionnaires were sent to tourists, with 500 valid responses and a validity rate of 90.9%. The Cronbach's alpha coefficient of the survey was 0.963, and the KMO measure was 0.986, indicating high reliability and validity of the questionnaires. The gender distribution of tourists was fairly balanced; most were under 50 years old with a certain level of education. Tourists' monthly salaries were above 2000 yuan, and they came from various professions, with corporate employees, farmers or workers, freelancers, etc., each accounting for more than 10%. The overall experience of tourists in Puer Tea Horse Ancient Town was not very satisfactory, with a large proportion falling into the 'average' category. Therefore, it is necessary to improve the tourists' experience and enrich the entertainment activities in the space of Puer Tea Horse Ancient Town.

Table 4 Factors Influencing Tourists' Perception of Tourism Space Production

dimension	metric	average value	standard deviations	variance
Pu'er tea and horse ancient city of delicious food	Tea, coffee, and other drinks	3.62	1.126	1.267
	Flower cake, dried fruit and other specialties	3.57	1.185	1.404
	Barbecue, salad and other snacks	3.59	1.166	1.361
	Ethnic specialties (dried bean soup and rice, Dai flavor, etc.)	3.58	1.127	1.270
The costume of Pu'er tea	Han Chinese Clothing	3.57	1.130	1.276
	Ethnic minority clothing (Hani, Yi, Lahu, Wa, Dai, etc.)	3.59	1.151	1.325
Characteristic tourism products of	Pottery (tea set, etc.)	3.59	1.145	1.312
	Pu'er tea and its crafts	3.59	1.175	1.381

Pu'er tea and ma Ancient city	Silver trim (bracelet, necklace, etc.)	3.54	1.161	1.347
	Bamboo weaving, straw weaving crafts	3.53	1.163	1.352
	Pu'er coffee and coffee food (coffee biscuits, coffee sugar, etc.)	3.64	1.155	1.333
The ancient city of Pu'er tea and horse interacts with tourists in the music	ancient music	3.58	1.181	1.394
	TikTok Hot songs (music with ethnic minority factors, such as Hani, Yi, Lahu, Wa and Dai)	3.59	1.160	1.345
Pu'er tea horse ancient city interaction with tourists and for tourists to watch the dance	Ancient dance	3.58	1.162	1.351
	Ethnic minority dance (Hani, Yi, Lahu, Wa, Dai, etc.)	3.60	1.155	1.335
Entertainment activities in the ancient city of Pu'er tea and horse	Band playing	3.65	1.100	1.209
	Costume performance	3.60	1.169	1.368
	needfire evening	3.60	1.195	1.427
	Beat the drum with music	3.59	1.170	1.368
	Games (script kill, video game city, etc.)	3.58	1.138	1.294

4. Research Findings

4.1. Spatial Practices in Puer Tea Horse Ancient Town Tourism

Puer Tea Horse Ancient Town has transitioned from an agriculture-dominated production and living space to a tourism-dominated space of tourism space production. With the popularity of mass tourism, the space of Puer Tea Horse Ancient Town is continuously undergoing production and reproduction, with internal elements also being updated and transformed. The varying dimensions perceived by tourists are also constantly changing (see Table 4).

The formulas for calculating the mean, standard deviation, and variance are as follows:

$$a = \frac{\sum_{i=1}^n x_i}{n} \quad (1)$$

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (x_i - a)^2}{n}} \quad (2)$$

$$\sigma^2 = \frac{\sum_{i=1}^n (x_i - a)^2}{n} \quad (3)$$

Where 'a' represents the mean, 'σ' represents the standard deviation, 'σ²' represents the variance, 'x_i' is the sample data, and 'n' represents the number of sample points."

In the process of tourism space production in Puer Tea Horse Ancient Town, the culture of the space is undergoing changes, such as the pursuit of profit by businesses, government intervention, and commercialization of space. Puer Tea Horse Ancient Town is accelerating cultural transformation in its development and protection. The government is developing immersive and experiential projects based on Puer's historical and characteristic culture, including ethnic dance performances and handicraft rattan weaving. Puer Tea Horse Ancient Town showcases Puer's distinctive culture and strengthens the construction of tourism infrastructure. Businesses have introduced a large number of

leisure and entertainment facilities, organizing activities like dance performances, bonfire parties, and mini-theater shows.

4.2. Representation of Tourism Space in Puer Tea Horse Ancient Town

The planning and construction of Puer Tea Horse Ancient Town involve the collaborative work of multiple stakeholders, including developers, the government, and merchants. The representation of tourism space is determined by the overall design and planning by businesses and the government. Developers aim for maximizing economic benefits and plan the tourism space of Puer Tea Horse Ancient Town from a capital perspective. The government focuses on the economic and social value of tourism space, rationalizing the spatial layout and content through characteristic and localized tourism industry positioning, promoting regional economic and social development. Merchants, guided by the government and businesses or operating autonomously in response to market demands, meet tourists' needs and achieve economic and social benefits through innovative business models and optimized management. This involves the production and reproduction of space by merchants to meet demand and operational goals.

Yunnan Mekong Group Co., Ltd., supported by the government, has become a major force in the development of Puer Tea Horse Ancient Town, improving infrastructure and promoting tea culture through funding and resources. Despite encountering issues with commercial returns and stakeholder interests during implementation, efforts are still made to promote and inherit traditional culture in the project. However, the imbalance in the environment of Puer Tea Horse Ancient Town, its lack of prominent promotion, insufficient entertainment activities, and lack of distinctiveness have led to inadequate attraction for tourists. Therefore, Yunnan Mekong Group Co., Ltd. and relevant departments need to seek innovative and differentiated development paths to improve the attractiveness and market competitiveness of Puer Tea Horse Ancient Town.

Merchants in Puer Tea Horse Ancient Town play a key role in the development of tourism space and are part of its representation. They operate homestays, catering, and specialty cultural tourism businesses, influenced and guided by the government. Their operations not only inherit local culture but also provide employment opportunities. However, due to economic disparities in tourist areas, merchants' incomes sometimes fail to meet expectations, leading to talent loss, which is an urgent issue to address.

Tourists play a significant role in the tourism space of Puer Tea Horse Ancient Town. Through analysis of interview and questionnaire results, it was found that there is a lack of diversity in tourism routes and the duration of tours is too short. Additionally, the distinctiveness of homestays and hotels is not strong enough to attract tourists, leading to slow development. This hinders tourists' experiences and satisfaction. Therefore, measures need to be taken to improve the situation, such as enriching tourism routes, extending tour durations, and enhancing the distinctiveness of homestays and hotels to increase attractiveness and accelerate development (see Table 5).

Table 5 Survey on Suggestions for the Development of Puer Tea Horse Ancient Town

dimension	subtotal	scale	dimension	subtotal	scale
We will strengthen infrastructure development	291	58.2%	Increase entertainment	277	55.4%
Improve the degree of transportation convenience	328	65.6%	Improve the service attitude of the staff	265	53%
Maintain the public health environment	329	65.8%	Control the flow of people	254	50.8%
Strengthen publicity	304	60.8%	other	0	0%
This question is valid for filling in the number of people			500		

4.3. Spaces of Representation

The space of representation in Puer Tea Horse Ancient Town is the experiential space directly felt by tourists and residents. Their perception of space also affects its production and reproduction. According to Table 6, tourists are satisfied with their dining experiences in Puer Tea Horse Ancient Town. Field research and participatory observation have revealed that the town's cuisine primarily features local Puer dishes, which are more characteristic than other theme park-style ancient towns and reasonably priced. However, Puer cuisine itself is not well-known, so enhancing its food brand is particularly important. The rating for entertainment activities is lower, with fewer interactive and immersive “travel through ancient and modern times” activities in the town. Currently, there are only a few murder mystery games, traditional Hanfu costume shops, and travel photography studios, lagging behind famous themed areas like "Chang'an Twelve Hours District" and "Datang Everbright City." The dances in the town are well-received by tourists, especially the traditional music and dance performances by staff and the "jump songs" at the torch square, which are full of collective joy. However, these dances are mostly based on popular TikTok songs and internet hits, lacking works that truly reflect the spirit and ancient charm of the ethnic groups in the southwestern border, showing signs of excessive commercialization and “cyberization.” There is a lack of rest areas, and sanitary conditions need improvement. The specialty tourism products generally meet tourists' needs.

Table 6 Tourists' Perception of Space Production Experience

dimension	average value	standard deviations	variance
Pu'er tea and horse ancient city food richness	3.58	1.157	1.338
Pu'er tea and horse ancient city entertainment activities are diversified	3.51	1.168	1.365
Diversity and acceptance of dance in Pu'er tea and ma Ancient city	3.57	1.192	1.420
The spatial layout of Pu'er Ma ancient city is reasonable	3.57	1.138	1.295
Environmental preservation degree of Pu'er tea and ma ancient city	3.62	1.131	1.279
The richness of characteristic tourism products of Pu'er Tea (tea, coffee, etc.)	3.58	1.160	1.346

5. Conclusions and Recommendations

5.1. Research Conclusions

Puer Tea Horse Ancient Town is currently in a development phase, attempting to drive construction and development through cultural tourism. However, from the perspective of Henri Lefebvre's theory of the production of space, there are some existing issues: Firstly, from the aspect of “perception of space,” there is a significant disparity in tourists' cognition of tourism space and time sequence, which may affect their understanding and experience of Puer Tea Horse Ancient Town. Secondly, from the aspect of “representation of space,” the current development approach is overly focused on commercial profit, leading to potential conflicts of interest among developers, tourists, merchants, and local residents. In particular, due to regional economic disparities, current business incomes may not meet merchants' needs, leading to talent drain; and there is a lack of diverse spatial representations in the tourism routes. Thirdly, from the aspect of “spatial practices,” the duration of tours is short, and

homestays and hotels lack distinctiveness, while promotional methods and entertainment activities lack innovation. These issues limit the actual use of space and potential tourism experiences. Finally, existing physical spaces and characteristic facilities, such as leisure and sanitary facilities, fail to meet tourists' practical needs, affecting their experience and impression of Puer Tea Horse Ancient Town. Addressing these issues may require specific spatial production strategies to comprehensively improve and enhance the perception, representation, and practice of space.

5.2. Recommendations

Firstly, from the perspective of Lefebvre's theory on the "perception of space," optimizing the spatial layout and operating times of Puer Tea Horse Ancient Town is crucial for maximizing profits. This requires collaboration between the government and businesses, deeper understanding of the city and its culture, enriching activities, and creating products and promotional strategies related to tea culture. Secondly, from the perspective of "representation of space," the display of Puer Tea Horse Ancient Town's tourism space should balance the interests between businesses, government, and residents. Considering residents' interests, enhancing their participation in urban development, and improving their quality of life and developmental potential are important. Businesses should operate Puer Tea Horse Ancient Town responsibly, focusing on tourists' needs and promoting synchronous development. The government's role is to provide guidance, enhance residents' understanding of traditional culture, involve them in protection and development, solve employment issues, and deepen tourism knowledge training. Thirdly, based on "spatial practices," guiding tourism demand and enriching Puer Tea Horse Ancient Town's tourism routes can provide satisfying tour experiences for diverse tourists, enhancing customer loyalty and promoting characteristic and personalized development. This can also promote the development and dissemination of tea culture and caravan culture. Lastly, improving the tourism environment image of Puer Tea Horse Ancient Town requires enhancing tourism services, improving rest area facilities, meeting diverse tourism needs, improving the quality of entertainment activities, and upgrading sanitary conditions. Through these various measures, better space production can be achieved to meet the needs of all stakeholders, enabling Puer Tea Horse Ancient Town to play a greater role in the tourism industry and achieve more success.

5.3. Limitations and Prospects

The study of spatial transformation in Puer Tea Horse Ancient Town needs to be more dynamic, shifting from reliance on questionnaire surveys to detailed analysis of specific points. The theory of trialectics in spatial research is complex and widespread, but summarization and expression need optimization, and the research results have not yet fully revealed urban development trends. Future research should explore urban changes and seek to implement effective strategies, update theories, and summarize experiences. Tourism development should involve continuous spatial reproduction, seizing tourism opportunities in the process of urbanization, and leading reforms in production and lifestyle.

Acknowledgments

Yunnan Provincial Department of Education Scientific Research Fund Project 2023J1225; Puer University Young Academic and Technical Leader Project QNRC20-05.

References

- [1] X. Q. Liu and F. W. Liu, The significance of China's modernization rooted in five distinct aspects, *Theoretical Exploration*, vol. 2, pp.70-78, 2023.
- [2] L.C. Mou and L. Cheng, The Place Making of "Ancient" Town Tourism from the Perspective of the Theory of Production of Space Production: A Case from Enshi Tuja Daughter Town, *Tourism Tribune*, iss.38, vol.3, pp. 107-124, 2023.
- [3] W. Xu and X. X. Wang, A study on authentic perception of tourists and its impact on their

- satisfaction and behavioral intentions-A case of ancient village tour, *Business and Management Journal*, iss.33,vol.4,pp.111-117, 2019.
- [4] L.M.Hu, Capital accumulation, class struggle, and spatial production: a literature review, *Shandong Social Sciences*,vol.9,pp.92-102,2014.
- [5] E. Robin, Performing real estate value(s): real estate developers, systems of expertise and the production of space, *Geoforum*,vol.134, pp.205-215,2022.
- [6] J.A.Mansilla and C. Milano, Becoming centre: tourism placemaking and space production in two neighborhoods in Barcelona,*Tourism Geographies*, iss.24, vol.4-5, pp.599-620,2022.
- [7] H. Dadashpoor, F. Rostami and B. Alizadeh, Is inequality in the distribution of urban facilities inequitable? Exploring a method for identifying spatial inequity in an Iranian city, *Cities*, vol.52, pp.159-172,2016
- [8] H. Wang and S.T. Liang, The process and interaction mechanism between rural tourism space production and role change of villagers: A case study of Yangtang Village in Mt. Danxia, *Human Geography*, iss.35, vol.3,pp.131-139,2020.
- [9] W. Lan and X. Chen, Spatial representation of rural tourism destinations from placeness perspective, *Geography and Geo-Information Science*, iss.38, vol.4,pp.82-87,2022
- [10] F. Chiodelli, A. Coppola, E. Belotti, et al., The production of informal space: A critical atlas of housing informalities in Italy between public institutions and political strategies, *Progress in Planning*, vol.149, pp.100495, 2021.
- [11] L. Axelsson, C. Hedberg, N. Pettersson, et al., Re-visiting the ‘black box’ of migration: state-intermediary co-production of regulatory spaces of labour migration. *Journal of Ethnic and Migration Studies*, iss.48,vol.3, pp.594-612,2022
- [12] H.B.Wan, X.Chen, B.B.Sang, Research on the path of tourism space production in historic and cultural towns, *Ethnic Art Studies*, iss.35,vol.4,pp.145-152, 2022.
- [13] J.F.Xu and X.Y.Cai, On the complementary development of tourism economy mode of Lijiang Old Town and Baisha Town, *Ecological Economy*, iss.30,vol.1,pp.144-147,2014.
- [14] Y.H.Kong, Research on the deep development of ancient town tourism resources from the perspective of protection and inheritance: A case study of Huangyao Ancient Town in Guangxi, *Social Sciences in Guangxi*, vol.1,pp.40-43, 2019.
- [15] Z.Wang, H. Zhang, X. Yang, et al., Neighborhood streets as places of older adults’ active travel and social interaction-A study in Daokou ancient town. *Journal of Transport & Health*, vol.24, pp.101309,2022.
- [16] W. Ding, Q.We, J. Jin, et al., Research on Public Space Micro-Renewal Strategy of Historical and Cultural Blocks in Sanhe Ancient Town under Perception Quantification, *Sustainability*, iss.15, vol.3, pp.2790,2023.
- [17] L.Wang, J. Ding, M. Chen, et al., Exploring tourists’ multilevel spatial cognition of historical town based on multi-source data—A case study of Feng Jing Ancient Town in Shanghai,*Buildings*, iss.12, vol.11,pp.1833, 2022.