Differences in Regional Media Responses to China's Holistic Tourism: Big Data Analysis Based on Newspaper Text

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ABSTRACT Holistic tourism is an important strategy to promote tourism development and has been widely concerned by the academic community. Newspaper media is an important thought output port of the local government. Newspaper media reports can reflect each regional response to the holistic tourism strategy to a certain extent. By investigating newspaper text using big data analysis, the differences in regional media responses to holistic tourism provide new research perspectives for scholars in the fields of global information, big data, and tourism. These differences also provide reference for policymakers in measuring the response of international media reports. Based on the full-text database of China National Knowledge Infrastructure newspaper, this study analyzes the situation of "holistic tourism" reported by different regional newspapers in China using content analysis and bibliometrics. From the perspectives of three dimensions of attention, importance, and focusing degrees, the coverage time of newspaper media in the eastern and the central regions of China is earlier than that in the western China. However, the newspaper media reports have increased in the western region after some years. From the media response index, China's holistic tourism media response area has been increasing annually and rapidly expanding to 31 provinces in Mainland China, showing the characteristics of the east central part of the country being higher than the west. By designing the concept of media response index, this study provides a new research perspective for scholars from different fields and enriches the measurement and the theoretical systems of media response.

INDEX TERMS Big data, holistic tourism, media response, response index, text mining.

I. INTRODUCTION

The proposal of China's holistic tourism strategy is in line with the new normal of social development. This strategy can promote the transformation of traditional tourism to open "tourism +." After its proposal, holistic tourism has been widely concerned by people from all walks of life and gradually developed into a national tourism development strategy. By investigating newspaper text using big data analysis, this study objectively explains the regional differences and temporal and spatial evolution of newspaper media's response to the holistic tourism strategy, which can provide a reference index for the evaluation of media work response across

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regions. From the perspective of newspaper media reports, this study reflects the promotion of China's provincial and regional tourism strategies and provides a new dimension for regional promotional assessment of the implemented regional tourism strategy.

At present, local and international scholars have adopted various research methods, such as political economy, statistics, and geography, to conduct in-depth research in tourism development. For example, Tarik Dogru and Umit Bulut (2018) analyzed the relationship between economic growth and tourism development using the panel data analysis method. This method increases the validity of econometric model estimation by increasing the degree of freedom. They found that tourism development supports the national economy in terms of employment promotion, unemployment

reduction, and tax increase [1]. Raoul Bianchi (2018) reviewed political economy research in tourism development. He found that under globalization, the application of political economics in tourism research has broader research prospects [2]. In China, tourism scholars have conducted considerable research on China's tourism development using different analyses, such as the DEMATEL, Markov chain estimation, and double-difference methods. For example, Zeng Yuhua and Chen Jun (2018) used the double-difference method to analyze the heterogeneity of tourism development. They utilized this method based on hypothetical conditions to establish a model for verification and analysis. They found that the improvement of urban transportation capacity has a positive effect on local tourism development, but the effect is heterogeneous due to the different construction times of the transportation system [3]. Lu Xiaoli *et al.* (2017) conducted an empirical study on rural tourism development based on the DEMATEL method, which is an empirical analysis method that establishes an influencing factor model by studying the relationship among various elements in a system [4].

Tourism research based on text big data mainly focuses on fields such as text mining, model construction, and application mode. For example, Ines Alegre and Jasmina Berbegal Mirabent (2016) used a content analysis program to analyze case data, confirming that value proposition, appropriate market research, and stakeholder participation are three success elements of a tourism enterprise [5]. Wang Ling and Dai Qianjin (2018) obtained distribution data of tourism passenger flow in the Shanghai tourism early warning system. They analyzed information using various time and space dimensions. The spatial agglomeration characteristics of tourism passenger flow are obvious due to the influence of different factors, such as resources, transportation, and services [6]. Eric Tchouamou Njoya and Neelu Seetaram (2017) confirmed the positive effect of tourism on poverty reduction by building a general equilibrium model [7]. Liu Yi *et al.* (2017) established a tourism destination emotional evaluation model based on online big data by defining the tourism exclusive lexicon, semantic logic rules, and emotional multiplier, confirming the availability of tourism big data and providing a scientific basis for the follow-up theoretical promotion and practical application [8]. Richard N.S. Robinson *et al.* (2018) studied data-driven analysis of the tourism market segment. The use of big data in the tourism industry is believed to be highly important to tourism stakeholders and researchers [9]. Zhang Bo and Deng Haokun (2019) proposed that excessive dependence on big data must be avoided and big data must be used as a tool to serve society by combining related articles and their relationship with big data application [10].

Existing research has focused on the aspects of holistic tourism, such as scientific connotation, implementation path, and significance. For example, Zeng Bowei (2016) proposed that holistic tourism is not a ''pure theory'' but a practical guiding paradigm derived from practical problems [11]. Shi Peihua (2018) believed that the proposal and development of holistic tourism has led to the progress in the current era and supplemented the development of tourism theory. Research on industrial integration and urban–rural governance in the context of holistic tourism has also been conducted [12]. Yang Donglin (2018) planned rural development from the perspective of the entire region; regarded the rural as the cornerstone of holistic tourism; and proposed the promotion strategies of the overall planning, classified implementation, benign interaction, improvement of infrastructure, and innovation of business types in the entire region according to the problems encountered in the rural development [13]. Zhu Baoli and Liu Xiaoying (2018) believed that poverty-stricken areas can overcome their current situation using holistic tourism, but they must first solve social problems, such as accurate target positioning, cultural protection, and difficulties experienced by farmers when entering the market [14]. Zhang Hui and Yue Yanxiang (2016) showed that industrialization has rapidly promoted China's economic status to become a world power. However, unbalanced development is still observed between urban and rural areas and between the east and the west. Holistic tourism emerged as a timely solution, which is highly important to the development of underdeveloped areas [15]. With regard to the development of China's tourism industry, Ning Zhizhong (2017) proposed that the service quality of the tourism industry in the era of holistic tourism requires transformation from scenic spots to the entire process of promoting the common development and governance of urban and rural areas [16].

Scholars have obtained rich research results using the connotation interpretation, path construction, and other aspects of holistic tourism. In-depth exploration of tourism development has been conducted through empirical analysis, statistical analysis, big data analysis, and other research methods; specifically, in terms of text big data. However, relevant evaluation on the response of newspaper media reports to holistic tourism is lacking, and the research on the media reports of this program remains small. Existing research methods of tourism development are mostly from the perspective of tourism economic development, thereby lacking of relevant research from the perspective of newspaper media reports. To address these research gaps, this study designs a media response index to evaluate the response of media reports, compares and analyzes the newspaper media response of holistic tourism in various regions of China, and provides a reference dimension for the evaluation system of the holistic tourism strategy. The media response index of research and design has great reference value for the global academic community and social practice. On the one hand, the concept of media response index can enrich the theoretical research system of informatics, tourism, management, and economics and provide new research perspectives and ideas for scholars in different fields around the world. On the other hand, the media response index serves as a reference dimension to improve the industry evaluation standard system of the press and communication industry. The application and promotion of this concept is conducive to invigorating the global economy with the press and communication industry as the output.

TABLE 1. Evaluation indicators of newspaper media response index.

Evaluation target	Index symbol	First-level index	Index symbol	Second-level indicators	Index meaning
Response index of newspaper media to "holistic tourism"	$x^a(t)$	Attention degree	$s^a(t)$	Number of subject reports	Number of newspaper reports related to subjects in the sample period
			$r^a(t)$	Total number of reports	Total number of reports published in newspapers during the sample period
	$y^a(t)$	Importance degree	$g^a(t)$	General layout of newspaper	Total number of newspaper pages
			$c^a(t)$	Layout of the article	Placement of the article related to theme in the newspaper
	$z^a(t)$	Focusing degree	$p^a(t)$	Frequency of subject words	Proportion of subject words in key words
			$f^a(t)$	Total word frequency	Total word frequency of all keywords

II. METHOD AND DATA SOURCES

A. METHOD

This study uses literature measurement and content analysis to evaluate the media response to holistic tourism. The literature measurement method is used to analyze newspaper media's response degree. Frame theory proposes that people need to rely on a certain frame structure to spread information in the process of cognizing the world. In the newspaper media, the frame structure is presented in the form of text, which reflects the present situation according to the number of reports and the content of the text, thereby affecting the audience's perception. Therefore, based on the framework theory, this article sets the evaluation of response level as three first-level indicators of awareness, importance and focus. As shown in Table 1, newspaper media's response index for "holistic tourism" is related to six secondary indicators. First, the analysis process divides the newspaper media's response into three dimensions, namely, attention, importance, and focusing degrees, and then calculates and normalizes them. Second, the arithmetic average of these three dimensions is used to obtain the response index. Content analysis is used to dig deeper into the content of newspaper texts and analyzed content with the help of the "Parts of Speech Recognition and Word Frequency Statistics" section of the ROST News Analysis Tool content analysis software to calculate similar words and obtain the topic word frequency of "holistic tourism." The total word frequency after word

segmentation is used to analyze the focusing degree of newspaper media reports.

1) ATTENTION DEGREE

The attention degree refers to the proportion of newspaper media and the reports related to holistic tourism since its introduction. As shown in formula (1), *a* represents the area code, *t* represents the year, $s^a(t)$ represents the number of newspaper reports related to "holistic tourism" in a certain period, and $r^a(t)$ represents the total number of newspaper reports published in that period.

$$x^a(t) = [s^a(t)]/[r^a(t)]. \qquad (1)$$

2) IMPORTANCE DEGREE

The importance degree refers to the relative importance of the layout of the newspaper's coverage of holistic tourism since its introduction. The closeness of the report to the front page headline proves that the newspaper has placed importance on holistic tourism. As shown in formula (2), $g^a(t)$ represents the total pages of the newspaper, and $c^a(t)$ represents the page number of the relevant report in the newspaper.

$$y^a(t) = [g^a(t) - c^a(t) + 1]/[g^a(t)]. \qquad (2)$$

3) FOCUSING DEGREE

The focusing degree refers to the proportion of keywords in a newspaper's holistic tourism report to its total keywords since the concept of holistic tourism was proposed. A larger ratio corresponds to a higher relevance of the article contents in the report. Moreover, the larger ratio reflects an increased focus on holistic tourism. As shown in formula (3), $p^a(t)$ represents the frequency of keywords, and $f^a(t)$ represents the frequency of all keywords.

$$z^a(t) = [p^a(t)]/[f^a(t)]. \qquad (3)$$

4) RESPONSE INDEX

The newspaper media response index refers to the comprehensive degree of the three dimensions of attention, importance, and focusing degrees shown by a newspaper reporting related-topic articles. In layperson's terms, this index is the media's positive degree and main attitude toward related subject literature reports. The paper establish a holistic tourism response index, which aims to evaluate the holistic tourism reports of newspapers and media in various regions. The purpose of the response index is to measure the response of media in different regions to the topic of "global tourism" in order to provide policy makers and media workers with reference indicators for policy development. To incorporate the differences in factors, such as page position, number of reports, and topic focus, three dimensions and six indicators are selected to design the indicator system. In cases that this paper is not able to obtain the total pages of some newspapers, the average of the authoritative provincial daily newspapers is used.

This study calculates the response index of covering the theme of holistic tourism using the newspaper media classified by the provincial administrative region included by the China National Knowledge Infrastructure (CNKI). From 2013 to 2018, the response degree of media in provincial administrative regions to the entire tourism industry is varied. In this study, the different response degrees of relevant provincial local governments to this initiative are reflected to some extent. Formula (4) shows the calculation of response index. $R_j I^a(t)$ is the index after standardization, and $RI^a(t)$ is the response index.

$$R_j I_i^a(t) = \frac{k_i^a(t) - \min_{1 \le j \le n} \{k_j^a\}}{\max_{1 \le j \le n} \{k_j^a\} - \min_{1 \le j \le n} \{k_j^a\}}, \quad k = x, y, z. \quad (4)$$

The range of response index of multiregional newspapers is $RI^a(t) \in [0, 1]$. To clearly explain the regional newspaper media's response to holistic tourism reports, various provisions are introduced to this range as follows. $0 \le RI^a(t) \le 0.3$ means that the response degree of the regional newspaper to the holistic tourism report is a fourth-level response. If the value is 0, then the response degree is the lowest. $0.3 < RI^a(t) \le 0.5$ means that the response degree of the regional newspaper to the holistic tourism report is a third-level response. $0.5 < RI^a(t) \le 0.8$ means that the response degree of the regional newspaper to the holistic tourism report is a second-level response. $0.8 < RI^a(t) \le 1.0$ means that the response degree of the regional newspaper to the holistic tourism report is a first-level response. If the value is 1, then the response degree is the highest.

B. DATA SOURCES

The research data used in this study are from the CNKI newspaper full-text database. CNKI is China's largest database of academic achievements and one of the most authoritative academic journal websites. Newspaper media, as an important output of Chinese academics, journalism, and politics, are located in Chinese provinces, municipalities, or autonomous regions. The influence of newspaper media is undeniable. Therefore, the selection of the CNKI database ensures the comprehensiveness and authority of the data.

The authors search for the theme of "holistic tourism" in the newspaper full-text database of CNKI. The relevant newspaper articles that can be queried from 2013 to 2018 are classified and sorted, including the data of 31 provinces, municipalities, or autonomous regions in the Mainland China. Hong Kong, Macao, and Taiwan are excluded from this study due to data inclusion. From January 1, 2013 to December 31, 2018, CNKI has collected 15,894 newspaper documents with the theme of holistic tourism, including 2,011 academic documents and 13,883 non-academic documents. The database is processed as follows. First, according to the selection rules used to determine the articles that require analysis, the authors establish a database of holistic tourism newspaper literature. Second, the authors assign the sam-

ples with specific numerical values according to the year of promulgation. Third, the authors statistically analyze the database and mine existing academic literature according to the designed mathematical model. Fourth, the authors provide a summary of the statistical results according to the response index and obtain the response speed and degree of holistic tourism in all regions of the country.

III. DATA ANALYSIS

A. ATTENTION DEGREE ANALYSIS

Table 2 shows the attention degree indexes of different regional newspaper media in China. From 2014 to 2015, China's regional newspapers gradually showed a difference in the attention degrees toward holistic tourism. From 2016 to 2018, the newspaper reports of various regions showed stepped faults. Except for the top-ranked regions, the attention degrees of the remaining regions were below 0.7 and further dropped to below 0.5 in 2018. The specific data analysis of the holistic tourism attention degree index was indicated as follows. First, the regions with the highest attention degrees from 2013 to 2018 were Hubei, Anhui, Shaanxi, Hainan, Hainan, and Chongqing. Second, regional newspaper media of Beijing, Shanghai, Guangzhou, and Tianjin exhibited a low holistic tourism attention degree indexes, because the developed regions were primarily dependent on holistic tourism strategies. Third, with regard to the newspaper and media reports in the central and the western regions, Xinjiang, Tibet, and Qinghai exhibited low holistic tourism attention degree indexes, whereas Sichuan, Chongqing, Hunan, Shaanxi, and Guizhou exhibited high holistic tourism attention degree indexes. The main reasons for the gradual increase of the tourism attention degree index in the central and the western regions were their geographical locations and economic levels. The central and the southwestern regions were the main strategic positions for China's poverty alleviation. The goal of poverty alleviation could be promoted by vigorously developing holistic tourism.

B. IMPORTANCE DEGREE ANALYSIS

Table 3 shows the importance degree indexes of different regional newspaper media in China. In 2013, Shandong Province newspapers reported the highest tourism importance degree index, and over time, regions with higher importance degrees gradually appeared in the central and the western regions, such as Xinjiang, Chongqing, and Yunnan. The specific data analysis of the holistic tourism importance index was indicated as follows. First, the regions with the highest importance degree from 2013 to 2018 were Shandong, Guizhou/Hebei, Hunan, Shandong, Tibet, and Guangdong/Henan. Second, although newspaper reports on holistic tourism in the western region appeared later than those in the eastern region, the holistic tourism importance degree index in certain central and western regions showed an upward trend. For example, the holistic tourism importance degree

TABLE 2. Holistic tourism attention degree indexes.

Region	2013	2014	2015	2016	2017	2018
Anhui	——	1.000*	——	0.155	0.210	0.140
Beijing	0.000*	0.000*	0.000*	0.084	0.206	0.080
Fujian	——	——	——	0.027	0.483	0.225
Gansu	——	——	——	0.110	0.500	0.199
Guangdong	——	——	0.295	0.019	0.108	0.000*
Guangxi	——	——	——	0.142	0.263	0.285
Guizhou	——	0.512	0.077	0.306	0.276	0.082
Hainan	——	——	0.810	1.000*	1.000*	0.098
Hebei	——	0.182	——	0.103	0.375	0.244
Henan	——	0.713	0.164	0.121	0.329	0.131
Heilongjiang	——	——	——	0.148	0.562	0.146
Hubei	1.000*	0.205	0.477	0.002	0.104	0.200
Hunan	——	——	0.278	0.238	0.571	0.187
Jilin	——	0.628	0.478	0.029	0.256	0.174
Jiangsu	——	——	0.626	0.066	0.285	0.140
Jiangxi	——	——	0.208	0.009	0.297	0.150
Liaoning	——	——	0.199	0.236	0.302	0.114
Inner Mongolia	——	——	——	0.166	0.632	0.123
Ningxia	——	——	——	0.357	0.391	0.228
Qinghai	——	——	——	0.006	0.138	0.202
Shandong	0.992	0.151	——	0.139	0.223	0.166
Shanxi	——	——	——	0.035	0.354	0.236
Shaanxi	——	0.536	1.000*	0.187	0.566	0.178
Shanghai	——	——	——	0.000*	0.000*	——
Sichuan	——	0.751	0.739	0.128	0.318	0.346
Tianjin	——	——	——	——	0.072	——
Tibet	——	——	——	——	0.195	0.345
Xinjiang	——	0.328	——	0.168	0.215	0.067
Yunnan	——	0.435	——	0.128	0.079	0.199
Zhejiang	——	——	0.007	0.086	0.518	0.123
Chongqing	——	——	——	0.038	0.477	1.000*

[a] The symbol "——" means that no report related to the theme of holistic tourism exists in the newspapers included by CNKI in the specific year.

[b] Owing to the normalization of the data, "0.000" means that the province attaches the lowest attention degree among all the provinces in the specific year. "1.000" means that the province attaches the highest attention degree among all the provinces in the specific year.

TABLE 3. Holistic tourism importance degree indexes.

Region	2013	2014	2015	2016	2017	2018
Anhui	——	0.778	——	0.806	0.674	0.207
Beijing	0.000*	0.580	0.739	0.792	0.646	0.834
Fujian	——	——	——	0.968	0.621	0.803
Gansu	——	——	——	0.484	0.732	0.082
Guangdong	——	——	0.800	0.591	0.761	1.000*
Guangxi	——	——	——	0.634	0.397	0.639
Guizhou	——	1.000*	0.857	0.718	0.498	0.541
Hainan	——	——	0.000*	0.790	0.595	0.803
Hebei	——	1.000*	——	0.919	0.413	0.678
Henan	——	0.667	0.000*	0.836	0.638	1.000*
Heilongjiang	——	——	——	0.871	0.601	0.000*
Hubei	0.429	0.778	0.429	0.000*	0.426	0.905
Hunan	——	——	1.000*	0.871	0.525	0.268
Jilin	——	0.778	0.286	0.968	0.571	0.115
Jiangsu	——	——	0.714	0.774	0.833	0.956
Jiangxi	——	——	0.857	0.581	0.702	0.115
Liaoning	——	——	0.857	0.910	0.015	0.631
Inner Mongolia	——	——	——	0.816	0.553	0.395
Ningxia	——	——	——	0.645	0.836	0.711
Qinghai	——	——	——	0.484	0.824	0.803
Shandong	1.000*	0.556	——	1.000*	0.000*	0.614
Shanxi	——	——	——	0.512	0.357	0.446
Shaanxi	——	0.000*	0.857	0.781	0.222	0.625
Shanghai	——	——	——	0.871	0.426	——
Sichuan	——	0.778	0.952	0.242	0.608	0.574
Tianjin	——	——	——	——	0.745	——
Tibet	——	——	——	——	1.000*	0.995
Xinjiang	——	0.778	——	0.887	0.929	0.970
Yunnan	——	0.778	——	0.806	0.872	0.947
Zhejiang	——	——	0.857	0.871	0.420	0.750
Chongqing	——	——	——	0.871	0.904	0.938

[a] The symbol "——" means that no report related to the theme of holistic tourism exists in the newspapers included by CNKI in the specific year.

[b] Owing to the normalization of the data, "0.000" means that the province attaches the lowest importance degree among all the provinces in the specific year. "1.000" means that the province attaches the highest importance degree among all the provinces in the specific year.

indexes of Tibet, Chongqing, and Fujian were above 0.6. Third, according to the overall situation of newspaper media reports of 31 provincial-level administrative units in Mainland China, the start of holistic tourism in 2016 became an important theme for newspaper media reports in most regions. Shanxi, Gansu, and Guangxi exhibited low importance degree indexes of holistic tourism. By contrast, Yunnan, Chongqing, and Xinjiang exhibited high importance degree indexes of holistic tourism.

C. FOCUSING DEGREE ANALYSIS

Table 4 shows the focusing degree indexes of different regional newspaper media in China. Although newspaper-related media reports in the central and the western regions appeared later than those in the eastern region, the overall focusing degrees of regional tourism in these regions were higher than that in the eastern region. The specific data analysis of the holistic tourism focus degree index was indicated as follows. First, the regions with the most focusing

TABLE 4. Holistic tourism focusing degree indexes.

Region	2013	2014	2015	2016	2017	2018
Anhui	——	0.686	——	0.456	0.099	0.288
Beijing	0.000*	0.511	0.184	0.402	0.466	0.728
Fujian	——	——	——	1.000*	0.464	0.700
Gansu	——	——	——	0.456	0.598	0.446
Guangdong	——	——	0.893	0.245	0.640	1.000*
Guangxi	——	——	——	0.066	0.452	0.589
Guizhou	——	0.727	0.520	0.366	0.397	0.731
Hainan	——	——	0.325	0.518	0.657	0.593
Hebei	——	0.923	——	0.426	0.424	0.786
Henan	——	0.364	0.000*	0.537	0.550	0.637
Heilongjiang	——	——	——	0.484	0.251	0.673
Hubei	1.000*	0.857	1.000*	0.442	0.361	0.666
Hunan	——	——	0.236	0.442	0.629	0.774
Jilin	——	1.000*	0.325	0.902	0.452	0.794
Jiangsu	——	——	0.520	0.004	0.611	0.722
Jiangxi	——	——	0.743	0.811	0.299	0.806
Liaoning	——	——	0.743	0.395	0.567	0.817
Inner Mongolia	——	——	——	0.516	0.412	0.678
Ningxia	——	——	——	0.000*	0.498	0.000*
Qinghai	——	——	——	0.575	0.327	0.987
Shandong	0.439	0.750	——	0.517	0.486	0.859
Shanxi	——	——	——	0.254	0.519	0.680
Shaanxi	——	0.400	0.628	0.205	0.465	0.722
Shanghai	——	——	——	0.506	0.513	——
Sichuan	——	0.818	0.265	0.285	0.591	0.864
Tianjin	——	——	——	——	1.000*	——
Tibet	——	——	——	——	0.653	0.718
Xinjiang	——	0.000*	——	0.674	0.577	0.786
Yunnan	——	0.857	——	0.484	0.000*	0.659
Zhejiang	——	——	0.325	0.611	0.589	0.986
Chongqing	——	——	——	0.727	0.544	0.903

[a] The symbol "——" means that no report related to the theme of holistic tourism exists in the newspapers included by CNKI in the specific year.

[b] Owing to the normalization of the data, "0.000" means that the province attaches the lowest focusing degree among all the provinces in the specific year. "1.000" means that the province attaches the highest focusing degree among all the provinces in the specific year.

degree from 2013 to 2018 were Hubei, Jilin, Hubei, Fujian, Tianjin, and Guangdong. Second, Jiangxi, Jilin, Zhejiang, and Hebei exhibited high holistic tourism focusing degree indexes, whereas Ningxia, Shanghai, and Tibet exhibited low holistic tourism focusing degree indexes. Third, the regions with high focusing degrees from 2013 to 2015 were mostly in the eastern and the central regions. From 2016 to 2018, the holistic tourism focusing degree indexes of newspapers in the western region began to rise. For example, the holis-

tic tourism focusing degree index of Xinjiang in 2016 was 0.674 (ranking fifth), that of Tibet in 2017 was 0.653 (ranking third), and that of Qinghai in 2018 was 0.987 (ranking second).

D. RESPONSE INDEX ANALYSIS
1) ANALYSIS OF THE EVOLUTION OF TIME AND SPACE
From the perspective of temporal and spatial changes, the media response to the reports of holistic tourism in 31 provincial administrative regions of Mainland China exhibited the following three characteristics.

First, the number of media response areas of holistic tourism was increasing annually and rapidly expanding to 31 provinces in Mainland China. In 2013, only three newspapers in Beijing, Shandong, and Hubei responded to holistic tourism. In 2014, this number increased to 12 provinces, including Jilin, Hebei, and Yunnan. In 2015, this number further increased to 14 provinces. From 2016 to 2018, newspapers in most parts of China responded to the theme of holistic tourism. Among them, the newspapers in 31 provinces had positive responses toward holistic tourism.

Second, the newspaper media in the eastern provinces of China responded early to holistic tourism. In 2013, the newspapers and media of three provinces in China reported holistic tourism. Two of these provinces, namely, Beijing and Shandong, were located in the east. Subsequently, the newspaper media in the central and the western regions of China gradually exhibited a wide range of responses.

Third, from the perspective of regional response, the response index of newspaper media in the central and the western regions of China gradually exceeded that of the eastern China since 2014. The newspaper media in the central, the southwest, and the northwest regions of China exhibited considerable primary and secondary response areas toward holistic tourism, whereas the eastern, the southeast, and the northeast regions exhibited considerable tertiary and quaternary response areas.

2) RESPONSE INDEX CHANGE ANALYSIS
From the perspective of the response degree of holistic tourism, the newspaper media response index showed an annual increasing trend, which was observed in three aspects.

First, the holistic tourism response index of the 31 provincial administrative regions in Mainland China gradually increased. In 2013, only Shandong and Beijing were the provinces with the second or higher level of response in the reports of Chinese newspaper media on holistic tourism. From 2014 to 2015, this number increased to eight provincial administrative regions. By the end of 2018, more than 10 provincial administrative regions exhibited second or higher level of response.

Second, the media of Mainland China reported that the theme of holistic tourism became a part of the rapid spread of
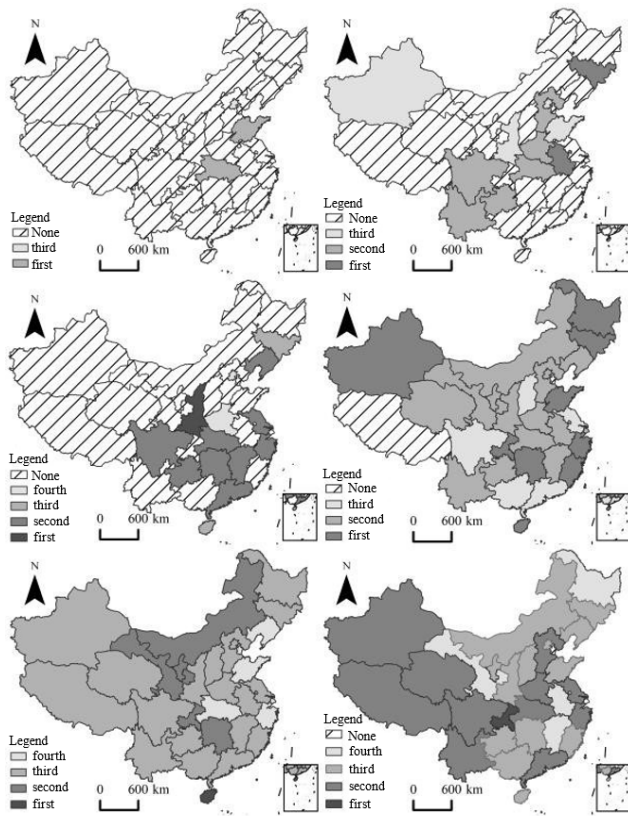
FIGURE 1. Response index of China's newspaper media coverage of holistic tourism from 2013 to 2018.

the policy across the provinces. In 2013, only a few scattered newspapers responded to the theme of holistic tourism at a low level. From 2014 to 2018, the level of response increased with the increase in the number of regions. This situation could reflect the increasing focus of newspaper media in all provinces and regions on holistic tourism and show that this policy plays an important role in the planning of all provinces and regions.

Third, the region with the highest newspaper media response index of holistic tourism shifted from the eastern to the western China. From 2013 to 2018, the regions with the highest media response index of "holistic tourism" were Shandong *RI (2013) = 0.810*, Anhui *RI (2014) = 0.821*, Shaanxi *RI (2015) = 0.828*, Hainan *RI (2016) = 0.769*, Hainan *RI (2017) = 0.751*, and Chongqing *RI (2018) = 0.947*. The region with the highest response index from 2016 to 2017 was the major tourism province of Hainan. Overall, a high holistic tourism response index was observed in China.

IV. CONCLUSION

First, this paper analyzes the newspaper reports of China's holistic tourism from three dimensions. The results show that the attention, importance, and focusing degrees of the holistic tourism newspaper reports from 2013 to 2018 have the following four characteristics. First, from the perspectives

of attention, importance, and focusing degrees, the eastern and the central regions have earlier reports than the western region. Second, after some years, the western region's newspaper media coverage of holistic tourism has increasing attention, importance, and focusing degrees. Third, from the perspective of time axis, the three indicators have been gradually upgraded, whereas from the perspective of spatial evolution, the scope has been rapidly expanded. Fourth, the time and space differences of indicators in different regions are influenced by geographical, economic, and social factors. In addition to the natural factors brought by regional and historical reasons, the differences in development strategies and long-term planning of each region have an impact on the three dimensions of newspaper media reports.

According to the analysis results of the three different dimensions, this study makes an in-depth interpretation of the response index of China's newspaper media coverage of holistic tourism from 2013 to 2018 and draws the following conclusion. Based on the spatiotemporal evolution, the study on China's global media response index indicates that the response area of China's holistic tourism media has been increasing annually and rapidly expanding to 31 provinces. The response of newspapers in all provinces (i.e., municipalities and autonomous regions under the central government) to the holistic tourism report has appeared earlier in the eastern region. However, the response index of the central and western regions has gradually exceeded that of the eastern region since 2014. Based on the response index change, this study explores the response index of the newspapers in the whole region and shows that the response index of the 31 provincial regions has increased annually. The media coverage of all the regional tourism newspapers has rapidly spread the policy implementation throughout the country. The region with the highest newspaper media response index of holistic tourism has shifted from the eastern to the western regions of China and shown a higher characteristic in the east central regions than in the western region.

By analyzing the response index of newspaper reports in China's provinces (i.e., municipalities and autonomous regions), this study investigates the reports of newspaper media from three dimensions of attention, importance, and focusing degrees and provides the following three contributions to practice and theory. First, based on the response index reflecting the follow-up situation of media reports in various regions, this study provides a new reference dimension for the improvement of the response measurement system of media and provides help to the acceleration of the establishment of the media report response system in the current media era. Second, from the aspect of academic research, this study provides a new research perspective for scholars in the fields of information science, tourism, management, and economics and promotes the construction of the theoretical system of media response measurement. Third, the design and proposal of response index provide a new audit index for the regional comparison of media response and serve as a reference for policymakers.

V. DISCUSSION

A. MEDIA RESPONSE INDEX REFLECTS THE PROMOTIONAL DEGREE AND ATTENTION ATTITUDE OF RELEVANT WORK TO SOME EXTENT

The media is a barometer and watchtower of regional hotspots and developmental focuses. Media attention reflects the central work of local governments and society to some extent. The authors take holistic tourism as an example. By investigating the response of provincial newspapers and media in CNKI to holistic tourism, the overall situation of the program implementation in various regions is observed from the national issuance of relevant holistic tourism documents in the past six years. The authors also observed the promotion of this program by provincial governments in various regions. The reason for these observations is that the newspaper levels included by CNKI comprise provincial organ newspapers in all regions. The Beijing area is home to the national organ and China's most authoritative newspaper, which represents the attitude of the government to promote the deployment of relevant work.

B. REGIONAL DIFFERENCES IN MEDIA RESPONSE PROVIDE A COMPARATIVE REFERENCE FOR POLICYMAKERS

Different regional responses to the national deployment program provide a comparative reference for policymakers in different regions. From the perspective of response degree, the summary of the strategy implementation is provided, thereby improving the planning for the future regional development. With regard to regional response to holistic tourism, media reports are low in certain provinces. This low response is attributed to the different developmental focuses of developed regions. However, this low response is also attributed to the limited resources of developing regions hindering the rapid propagation of tourism development. Thus, these regions need to adjust the regional strategy in time, make correct positioning, and grasp the opportunity of regional economic development. In holistic tourism, from academic discussions to the overall response of the entire country, obvious differences exist among regions in each year. The relative central work of holistic tourism development is obvious in the development of a regional economic structure.

C. MEDIA RESPONSE INDEX IMPROVEMENT PROVIDES A SUPERVISION STRATEGY APPLICABLE FOR PERFORMANCE DYNAMIC ASSESSMENT

The response index of local media reflects the deployment and promotional degrees of important national work regions and attention degree on the region to some extent. By applying big data technology in media response, the process and effect of promoting relevant work in the region can be monitored within a certain time range. The media response index can be used as a superior monitoring method. A competent department provides an "early response warning feedback adjustment" mechanism to promote the national major decision-making and deployment. The department also

provides a scientific reference for the relevant supervision departments. This study uses newspaper media and holistic tourism work as examples to launch the research proposition of a "media response index," which provides a reference for other scholars.

D. FUTURE RESEARCH ON MEDIA RESPONSE INDEX BASED ON MULTIMEDIA LINKAGE RESPONSE

The degree of social response cannot be accurately judged by government-owned newspapers, because the national and provincial newspapers and media included in CNKI show the deployment and promotion of relevant work from the central government to local governments and reflect the response of local governments. In addition, response of traditional media, such as TV, radio, and periodicals and new media, such as self-media, mobile videos, news pushes, WeChat, and microblog have not been covered. These series of media responses are comprehensively evaluated, and an evaluation index of multimedia linkage response is established. This study objectively reflects the attention attitude of the governments and the society to certain work, accurately positions the promotional and social reflection degrees of the work, and provides support to the state with regard to obtaining improved information feedback on major decision-making and deployment.

E. MEDIA RESPONSE INDEX GLOBAL APPLICATION TRENDS NEED A FULLY CONSIDER THE ACTUAL NATIONAL CONDITIONS OF DIFFERENT COUNTRIES

This paper analyzes the characteristics of media work by designing a media response index. The purpose of the response index is to analyze the spatiotemporal dynamic changes of media response from the perspective of quantitative indicators. Although the media response index formula has not yet included all the factors that affect the media response, the research suggests that the most important contribution of the media response index is the development of directionality. The study takes the mainland of China as an example to explain the application of the response index, which provides a scientific verification for the use of the method and indicators. Regarding the international application transformation of the media response index, the formula can be improved and transformed according to the actual conditions of different countries, so as to achieve the improvement of the method system.

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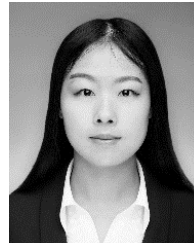
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