The Role of Social Media Use in Shaping Urban Image Perception and Its Impact on Tourism Intention: A Case Study of Shanghai's "Magic City" Image

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Abstract. With the popularity of social media, destination marketing and urban image communication have undergone profound changes. As one of China's most international cities, Shanghai's diverse image is constantly constructed and reconstructed in cyberspace. This study adopts the framework of "social media use → urban image perception → travel intention" to examine how social media shapes tourists' decisions through image perception. Based on 501 valid responses, we employ descriptive statistics, reliability and validity tests, confirmatory factor analysis, multiple regression, and Bootstrap (5,000 samples, bias-corrected 95% CI) mediation analysis to construct and verify the structural model. Results show that social media use has a significant positive effect on travel intention ($\beta = 0.282$, $p < .01$). Economic-Spatial and Humanistic-Livable images exhibit positive indirect effects, whereas Urban Homogenization and Perceived Crowding & Hectic Pace exhibit negative ones; all four dimensions operate as partial mediators. The model fits well (CFI = 0.995, RMSEA = 0.015). These findings suggest that while social media increases the visibility of urban images, it may also intensify spectacularization and content convergence. Urban branding should balance algorithmic logic with cultural diversity to sustain image dissemination.

Keywords: Social Media, City Image, Travel Intention, Algorithmic Communication, Shanghai.

1 Introduction

With the rapid development of social media, the way destination marketing and the dissemination of city image have undergone profound changes. Short-video and photo-sharing platforms (e.g., TikTok/Douyin, Xiaohongshu/RED, Instagram) have gradually become important channels for shaping and disseminating the image of the city with strong visual communication and interactive functions [1]. User-generated content not only accelerates the diffusion of the city's image, but also allows the audience to invisibly participate in the reproduction of the city's image through likes, forwarding and

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comments. However, in this process, platform algorithms often tend to amplify "spectacles" or "landmarks" with visual impact, resulting in the marginalization of connotations such as urban culture, history or daily life [2].

In the Chinese context, Shanghai, as one of the most international cities, presents a rich and diverse image dimension. From the Bund to the Lujiazui Financial Center, from historic districts to everyday life with a strong street vibe, the image of Shanghai is constantly being built, disseminated and reshaped on social media. For potential tourists, these image perceptions are not only the stacking of visual symbols, but also an important psychological basis for their choice to travel [3]. On this basis, this study focuses on the urban image shaping mechanism in the context of social media, aiming to reveal how the use of social media affects the audience's perception of Shanghai's multi-dimensional urban image, and further plays a role in the formation of tourism intentions.

In terms of research methods, this research takes questionnaires as the main means and combines literature analysis and quantitative analysis methods. First, sort out the relevant research on urban image and social media communication through literature analysis to provide theoretical support for scale design; secondly, collect empirical data through questionnaires, and use SPSS and AMOS for exploratory and confirmatory factor analysis, regression analysis and Bootstrap mediation effect detection. Test to ensure the scientific and robustness of the research conclusion. The ultimate goal of this study is to build and verify the role model of "social media use - urban image recognition - tourism willingness" and explore the psychological mechanism and practical impact of social media in urban image dissemination. Through this study, it is expected to reveal how cities can achieve image shaping and cognitive transformation in the social media environment and provide new insights for urban brand communication and tourist destination marketing.

2 Literature Review

Urban image has always been an important topic in tourism and urban research. Scholars generally believe that the image of the city is not a single dimension, but composed of multiple elements. Early studies such as Stern proposed a composite urban image composed of landscape, activity and meaning [4]. This idea was later expanded in the study of urban design and tourism. For example, Carmona summarizes eight dimensions such as perception, society and function, and emphasizes that the urban image is a comprehensive cognitive construction [5]. At the same time, when studying urban vitality, Li et al. also divided the built environmental elements into six categories, such as morphological function, landscape and neighborhood experience, which further proved the diversity of the urban image dimension [6]. Under the premise of maintaining multidimensionality, this study combines the context of Shanghai for structural integration and divides the urban image into four main dimensions: (1) Economic-Spatial Image: integrating the modernity, prosperity and cutting-edge spatial characterization of the city (such as infrastructure, skyline and night view, etc.); (2) Humanistic-Livable

Image : "Fireworks" characteristics such as comprehensive history and culture, diversity integration and accessibility/convenience of daily life; (3) Urban homogeneity (negative direction): refers to the dedifferentiated feeling brought about by the dilution of brand uniqueness by "Internet celebrity/template"; (4) Perceived Crowding & Hectic Pace (negative): refers to high-density travel and high-speed rhythm Crowding, stress and other experiences.

This division is not only in line with existing theories, but also can explain the multiple images of Shanghai in the context of social media. At the same time, the relationship between social media and urban image has also received more and more attention. Existing studies have found that social media reconstructs the destination communication mechanism through UGC and algorithmic recommendations. Users are not only the recipients of information, but also the common producers of images [7, 8]. However, the inclination of the algorithm makes it easier for landmarks with strong visual impact to be magnified, while life-oriented and cultural content may be systematically marginalized [2]. This means that the intensity of social media use and the exposure of destination-related content may directly affect the audience's perception of different image dimensions. In addition, there is a close relationship between the image of the city and the behavioral intentions of tourists. A large number of studies have shown that a positive urban image will enhance tourists' travel intention, while negative perception (such as Urban Homogenization or congestion) may weaken this effect [1]. Although scholars once distinguished between attitude and behavioral intention, believing that the two are theoretically different, in practical application, the travel intention can more directly reflect the final effect of urban image communication [9]. Therefore, this study only focuses on the variable of tourism willingness as the end of the cognitive mechanism of social media use and urban image.

In summary, the existing research has provided a theoretical basis for the multi-dimensional construction of urban image and the role of social media in destination communication, but the empirical test of the complete chain of "social media use - urban image recognition - tourism willingness" is still insufficient. This study will fill this gap and systematically reveal how the use of social media is transformed into specific tourism intentions through urban image recognition by constructing an mediation model.

3 Methodology

This study adopts quantitative research methods and questionnaires as the main data collection means, aiming to systematically test how the use of social media affects the willingness of potential tourists to travel through urban image recognition (see Figure 1). The research subjects are potential tourists between the ages of 18 and 35. They are active users of social media and an important group in the future tourism market. Samples will be collected via convenience and snowball sampling through online channels (e.g., Wenjuanxing and social media). Target 400–600 valid responses.

The questionnaire design is divided into four parts. The first part measures the usage of social media, including the use time, usage habits and the exposure of "Shanghai"-

related content using a three-item, five-point Likert scale (e.g., 'I often see content related to Shanghai'; 'Shanghai-related posts take up a noticeable share of my feed'; 'Keywords/hashtags about Shanghai appear frequently'). Items are modeled as a latent variable after CFA, and their mean is reported descriptively. The second part measures the perception of Shanghai's urban image. Referring to the research framework of Stern, Carmona, and Li, this study divides the image of Shanghai into two positive dimensions (Economic-Spatial Image, Humanistic-Livable Image) and two negative dimensions (Urban Homogenization, Perceived Crowding & Hectic Pace) [4-6]. Each dimension is measured by 3–4 Likert five-point scale items, such as "Shanghai shows a modern urban sense" (modernity/prosperity), "Shanghai's urban landscape is full of futuristic appeal and imagination" (magic/futuristic), and "Shanghai gives me the impression that the city is seriously homogeneous" (negative dimension). In this way, we can empirically test whether the proposed dimensional division is valid. The third part measures the travel intention, sets up three questions, and adopts a three-question reflective scale (such as "I plan to travel to Shanghai in the next 12 months", "I will give priority to Shanghai when conditions permit", "I am willing to make plans for a trip to Shanghai", etc.), and take the average value of the three questions or enter the model as a potential variable. Based on the distinction between attitude and willingness, this study no longer sets the overall impression or attitude question, but takes the travel intention as the only dependent variable. The fourth part collects control variables, including demographic characteristics (gender, age, education level, income, etc.) and the relationship with Shanghai. In order to avoid the complexity of isometric assumptions and operations caused by the classification of dummy variables, this study uses a three-question reflective scale to measure the past experience and familiarity of individuals with Shanghai ("more times", "long cumulative stay" and "more familiar with environmental life"). The mean value of the third question is taken, and the path of the mediation and dependent variable is connected as a continuous covariate at the same time; the appendix provides a robustness comparison of the classification method (never/short visit/long-term).

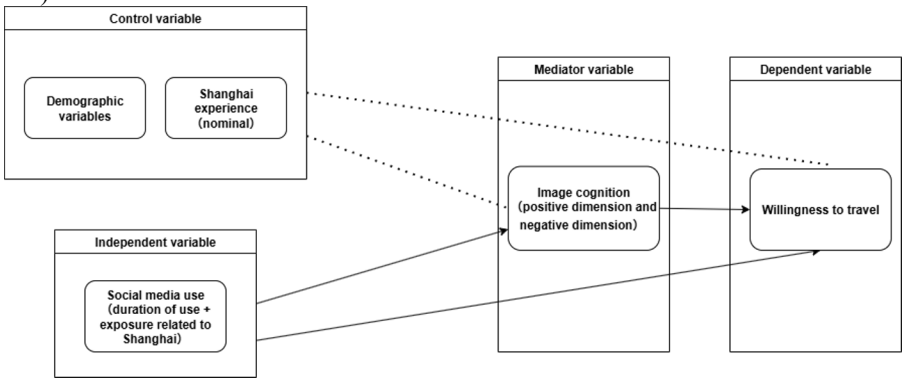

Fig. 1. Conceptual model.

For the processing and analysis of data. First of all, carry out data cleaning to eliminate samples that have not passed the informed consent/age screening, samples that

have not used social media, samples that fail the seriousness test and have abnormal answers (such as straight-line answers, extremely short answer time). Then carry out measurement, evaluation and structural analysis, and the process is as follows:

(1) Measurement model evaluation: confirmatory factor analysis (CFA) on all reflective concepts, test the standardized load (ideal value ≥0.70, minimum ≥0.50), composite reliability (CR≥0.70), average variance extracted (AVE≥0.50) and discriminant validity (HTMT<0.85). At the same time, report the model fitting index (CFI/TLI≥0.90, RMSEA≤0.08, SRMR≤0.08) to ensure the effectiveness and fit of the measurement model.

(2) Structural model and mediation test: Under the premise of allowing independent variables to be associated with covariates, estimate the mediation model of "social media use intensity/Shanghai content exposure → various dimensions of urban image → tourism intention", and retain the direct path of independent variables → dependent variables to distinguish between partial vs. full mediation. Indirect effects use Bootstrap 5000 sampling, bias-corrected 95% confidence interval (CI does not contain 0 is considered significant), so as to verify the significance and robustness of each path.

(3) Common Method Bias and multicollinearity: The Common Method Bias is evaluated by the Harman single-factor test. If the first-factor variance is less than 50%, it means that the deviation does not pose a serious threat. At the same time, report the variance inflation factor (VIF<5 is appropriate), and adopt robust standard errors if necessary to control the potential impact of collinearity.

4 Research Results

4.1 Sample Characteristics

After data cleaning, a total of 501 valid questionnaires were obtained in this study. Among the respondents, women accounted for 55.3% and men accounted for 44.7%. The age is mainly concentrated in 27-35 years old (79.0%), with a bachelor's degree or above (81.2%). Most of the respondents have a monthly disposable income between 3,000 and 10,000 yuan (80.8%), of which 74.3% are not engaged in industries related to tourism or urban communication. In terms of social media use, Red (62.5%) and TikTok (58.7%) are the most commonly used platforms. In terms of experience with Shanghai, 44.3% of the respondents have visited for a short time, 34.1% have long-term residence experience, 14.8% currently live in Shanghai, and only 6.8% have never visited.

4.2 Descriptive Statistics and Reliability Analysis

The mean and discrete trends of the main variables are shown in Table 1. The results show that Economic-Spatial Image (M = 3.37, SD = 0.95) and Humanistic-Livable Image (M = 3.33, SD = 0.95) scores are relatively high, indicating that the respondents' overall cognition of Shanghai is positive; negative dimension Urban Homogenization (M = 2.68) and crowding Busy (M = 2.64) score is low. Cronbach's α coefficients are higher than 0.8, indicating that the internal consistency of the scale is good.

Table 1. Descriptive statistics and reliability (N = 501).

Variable Name	Mean	Standard Deviation	Cronbach's α
Social Media Usage	3.293	0.837	0.805
Economic-Spatial Image	3.371	0.947	0.901
Humanistic-Livable Image	3.328	0.952	0.902
Urban Homogenization	2.683	1.040	0.829
Perceived Crowding & Hectic Pace	2.64	1.029	0.825
Travel Intention	3.208	1.117	0.858

4.3 Correlation Analysis

Pearson-related analysis results are shown in Table 2. There is a significant positive correlation between the travel intention and the use of social media ($r = .53$, $p < .01$); Economic-Spatial Image ($r = .43$, $p < .01$) and the Humanistic-Livable Image ($r = .41$, $p < .01$) are also significantly positively related to the travel intention; and Urban Homogenization ($R = -.45$, $p < .01$) and crowded ($r = -.44$, $p < .01$) are significantly negatively correlated with the travel intention.

Table 2. Correlation Matrix of Main Variables (N = 501).

	Travel Intention	Social Media Usage	Economic-Spatial Image	Humanistic-Livable Image	Urban Homogenization	Perceived Crowding & Hectic Pace
Travel Intention	1					
Social Media Usage	0.530**	1				
Economic-Spatial Image	0.433**	0.454**	1			
Humanistic-Livable Image	0.407**	0.443**	0.422**	1		
Urban Homogenization	-0.452**	-0.472**	-0.439**	-0.439**	1	
Perceived Crowding & Hectic Pace	-0.439**	-0.465**	-0.364**	-0.376**	0.416**	1

* p<0.05 ** p<0.01

4.4 Regression Analysis

Multivariate regression analysis is carried out with the travel intention as the dependent variable, and the use of social media and the dimension of urban image as the independent variable. The results (Table 3) show that the overall model is significant

($F(11,489)=29.17$, $p<.001$), adjusted $R^2=0.383$. The use of social media has the most significant impact on the travel intention ($\beta=.282$, $p<.001$). Economic-Spatial Image ($\beta=.141$, $p=.001$) and Humanistic–livable image ($\beta=.098$, $p=.021$) have a positive impact; Urban Homogenization ($\beta=-.151$, $p=.001$) and Perceived Crowding & Hectic Pace ($\beta=-.160$, $p<.001$) have a negative impact.

Table 3. Multiple Regression Analysis Results of Tourism Intention.

Predictor Variable	β	t	p	Direction
Social Media Usage	.282	6.30	<.001	+
Economic-Spatial Image	.141	3.31	.001	+
Humanistic-Livable Image	.098	2.32	.021	+
Urban Homogenization	−.151	−3.46	.001	-
Perceived Crowding & Hectic Pace	−.160	−3.82	<.001	-

4.5 Mediation Effect Analysis

Based on the PROCESS macro (Model 4), the Bootstrap (5000 samples, 95% CI) test showed that there was a significant mediation effect on the path of "social media use → travel intention" in all four urban image dimensions. Among them, Economic-Spatial Image and humanistic–livable image play a positive mediation role, while Urban Homogenization and Perceived Crowding & Hectic Pace play a negative mediation role (Table 4).

Table 4. Mediation Effect Test Results.

Mediator Variable	Indirect Effect(a×b)	95% Confidence Interval
Economic-Spatial Image	0.147	[0.070, 0.151]
Humanistic-Livable Image	0.126	[0.056, 0.132]
Urban Homogenization	−0.164	[−0.169, −0.082]
Perceived Crowding & Hectic Pace	−0.151	[−0.156, −0.071]

5 Discussion

The main findings of this study show that the frequency of use of social media and the exposure of "Shanghai"-related content have significantly improved the audience's overall awareness of the city image and travel intention. The positive image dimension - including spatial image and livable image - can effectively enhance the emotional connection of tourists to the city, while the negative dimension - such as Urban Homogenization and Perceived Crowding & Hectic Pace this positive effect to a certain extent. Further analysis of the mediation effect shows that the city image plays a partial mediation role in the relationship of "social media use-travel willingness". This means that social media not only directly stimulates the willingness of potential tourists to travel, but also indirectly influences their decision-making by shaping their emotional perception of the city. This discovery reveals the urban image construction mechanism

under algorithm-driven communication, echoing the concept of "algorithmic visibility and invisibility" proposed by Duffy and Meisner: while expanding urban visibility, the platform mechanism also selectively magnifies certain symbols and weakens other narratives, thus reshaping The way the city is perceived [2]. This duality confirms the "cultural double-edged nature of social media" pointed out by Balogun and Aruoture [10].

From a theoretical point of view, the results of this study confirm and expand the core views of the previous research on the image of social media cities. Social media has become an important channel for shaping urban brands, and this study further proves that this shaping is not only reflected in the cognitive level of urban brands, but also more profoundly affects the psychological mechanism of tourism willingness [1]. The "three-layer visual narrative structure" proposed by Qian emphasizes the dominant position of visual images in the construction of urban images [7]. This logic is also verified in this study: the respondents' overall impression of Shanghai mainly comes from short videos and image content with visual impact. However, as Hall pointed out in the "encoding/decoding" model, the audience is not a passive receiver, but reinterprets media information based on personal experience [9]. When social media users watch and redistribute urban content, they often reframe the meaning in the process of "decoding", so as to participate in the reproduction of urban images. The results of this study show that although the algorithm-led communication mechanism establishes the main framework of visual spectacle, the audience continues to consult and reconstruct within this framework through interaction, comment and re-creation, making the urban image a dynamic and negotiable social construction process.

In addition, the study found that the negative image dimension has a significant inhibitory effect on the travel intention, reflecting the structural problems in urban communication. This negative effect can be understood as the embodiment of the "framework mismatch effect" discussed by Falchetti and others in the context of urban communication: when the platform content excessively strengthens the single discourse of economy and visual wonders and ignores cultural and emotional narratives, different audience groups will have deviations in meaning interpretation [11]. Similarly, Qian also found that although the content of "landscape wonders" enhances the visibility of the city, it weakens the audience's emotional connection with local culture [7]. The negative effect of the dimension of "Urban Homogenization" in this study confirms this mechanism: Shanghai is frequently presented as a symbol of modernization, prosperity and internationalization. Although this visual consistency conforms to the recommended logic of the algorithm, it creates "cultural flatness" at the perception level, which weakens the uniqueness and life of the city.

From a practical perspective, the results of this study reveal three core problems that need to be solved urgently in the communication of contemporary urban brands. First, urban communication still relies too much on visual wonders, forming the logic of "exposure is attraction". The key to innovative communication is "why" rather than "what" - only when urban communication can tell a clear meaning and motivation can deep recognition be achieved [11]. While continuing to enhance visual appeal, communication in Shanghai should focus on presenting cultural stories, community daily life and humanistic experiences, and change from "symbolic display" to "meaning narrative".

Second, the algorithm mechanism causes the shallow layering of cultural communication. As Hall said, communication is the reproduction process of power relations [9]. Urban managers and content creators should cooperate with the platform to optimize the recommendation mechanism, increase the weight of local cultural content, encourage pluralistic narrative and long-tail communication, and regain visibility of marginalized cultures. Third, the negative dimension of the urban image suggests that we should pay more attention to the experience and social perception of tourists. Urban Homogenization and congestion not only weaken the attractiveness of tourism, but also reflect the dilemma of a balance between urban development and livability. At the policy level, we can alleviate peak congestion through smart tourism and diversion-oriented strategies, advocate community-participatory tourism, and reconstruct the integration relationship between "modern cities" and "travelable cities". How to achieve a balance between algorithmic logic and cultural diversity has become a key proposition for the sustainable development of urban brands.

6 Conclusion

This study focuses on the role of social media in the dissemination of urban image. Taking Shanghai as the research object, it explores the relationship between the use of social media, urban image perception and the travel intention. The research results show that social media not only changes the presentation of the city's image, but also reshapes the perception and behavior of the audience in a subtle way. In general, the widespread use of social media has improved the visibility and attractiveness of Shanghai in the hearts of the audience, but at the same time, it has also brought the hidden concern of image convergence and the weakening of cultural depth.

In the multi-dimensional structure of the city image, the positive influence of space and livability dimensions is the most prominent, showing that modernization, convenience and sense of life are the most frequently perceived urban characteristics of the current audience. Homogenization and crowding have become important negative factors that restrict the travel intention, reflecting that the algorithm-driven communication mechanism may weaken cultural differences and humanistic temperature while strengthening the "spectacle" of the city. Social media plays a dual role in urban communication - both a tool for diffusion and connection, and a mechanism for screening and shaping. It makes cities more "visible", but it is also easier to be "seen as the same". From a more macroscopic level, this study reveals the structural transformation of urban communication. The recommendation algorithm of social media has changed the traditional flow of information, so that the construction of the city's image is no longer dominated by a single institution, but becomes the result of the interaction between platforms, content creators and many recipients. The audience actively participates in the reproduction of meaning in watching, commenting and re-disseminating, so that the image of the city shows more fluid and open characteristics. This change not only improves the efficiency of communication, but also poses new challenges to urban governance and cultural expression.

The findings of the study suggest that urban brand building should change from "exposure-oriented" to "experience and recognition-oriented". Future communication strategies should pay more attention to cultural narratives and the display of daily life to balance the relationship between visual spectacularization and emotional resonance. Platforms and managers can also reduce the negative effects of homogeneous communication by optimizing the algorithm mechanism and encouraging diversified content creation. At the same time, at the level of tourism management, the tourist experience should be improved through smart tourism, off-peak guidance and community participation, so as to realize the virtuous cycle of urban image and urban development. In the era of social media, it makes cities more communicative and makes cultural expression more diluted. How to find a balance between algorithmic logic and cultural uniqueness will become an important topic for urban communication and brand building in the future. The case in Shanghai provides valuable experience and inspiration for understanding this transformation, and also lays the foundation for the subsequent exploration of the path of sustainable development of the city's image.

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