

Influence Analysis of Tourism Government Weibo Based on the Perspective of SNA

Zhenglin Zhang, Qingwen Zhang

School of Management, Xi'an Polytechnic University, Xi'an 710600, China

ABSTRACT

Weibo is an important channel for social promotion, industry communication, and user interaction for tourism organizations across various regions. Analyzing the social network structure and influence of tourism government Weibo accounts from a social network perspective can provide valuable insights for marketing strategies and enhancing their own influence. According to the monthly Weibo rankings, the top 50 tourism-related government Weibo accounts were selected each month. First, social network analysis methods were used to reveal the characteristics of their social network structure. Second, the entropy weight method was employed to calculate their influence. In terms of Weibo operation quality, there are regional differences in the management of tourism-related Weibo accounts, with an uneven geographical distribution. Accounts with high influence are mainly concentrated in the East China region. In terms of quantity, the operational level of tourism-related Weibo accounts has a weaker relationship with the economic level of the region. Among the selected samples, the regions with the highest number of accounts are East China and Southwest China. Tourism government Weibo accounts have relatively close connections but exhibit weak centralization.

KEYWORDS

Tourism government Weibo; Weibo; Social network analysis; Influence; Entropy Weight Method

1 Introduction

According to data from the Ministry of Culture and Tourism, in the first half of 2024, the total number of domestic tourists was 2.725 billion, an increase of 14.3% compared to the same period last year^[1]. From the explosive popularity of "Special Forces" style travel on short video platforms to the crowded "human wave" style of offline tourism, these trends showcase a surge in national tourism demand, demonstrating the market's strong resilience and vibrant vitality. As the tourism industry recovers, local tourism bureau chiefs are actively participating by using short video platforms to promote their local tourist resources and attract visitors. Short video platform promotion, based on big data push mechanisms, is an important means to attract consumers. However, consumers usually decide whether to visit after collecting and evaluating information about the destination. Since tourism government Weibo accounts are publicity platforms for cultural and tourism government agencies, their authoritative information makes Weibo a crucial channel for tourists to gather information.

By the end of 2023, Weibo had 586 million monthly active users, an increase of 13 million compared to the previous year, with daily active users reaching 252 million^[2]. This shows that Weibo has a massive user base and a vast amount of user-generated content, significantly impacting local

tourism development. Tourism government Weibo accounts are an essential part of the local government's self-media matrix, playing an irreplaceable role in promoting tourism resources, building city image, invigorating the tourism market, and guiding tourism public opinion. They are considered an important "intangible asset" for the local tourism industry. Currently, successful tourism promotion not only brings a large number of tourists but also poses challenges due to limited capacity of local tourism facilities^[3]. An excessive influx of tourists can lead to negative experiences if not well managed. Therefore, it is necessary for surrounding tourism bureaus to interact and implement measures to divert tourists. However, existing research indicates that the distribution of followers for key tourism city government Weibo accounts follows a power law, with significant disparities between different accounts. While top tourism government Weibo accounts have over a million followers each, their interaction levels are relatively weak, mismatched with their substantial follower base^[3].

2 Related Research

2.1 Research on Government Weibo Accounts in the Tourism Sector

Tourism government Weibo accounts serve as an important platform for relevant tourism departments to promote local tourism resources, enhance the tourism image, and foster the development of the tourism industry. They offer a variety of formats, providing potential tourists with information about travel and opportunities for exchange and sharing^[4]. A literature search using the keywords "tourism" + "government Weibo" reveals that current scholarly research on tourism government Weibo accounts mainly focuses on communication studies, marketing strategy studies, and influence studies.

2.2 Research on the Dissemination of Government Weibo Accounts in the Tourism Sector

Research on the dissemination of tourism promotional Weibo information points out that the insufficient spreadability of tourism government Weibo accounts is due to several reasons: discussions on topics are too narrow, lacking richness in tourism discourse layers; poor regional brand communication awareness and inadequate cultural symbol shaping capabilities; poor feedback effects of tourism content, weak media dissemination influence; blindly chasing online trends while overlooking the exploration of their own potential value; repetitive content and topics, lack of systematic thinking in government communication, among other shortcomings^[5].

Studies on the dissemination indicators of tourism-related Weibo accounts are divided into individual and collective perspectives. From an individual perspective, Lu Chuan categorizes them into three key factors: coverage, activity level, and influence^[6]; Zhang Xuemei and others have calculated and evaluated the efficiency of information dissemination in public opinion on government Weibo^[7]. From the perspective of local media matrix dissemination, the close connection between tourism government Weibo accounts and other types of government Weibo significantly promotes the dissemination of government information in the network^[8].

2.3 Research on Marketing Strategies of Government Weibo Accounts in the Tourism Sector

2.3.1 Marketing Strategy Research on Tourism Government Weibo

Regarding the marketing strategies of tourism government Weibo, from a content perspective,

Ding Li believes that the content of tourism government Weibo should be oriented towards the needs of tourists^[9]. From the perspective of increasing attention, recommendations and promotions by celebrities and well-known figures can quickly raise awareness of a region through fan following^[10]. From the viewpoint of collaborative governance, the traditional comprehensive regulatory model of the government is difficult to cope with emerging tourism disputes due to lack of coordination, integrity, and systematization^[11]. Fairness is at the core of all voluntary transactions. Liu Hongchun and others believe that constructing a new comprehensive regulation model for the local tourism market that leverages the synergistic advantages of various departments can ensure fair transactions, thereby enhancing tourists' willingness to travel. From the perspective of user interaction, government Weibo accounts with high social influence and extreme emotional signals are more likely to receive responses from others^[12]. Moreover, for tourism government Weibo accounts, peer attention can provide connections for followers of the account, thereby expanding the overall influence of the industry.

2.3.2 Research on the Influence of Weibo

Research on the influence of Weibo mainly reflects innovation in research methods. Currently, there are three perspectives on the study of Weibo's influence: the Weibo account perspective, the social network perspective, and the combined perspective of both Weibo and social network characteristics. The Weibo account perspective refers to scholars who start their research based on the objective characteristics possessed by the Weibo account itself, such as Wang Suozhu and others who established an evaluation index system for the influence of government Weibo based on attention, activity level, government service degree, and recognition^[13]; some scholars start from the perspective of social networks to study the influence of government Weibo within its industry network groups, where those with significant influence among peers can be called opinion leaders, as Zhang Guofang and others proposed a new algorithm based on individual interactions in the network that is more effective than previous methods for identifying influential accounts^[14]. Additionally, some scholars believe that influence is a combination of its objective indicators and influence within the social network. For example, Wu Jinchi and others used the entropy weight method to analyze the influence of government Weibo on Twitter^[15]. This article adopts the third perspective to measure the influence of Weibo, combining social network attributes with objective indicators of by assigning weights to each dimension to calculate the account's influence.

2.4 Social Network Analysis

The social network construction of tourism government Weibo is based on the relationship between following and being followed, with each government Weibo acting as a node. The key indicators involved in measuring the social network in this article include centrality analysis, network density and distance analysis, and cohesive subgroup analysis.

Centrality analysis is used to measure the status and power influence of an actor within their social network. When an actor has more connections with other members in the network, they are more likely to obtain resources within the network, thus having a greater advantage in handling various relationships^[16]. Network density and distance analysis are methods used to analyze the closeness of connections between network nodes and the shortest path length between two nodes in the network. The higher the density, the closer the relationships between members, and the shorter the length of the shortest path between two nodes, indicating easier information flow^[17]. Cohesive subgroup analysis is used to examine small group phenomena within the network^[18]; if the network contains small groups and these groups have higher density, it indicates that

communication and cooperation within these small groups are more frequent.

3 Data Source and Preprocessing

3.1 Data Source

This study selects the tourism category from the Government Weibo Culture List for analysis. The Government Weibo Tourism List uses "matrix effectiveness" as the evaluation criterion, which comprehensively and meticulously examines dimensions such as dissemination power, interaction power, service capability, and recognition, providing a certain level of authority^[19]. This article selected the top 50 tourism government Weibo accounts from the monthly list of the Government Weibo Tourism List from January to March 2023, initially comprising 56 Weibo accounts. After establishing a network based on their following relationships and filtering out those not followed, 49 Weibo accounts remained. It can be seen that there is a regional imbalance in the development of tourism-related government Weibo, with East China and Southwest China accounting for 61%, while other regions have fewer opinion leaders.

3.2 Data Preprocessing

This paper constructs a social network (Table 1) based on the follow relations among tourism-related Weibo accounts and analyzes the social network structure of these governmental tourism Weibo accounts using UCINET software. A '1' represents a following relationship, while a '0' indicates no following relationship. After filtering out isolated nodes that were not followed, 49 Weibo accounts remained for subsequent analysis.

Table 1 Partial Attention Extraction of Government Weibo Accounts in the Tourism Sector

	Shandong	Fujian	Fuzhou	Jiangsu	Qingdao	Jinan
Shandong	0	1	1	1	1	1
Fujian	1	0	1	1	1	1
Fuzhou	1	1	0	1	1	1
Jiangsu	1	1	1	0	1	1
Qingdao	1	1	1	1	0	1
Jinan	1	1	1	0	1	0

4 Social Network Analysis of Government Weibo Accounts in the Tourism Sector

4.1 Centrality Analysis

4.1.1 Degree Centrality

Degree centrality includes both in-degree and out-degree. In the social network constructed in this paper, out-degree represents the number of tourism Weibo accounts that are followed by others, while in-degree indicates the number of followers an account has from those selected for study. The results of the analysis on both out-degree and in-degree are presented in Table 2. Looking at out-degree, which measures how many peers an account follows, 45% of the tourism Weibo accounts follow more than 30 peers. Among them, Liuzhou City Culture, Radio, Television and Tourism Bureau has the highest out-degree with 46 followings; Changyou Suqian has the lowest out-degree, following only 9 members within the network. A high level of attention to other members in the network suggests easy access to updates and messages from peers, which can serve as a reference for self-development and promote the construction of the overall social network.

Conversely, it indicates a lower level of activity within the network, engaging passively in communication and interaction, which is not conducive to forming a robust social network structure.

Table 2 Degree Centrality of Government Weibo Accounts in the Tourism Sector

Weibo Accounts	O	C	Weibo Accounts	O	C	Weibo Accounts	O	C
Liuzhou	46	20	Hanzhong	33	9	Xiamen	21	35
Wuhan	43	36	Beijing	32	43	Huangshan	20	17
Heilongjiang	42	33	Fuzhou	31	31	Tibet	18	25
Xinjiang	41	30	Hubei	31	29	Weihai	17	19
fujian	39	43	Guizhou	30	37	Zhoushan	17	17
Qingdao	39	40	Chongqing	29	35	Chengdu	16	29
Xi'an	39	34	Ganzi	29	27	Hebei	16	26
Yantai	39	41	Sichuan	28	37	Inner Mongolia	15	13
Jinan	36	41	Tianjin	27	20	Urumqi	15	10
Shijiazhuang	35	32	Jiangxi	26	27	Wenchun	14	14
Wuxi	34	32	Yunnan	26	28	Guiyang	14	11
Weifang	34	31	Shanghai	26	36	Hangzhou	14	27
Jilin	33	30	Guangxi	26	32	Dali	11	8
Jiangsu	33	33	Nanning	26	24	Heze	11	13
Shannxi	33	36	Guilin	26	25	Suqian	9	3
Shandong	33	44	Hunan	25	31			
Tengchong	33	16	Changchun	21	22			

From the perspective of in-degree, which measures the number of followers from peers, accounts such as Tourism Shandong, Tourism Beijing, Fujian Provincial Department of Culture and Tourism, Yantai City Culture and Tourism Bureau, and Qingdao City Culture and Tourism Bureau have more than 40 followers, indicating significant attention within the network structure. Whether a node can be centrally located in the network depends on both its in-degree and out-degree. Overall, there are two types of situations regarding in-degree and out-degree: The first type includes individuals with both high in-degree and out-degree, indicating they are at the center of the network; the second type comprises those whose out-degree is much higher than their in-degree, suggesting these governmental Weibo accounts are eager to obtain external information and communicate with peers but receive less attention possibly due to geographical distance.

By visualizing the tourism-related governmental Weibo follow network using Netdraw software (Figure 1), it can be observed that nodes with high degree centrality, such as Liuzhou City Culture, Radio, Television and Tourism Bureau, Wuhan City Culture and Tourism Bureau, Tourism Shandong, and Tourism Beijing, are positioned at the center of the network, with dense connections to other nodes. In contrast, nodes with lower degree centrality like Meeting Wenchuan, Dali Tourism Release Hall, Heze Culture and Tourism, and Changyou Suqian are situated at the periphery of the network, relatively having fewer connections to other nodes.

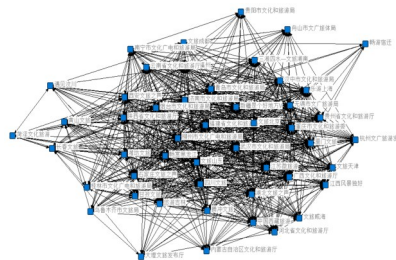


Figure 1 Social Network of Government Weibo Accounts in the Tourism Sector

4.1.2 Betweenness Centrality

Betweenness centrality refers to the extent to which a node acts as an intermediary in information transmission within a network. According to Table 3, the betweenness centrality of Qingdao City Culture and Tourism Bureau, Yantai City Culture and Tourism Bureau, and Wuhan City Culture and Tourism Bureau is higher than that of other tourism-related governmental Weibo accounts. This indicates that these nodes play a significant role as connectors between otherwise unconnected nodes, facilitating information flow within the social network. However, overall, 67% of tourism-related governmental Weibo accounts have a betweenness centrality below 30, and 4% even have a betweenness centrality of less than 1. Changyou Suqian, for instance, has a betweenness centrality of 0.083, suggesting that such accounts are on the periphery of the social network with limited capability to transmit information. They struggle to receive updates from peers or disseminate their own information effectively. Accounts with excessively high roles in information transmission intermediation lead to more network nodes communicating through them, hindering the formation of a well-interactive network. Additionally, despite having the highest in-degree, Tourism Shandong's betweenness centrality is only 42.531, which is largely due to its low out-degree.

4.1.3 Closeness Centrality Analysis in Social Networks

The closeness centrality analysis of social networks includes two indicators: in-closeness and out-closeness, which respectively quantify the independence of information dissemination and reception. The lower the in-closeness, the more likely it is that messages sent out will be received by others; the lower the out-closeness, the easier it is to access messages from others^[22]. The right side of Table 3 lists the top 10 accounts in terms of closeness centrality. Tourism Shandong, Tourism Beijing, and Fujian Provincial Department of Culture and Tourism have the lowest in-closeness, meaning their messages are more easily received and widely disseminated. A small number of Weibo accounts have an in-closeness of 80 or above, indicating that their published messages struggle to gain attention and spread, showing slightly poor independence in information dissemination and lower influence. Sixty-one percent of tourism-related official Weibo accounts have an out-closeness below 70, allowing them to quickly obtain messages from other tourism-related governmental Weibo accounts. Among them, Liuzhou City Culture, Radio, Television and Tourism Bureau has the lowest out-closeness, suggesting a high level of proactivity and initiative in following other tourism-related governmental Weibo accounts, possibly playing a significant boosting role. In contrast, Heze Culture and Tourism, Dali Tourism Release Hall, and Changyou Suqian have an out-closeness above 85, indicating poor independence in receiving information, making it difficult to access other messages and resulting in relatively isolated information flow.

Table 3 Top 10 Betweenness Centrality(BC) and Closeness Centrality

Weibo Account	BC	Weibo Account	In-closeness	Out-closeness
Qingdao	65.825	Shandong	52	63
Yantai	58.469	Fujian	53	57
Wuhan	54.335	Beijing	53	64
Fujian	51.267	Jinan	55	60
Jinan	47.493	Yantai	55	57
Xi'an	43.338	Qingdao	56	57
Shandong	42.531	Guizhou	59	66
Heilongjiang	42.276	Sichuan	59	68
Guizhou	40.753	Shannxi	60	63
Beijing	39.13	Wuhan	60	53

4.2 Network Density and Distance Analysis

Network Density Analysis. The value of network density ranges from 0 to 1, and the focus network density in this study is 0.566, indicating a relatively high level.

Network Distance Analysis. The network distance in this study is 1.436, meaning that the average distance from one node to another is 1.436, implying that message dissemination does not exceed two members.

From the above results, it can be seen that the social network formed by tourism-related governmental Weibo influencers has a high density and short network distance. This indicates a high degree of closeness in their interactions, good interactive conditions, potentially frequent cooperative behaviors, and convenient and rapid message transmission and diffusion among network members, forming an effective information network.

4.3 Cohesive Subgroup Analysis

The results of the cohesive subgroup analysis show that there are eight small groups within the social network, labeled as subgroups 1-8 from top to bottom. Subgroups 2, 5, and 7 include a larger number of members, while the remaining subgroups have fewer members. Overall, the formation of these subgroups is not restricted by geography; for example, subgroup 2 includes 13 members from five regions: Northeast, North China, Central China, South China, and Southwest. Similarly, subgroup 5 comprises 8 members from three regions: Northwest, South China, East China, and Southwest. This demonstrates that tourism-related governmental Weibo accounts engage well in cross-regional communication, breaking geographical barriers on the network platform.

E-I index is the ratio of subgroup density to overall network density and serves as a measure of the extent of clique formation within the network. Its range is $[-1, +1]$. A value closer to 1 indicates that relationships tend to occur outside of groups, meaning the extent of clique formation is smaller; a value closer to -1 signifies fewer relationships between subgroups and more intra-group relationships, indicating a greater extent of clique formation; a value closer to 0 suggests that relationships are more randomly distributed, with no clear clique structure. The E-I index for this network is 0.654, indicating a low level of clique formation within the network.

The relationship at the group level and the E-I indices of each subgroup indicate that, with the exception of the second subgroup which has an E-I index of 0.35, all others have values greater than 0.5. This further demonstrates that the interaction status among tourism governmental Weibo accounts is good. Not only is there no geographical restriction, but there is also no limitation due to small groups, as there are certain connections and interactions between different subgroups.

5 Influence Analysis

5.1 Entropy Weight Method

The quantity and quality of information obtained by individuals in decision-making determine the accuracy of those decisions. The fundamental idea behind the entropy weight method is to determine objective weights based on the variability of indicators^[21]. This paper will utilize the entropy weight method technique to calculate the weights for each influence index of tourism-related governmental Weibo accounts.

5.2 Influence Calculation

(1) Data Standardization

The influence indicators of governmental Weibo accounts selected in this paper include the number of followers, the number of fans, the number of likes, comments, and shares (referred to as "interactions"), in-degree, out-degree, betweenness centrality, and closeness centrality, totaling seven indicators. These indicators are coded as $X_1, X_2, \dots, X_7$. Since this study collected data from a total of 49 governmental Weibo accounts, $X_i = \{x_{i,1}, x_{i,2}, \dots, x_{i,49}\}$.

Assume that the standardized values of various indicators are $P_1, P_1, \dots, P_7$. For positive indicators, where larger data indicates higher influence, the standardization formula is:

$$P_{ij} = \frac{x_{ij} - \min(x_i)}{\max(x_i) - \min(x_i)}$$

For negative indicators, where larger data indicates lower influence, the standardization formula is:

$$P_{ij} = \frac{\max(x_i) - x_{ij}}{\max(x_i) - \min(x_i)}$$

(2) Calculate the Weights of Each Indicator

Calculate the information entropy for each indicator using the formula:

$$E_j = -\ln(n)^{-1} \sum_{i=1}^n \ln(p_{ij})$$

Calculate the weights of each indicator based on information: $W_i = \frac{1 - E_i}{k - \sum E_i}$ ($i=1, 2, \dots, k$). The results are shown in Table 4.

Table 4 Weights of Influence Indicators for Government Weibo Accounts in the Tourism Sector

	Following	Followers	LCS	In-degree	Out-degree	BC	CC
weights	0.138762	0.152961	0.154228	0.134523	0.132446	0.144163	0.1349726

(3) Calculate the Influence of Each Governmental Weibo Account

Based on the weights of each indicator and the actual values of each indicator for the Weibo accounts, calculate the influence of each governmental Weibo account:

$$P_j = Y_{1j}W_1 + Y_{2j}W_2 + \dots + Y_{7j}W_7$$

After normalization, the influence of each governmental Weibo account is shown in Table 5.

6 Correlation Analysis

By conducting a correlation analysis between the indicators of tourism-related governmental Weibo accounts and centrality metrics, the Pearson correlation coefficients are shown in Table 6. The analysis reveals that the number of followers is significantly positively correlated only with in-degree and betweenness centrality, indicating that increasing attention to peers in this social network can enhance their role as intermediaries in information dissemination, which also means it helps to increase their influence. The number of fans is significantly positively correlated with out-degree, betweenness centrality, and closeness centrality. The number of likes, comments, and shares (interactions) is significantly positively correlated with out-degree, betweenness centrality, and closeness centrality. The results indicate that a high number of followers, fans, and interactions can bring greater influence to tourism-related governmental Weibo accounts. This also means that tourism-related governmental Weibo accounts need to improve the quality of their posts to attract more fans, increase interactions, thereby enhancing their communication level and influence within the social network.

Table 5 Influence of Government Weibo Accounts in the Tourism Sector

Weibo Account	Influence	Weibo Account	Influence
Qingdao	7.17%	Chongqing	1.83%
Fujian	4.66%	Hangzhou	1.82%
Shandong	4.26%	Hubei	1.78%
Guangxi	3.97%	Ganzi	1.75%
Yantai	3.46%	Jiangxi	1.70%
Fuzhou	3.19%	Weifang	1.69%
Jinan	3.10%	Jilin	1.66%
Wuhan	2.98%	Hunan	1.54%
Shanghai	2.70%	Yunnan	1.32%
Hebei	2.55%	Changchun	1.25%
Nanning	2.41%	Tianjin	1.23%
Heilongjiang	2.38%	Inner Mongolia	1.13%
Guizhou	2.34%	Zhoushan	1.11%
Shannxi	2.25%	Guilin	1.10%
Jiangsu	2.25%	Suqian	1.01%
Xi'an	2.23%	Weihai	0.95%
Sichuan	2.20%	Chengdu	0.95%
Wuxi	2.10%	Tibet	0.94%
Xinjiang	2.00%	Hangshan	0.86%
Beijing	1.99%	Wenchuan	0.84%
Xiamen	1.98%	Dali	0.78%
Tengchong	1.94%	Urumqi	0.77%
Shijiazhuang	1.91%	Guiyang	0.75%
Hanzhong	1.86%	Heze	0.72%
Liuzhou	1.84%		

Table 6 Correlation Analysis of Various Indicators

	Followers	LCS	In-Degree	Out-Degree	BC	CC
Following	0.214	0.148	0.438**	0.217	0.285*	0.235
Followers		0.510**	0.217	0.522**	0.369**	0.554**
LCS			0.271	0.419**	0.499**	0.454**
In-Degree				0.652**	0.824**	0.643**
Out-Degree					0.796**	0.989**
BC						0.822**

**, *, indicates significant correlation at the 0.01 level (two-tailed) and 0.05 level (two-tailed), respectively.

7 Conclusion and Implications

7.1 Conclusion

This paper analyzes the social network and influence of tourism-related governmental Weibo accounts and has made the following findings:

(1) From the perspective of the social network: The development of tourism-related governmental Weibo accounts is uneven, with regional operational differences. According to the distribution of the selected 49 Weibo accounts, those in the East China and Southwest China regions account for 61%, while other regions have a smaller proportion. Centrality indicates that Weibo accounts with central nodes and greater influence are mainly distributed in the East China region. This can be attributed to the fact that the East China region covers more provinces; on the other hand, the awareness of operating tourism-related governmental Weibo accounts is better in the East China region, where some provinces have opened tourism-related governmental Weibo accounts at various levels from cities to counties. Network density and distance show that message transmission

among tourism-related governmental Weibo accounts can be quickly carried out within the network, with no more than two intermediary members involved, ensuring a higher degree of authenticity and objectivity in information transmission. Cohesive subgroups and E-I index indicate that interactions among tourism-related governmental Weibo accounts are not restricted by geographical locations or small groups, showing good interactivity.

(2) From the perspective of influence: There is a significant difference in influence, with the Qingdao Municipal Bureau of Culture and Tourism having the highest influence at 7.17%, while Heze Cultural Tourism has the lowest influence at 0.72%. This shows that different tourism-related governmental Weibo accounts place varying degrees of importance on their platform construction, and while most users have opened governmental Weibo accounts, many remain in the initial stage of operation, preventing them from realizing their full potential. Influence is related to regional attention. Among the top ten most influential accounts, Shandong Province accounts for four of them. Excluding isolated nodes, Shanxi, Liaoning, Hainan, Gansu, and Qinghai provinces rank relatively low in Weibo rankings. This indicates that Shandong Province pays more attention to the operation of tourism-related governmental Weibo accounts compared to other provinces.

7.2 Implications

(1) Each region should focus on developing its unique tourism resources. Although there are certain economic development differences between the East China and Southwest China regions, aside from the number of provinces, the quantities in these two regions are comparable. This indicates that tourism is an industry that does not rely excessively on economic advantages, and different tourists have varying demands for cultural landscapes. Therefore, each region should focus on developing and promoting its unique tourism resources to boost local tourism development.

(2) Each region should improve mechanisms for new media operations to create matrix advantages. Tailored development of tourism can promote local economic growth, and how to use new media to spread these tourism resources is a key issue. In this paper, based on the sample of influence rankings, Shandong Province has seven self-media accounts, which rank first among the provinces involved. The reason is that Shandong Province has formed a tourism-related matrix advantage. Therefore, local governmental Weibo operations should learn from high-influence users in the same field and also focus on creating provincial tourism matrix accounts to enhance overall influence.

(3) Tourism-related governmental Weibo accounts should focus on interacting with tourists to increase their influence. As for the tourism-related Weibo accounts mentioned in this paper, most have a fan base that does not match their likes, comments, and shares, with interactions often far less than the number of fans. Therefore, tourism-related governmental Weibo accounts should increase their interactions with tourists to boost likes, comments, and shares, thereby enhancing their influence.

References

- [1] Department of Finance, Ministry of Culture and Tourism. Domestic Tourism Data Situation in the First Half of 2024 [EB/OL].[2024-7-26].https://zwgk.mct.gov.cn/zfxxgkml/tjxx/202407/t20240726_954368.html.
- [2] Guangming Net. Weibo's Monthly Active Users Reached 586 Million, Further Deepening the Advantage in Social Interaction[EB/OL].[2023-04-19].https://digital.gmw.cn/2023-04/19/content_36507173.htm.
- [3] People's Culture and Tourism Research Institute. National Key Tourist Cities: Influence Index Report of Government Weibo Accounts in the Culture and Tourism Sector" [EB/OL].[2020-10-19].<http://www.peopletrip.cn/tj/60349.jhtml>.
- [4] Du Juan, Zhang Xinxiang, Zhang Weifeng, et al. Characteristics and Influence Analysis of Social Network Structure of Government Weibo Accounts in Tourism in China: Taking Shaanxi Province as an Example[J]. Management and

- Operation,2022,453(3):146-152.
- [5] Wang Ting. Research on Strategies for Shaping and Disseminating the Cultural Image of Ganzi Tourism through Government Weibo Accounts in the Tourism Sector[D]. Southwestern University of Finance and Economics,2022.
 - [6] Lu Chuan. Characteristic Analysis and Operational Effect Evaluation of Government Weibo Accounts in the Tourism Sector: Taking Provincial and Municipal Sina Official Tourism Weibo Accounts in China as Examples[J]. Tourism Research,2013,5(4):84-92.
 - [7] Zhang Xuemei, Wang Youcui. Research on Evaluation of Information Dissemination Efficiency of Government Weibo Public Opinion Based on Input-Output Analysis[J]. Journal of Intelligence Science,2020,38(5):43-48.
 - [8] Zhang Kun, Jiang Jing, Li Jing, et al. Research on Information Dissemination Efficiency of Government Weibo Based on Small World and Structural Holes Theory and Case Analysis[J]. Library,2018,287(8):91-96.
 - [9] Ding Li. Research on Optimization of Public Information Service Quality of Government Weibo Accounts in the Tourism Sector Based on Demand-Oriented Approach: Taking Shandong Tourism Government Weibo as an Example [J]. Modern Intelligence,2018,38(1):100-107.
 - [10] Shen Xuerui, Li Tianyuan, Qu Ying. Research on the Influence of Celebrity Endorsement on Brand Equity of Tourist Destinations: From the Perspective of Endorser's Credibility[J]. Economic Management,2016,38(4):138-148.
 - [11] Liu Hongchun, Li Shunca. Collaborative Governance: A New Approach to Comprehensive Regulation of Tourism Market[J]. Journal of Yunnan University (Social Sciences Edition),2021,20(1):128-136.
 - [12] Xiong, J., Feng, X., & Tang, Z. (2020). Understanding user-to-User interaction on government microblogs: An exponential random graph model with the homophily and emotional effect. Information Processing & Management, 57(4), N.PAG. <https://doi.org/10.1016/j.ipm.2020.102229>.
 - [13] Wang Suozhu, Ge Yan, Zhao Qian. An Evaluation Method of Government Weibo Influence Based on Rough Sets and Empirical Research[J]. Practice and Recognition of Mathematics, 2018, 48(22):76-84.
 - [14] Zhang Guofang, Xu Jianmin. Research on Network Information Dissemination and Node Influence Ranking from the Perspective of Positive Interaction[J]. Modern Intelligence,2023,43(5):90-103.
 - [15] Wu Jinchi, Yu Weijie. Research on the Influence of Government Weibo Based on Social Network Analysis[J]. Journal of Intelligence Science, 2021,39(2):78-85.
 - [16] Liu Jun. Practical Guide to UCINET Software for Whole Network Analysis (2nd Edition) [M]. Shanghai: Shanghai People's Publishing House,2014:126-127.
 - [17] Liu Hong. Empirical Analysis of Information Exchange on College Microblogs from the Perspective of Attention [J]. Journal of Intelligence Science, 2017, 35(1): 148-152.
 - [18] Zhu Qinghua and Li Liang. Social Network Analysis Method and Its Application in Information Science [J]. Theory and Practice of Information, 2008, No. 175(2): 179-183, 174.
 - [19] Fei Kangyu and Zeng Yueliang. Research on the Social Structure and Influence of Public Library Microblog Opinion Leaders Under SNA Perspective [J]. Journal of Intelligence Science, 2023, 41(2): 69-78.
 - [20] Li Changling, Ji Xuemei, Zhi Ling. Analysis of Interdisciplinary Degree Based on E-I Index—Taking Five Disciplines Such as Information Science as Examples [J]. Library and Information Work, 2011, 55(16): 33-36.
 - [21] Huang Yan, Xin Zhaozhen, Li Weidong. Research on the Information Dissemination Network of University Communist Youth League in the New Media Era: A Perspective Based on Social Network Analysis [J]. Chinese Youth Social Sciences, 2021, 40(4): 36-44.
 - [22] Zhang Yu, Ren Fubing. Evaluation Research on Think Tank's Network Communication Power Based on AHP-Entropy Method [J]. Information Science, 2017, 35(3): 110-116.