Media Research from International Academic Journals: Current Status, Trends, and Digital-Driven Reshaping of Knowledge Structure

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Abstract

Purpose/Significance: In the face of the new global situation characterized by the exchange, integration, and confrontation of various ideologies and cultures, deeply exploring international media research hotspots is of great significance for promoting academic development and perfecting the disciplinary system in China' s media field. Methods/Process: This paper, based on media journal literature data from 2015 to 2019 in the Web of Science database, combines probabilistic topic models, bibliometric methods, and natural language processing techniques to jointly model document content and metadata, constructs a country-topic distribution matrix, comprehensively excavates the geographical distribution and knowledge structure of international media research over the past five years, and ultimately focuses on analyzing hotspot topics in domestic media research. Results/Conclusions: The findings indicate that digital technology drives the vigorous development of new media, continuously stimulating industrial upgrading and cultural reshaping in the media field. Certain topics in China still have room for exploration and improvement in theoretical research, industry-academia exchange, and disciplinary integration. It is necessary to conduct media research that meets domestic needs and possesses an international perspective, based on emphasizing the coordinated development of theoretical and applied research as well as basic and emerging disciplines, thereby contributing to the sustained and in-depth development of the media field.

Full Text

An Analysis of the Current State of Media Research at Home and Abroad from the Perspective of Academic Journals and Its Implications: Knowledge Structure Reshaping Driven by Digitalization

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Abstract

[**Purpose/Significance**] In response to the new global landscape characterized by the exchange, integration, and confrontation of diverse ideologies and cultures, a thorough investigation of international media research hotspots is crucial for advancing academic development and refining the disciplinary system of media studies in China. [**Method/Process**] This paper draws upon documentary data from communication journals in the Web of Science database spanning 2015 to 2019. By integrating probabilistic topic modeling, bibliometric methods, and natural language processing techniques, we jointly model document content and metadata to construct a country-topic distribution matrix, comprehensively uncovering the geographical distribution and knowledge structure of international media research over the past five years. The analysis ultimately focuses on identifying hot topics within domestic media research. [**Results/Conclusion**] The findings reveal that digital technology has propelled the vigorous development of new media, continuously stimulating industrial upgrading and cultural reshaping in the media field. Certain themes in China still offer room for exploration and improvement in theoretical research, industry-academia exchange, and interdisciplinary integration. It is essential to conduct media research that meets domestic needs while maintaining an international perspective, emphasizing the coordinated development of theoretical and applied research alongside foundational and emerging disciplines, thereby contributing to the sustained and in-depth development of the media field.

Keywords: Bibliometrics; Topic Model; Topic Analysis; Media

1. Introduction

Driven by breakthroughs and innovations in information and communication technology, emerging technologies such as the Internet of Things, artificial intelligence, and virtual reality have continuously transformed application scenarios. Under the combined forces of technological impact and national policy guidance, traditional media have been undergoing a sustained transformation toward new

media in terms of communication channels, social attributes, and implementation methods, ushering in a new era of intelligent media. "Media" is no longer merely a simple communication medium but has evolved into a platform for knowledge accumulation and cognitive construction, subtly transforming people' s thinking patterns and lifestyles while influencing critical issues such as economic development, political governance, and information security [1]. Theoretical research in media studies also faces a new global landscape marked by the exchange, integration, and confrontation of various ideologies and cultures. As General Secretary Xi Jinping emphasized, "To accelerate the building of a socialist cultural powerhouse, enhance cultural soft power, and improve China' s discourse power in the international arena, there is an urgent need for philosophy and social sciences to play a better role" [2]. This requires respecting the laws of information dissemination, expanding relevant research, and innovating methodological approaches. Public health emergencies such as the COVID-19 pandemic have further highlighted the importance of media research in risk communication, health communication, and science communication, as well as its significance in safeguarding people' s livelihoods and maintaining social stability.

In recent years, analyses and research centered on "media" have continuously emerged, focusing on exploring the developmental trajectory and cutting-edge hotspots of the field. These studies cover topics including new media development trends, social media, media economics, and online public opinion [3-7], while also drawing scholarly attention to issues such as the international diversity of media journals [8] and the evolutionary trends of research themes in media studies [9]. Methodologically, existing research predominantly adopts bibliometrics as the primary perspective and methodological foundation [10], systematically reviewing relevant research content across different periods and revealing the characteristics and progress of media research over time. However, as disciplinary structures become increasingly complex, a sole reliance on bibliometrics makes it difficult to deeply mine semantic information within textual content. The research trend in bibliometrics under the backdrop of big data involves transitioning from macro-level, superficial statistical studies to concrete, in-depth knowledge discovery. For content-based knowledge discovery, keyword-based methods offer the most detailed expression of technical concepts but often require multi-layered, extensive, supervised screening, where screening principles and clustering granularity directly affect the generation of technical themes [11]. Topic models represented by Latent Dirichlet Allocation (LDA) have gained widespread attention from scholars in scientific text mining, technology forecasting, and technology management due to their ability to deeply mine implicit semantics in large text corpora. However, no consensus has been reached on how to reasonably preset the number of topics [12], and these models essentially conduct semantic analysis based on word-document co-occurrence, making them unable to effectively utilize metadata—that is, bibliometric information [13].

Addressing these research gaps, this study takes the current state of media research in the new era as its object. By fully integrating bibliometric methods

and topic models, we jointly model document content and metadata to quantitatively summarize the implicit knowledge structure within the field while deeply analyzing research hotspots across countries. We construct a country-topic distribution matrix to comprehensively reveal the international contribution patterns and national collaboration models in recent media research. The analysis ultimately returns to the study of domestic media knowledge structure, discussing the following questions based on previous analyses: What preferences do Chinese scholars demonstrate in their choice of research topics? How do these preferences compare with those of major countries in media research? Is there room for adjustment and improvement in the existing disciplinary system?

The main contributions of this paper can be summarized in three aspects: (1) Based on bibliometric theory, we analyze the geographical distribution and collaboration characteristics of international media research, providing comprehensive insights into international contribution patterns to inform future research; (2) Using text mining technology, we explore the knowledge structure of international media research and discuss current research themes and hotspots, aiming to provide references for researchers and policymakers; (3) By combining bibliometrics and probabilistic topic modeling, we propose a joint modeling method based on documents and metadata, clarifying China' s current research strengths and weaknesses through comparative analysis of domestic and international hotspots to contribute to the sustained development of China' s media field.

2.1. Data Sources

This study draws data from 22 journals in the Web of Science (WoS) database classified under the "Communication" research area and ranked in the Q1 zone of the Journal Citation Reports (JCR) [14]. We retrieved all articles published between 2015 and 2019 with "Article" as the document type and "English" as the language, yielding 5,307 valid records after eliminating entries with missing information. Table 1 provides the full names and impact factors of the 22 journals, along with the data volume for each journal. The dataset covers fields including but not limited to paper titles, keywords, abstracts, author names, author affiliations and regions, and publication years.

2.2. Research Methods

This paper combines bibliometrics and probabilistic topic modeling to jointly model document content and metadata, constructing a country-topic distribution matrix to quantitatively characterize and summarize the geographical distribution features and implicit knowledge structure of the target text corpus. The specific methodological modules include data preprocessing, parameter setting and topic extraction, country-topic distribution matrix construction, and topic analysis.

2.2.1. Data Preprocessing

In the data preprocessing stage, we extracted country affiliation information from the metadata, counted the number of publications from each country in the target field, and plotted co-authorship network diagrams to visually demonstrate the geographical distribution characteristics of the literature. For the text corpus integrated from paper titles and abstracts, we conducted systematic data cleaning following the steps outlined in Table 2 to ensure that only words or phrases helpful for characterizing research themes remained in the corpus, laying the foundation for accurately extracting topic information from large datasets.

2.2.2. Parameter Setting and Topic Extraction

To clarify the field' s knowledge structure and identify research hotspots, this study investigates the topic distribution characteristics within the corpus. Based on the Latent Dirichlet Allocation (LDA) model, we extract topic distributions from the pre-cleaned text corpus to represent the target field' s knowledge structure, effectively endowing "topics" with semantic attributes [12]. As a generative probabilistic model, LDA first samples document-topic distributions from a Dirichlet distribution, then samples topic-word distributions, and finally generates words. The document generation process is shown in Formula 1, where α and β are model hyperparameters that determine the document-topic and topic-word distributions, respectively.

$$p(\vec{\vartheta}_d, \vec{z}_d, \vec{w}_d|\alpha, \beta) = p(\vec{\vartheta}_d|\alpha) \prod_{n=1}^{N_d} p(z_{d,n}|\vec{\vartheta}_d) p(w_{d,n}|\vec{\varphi}_{z_{d,n}})$$

(Formula 1)

LDA expresses topic structure through word distributions and reflects text structure through topic distributions. The former shows the contribution of different words to topic generation, while the latter reveals the distribution of research themes in the target field. According to the document-topic distribution matrix, each document generates K topics with certain probabilities, where the probability values range from 0 to 1, denoted as $\vec{p}_i = (p_{i1}, p_{i2}, \ldots, p_{iK})$. We accumulate the document distribution probabilities for each topic and calculate their proportion in the corpus to characterize research 热度 within the field.

$$p_{topic}(D_{test}) = \exp\left(-\frac{\sum_{d=1}^{M} \log p(w_d)}{\sum_{d=1}^{M} N_d}\right)$$

(Formula 2)

Before training the LDA-based topic discovery method, the expected number of topics must be set. Since it is difficult to thoroughly understand the text corpus in advance, how to reasonably set the number of topics has long been

a key challenge in text mining research. To ensure the overall reliability of the obtained topics, this study adopts the perplexity value calculation method to determine the number of topics [16]. Perplexity represents the probability of generating each word in the test set documents, where a lower perplexity value indicates better model performance but typically leads to an excessively large number of topics, complicating subsequent manual interpretation. Therefore, the final topic number setting requires a balance between model effectiveness and interpretability.

2.2.3. Country-Topic Distribution Matrix Construction

To further explore how countries worldwide engage in the exchange, integration, and confrontation of ideas and cultures through their research hotspots, this study jointly models document content and geographical information from metadata to uncover national-level characteristics of research themes in the target field. Based on bibliometric information from the metadata, each document belongs to one or more countries. Combined with document topic distribution data, we construct a country-topic distribution matrix to calculate country c' s engagement across different research themes, as shown in Formula 4. Figure 1 [Figure 1: see original paper] illustrates the calculation process for the country-topic distribution matrix. By integrating document content with geographical metadata, we can more comprehensively utilize the multidimensional attributes of texts, clarify the association patterns between countries and research themes, and lay the foundation for studying the knowledge structure of the target field from an international perspective [17].

$$\vec{c}_m = (c_{m1}, c_{m2}, \dots, c_{mK}) = \left(\sum_{i=1}^{N} \omega_i p_{i1}, \sum_{i=1}^{N} \omega_i p_{i2}, \dots, \sum_{i=1}^{N} \omega_i p_{iK} \right)$$

(Formula 4)

3.1. Geographical Distribution and Collaboration Patterns in International Media Research

Publication volume can partially measure the efficiency of scientific output across countries, reflecting a nation' s activity level and international influence in the media field, while the number of co-authored papers further characterizes international collaboration patterns [18]. To visually demonstrate the global output and collaboration patterns of various countries in media research, we extracted 20 countries with more than 50 publications and plotted a country co-authorship network using VOSviewer [19]. As shown in Figure 2 [Figure 2: see original paper], node sizes represent publication volumes, edge weights indicate co-authorship frequencies, and numbers below nodes show total publications and co-authored papers for each country. Globally, the distribution of publication volumes across countries is notably uneven. The United States is

the only country with over 2,500 publications and serves as a leader in international collaboration, co-authoring 523 papers with more than ten countries including South Korea, the United Kingdom, Germany, the Netherlands, Singapore, China, and Canada. The United Kingdom, the Netherlands, Germany, and Australia are also high-output countries, with strong collaborative ties between the Netherlands and Belgium and between Germany and Switzerland. China (specifically mainland China, excluding Taiwan) published 146 papers over the past five years, ranking tenth globally, and maintains close collaboration with the United States as well as minor co-authorship relationships with Singapore, Australia, South Korea, Germany, and the United Kingdom.

To further analyze different countries' engagement and contributions, we continued to examine the geographical distribution of high-output institutions and authors. From 1,979 institutions involved in the 5,307 papers, we identified 16 institutions with more than 60 publications, linking them to their countries in Table 3 . In terms of institutional output, the United States currently leads globally, with more than half of the high-output institutions—including Ohio State University and Michigan State University—located in the country. The Netherlands and Singapore have also cultivated leading academic institutions in media research, with the University of Amsterdam in the Netherlands, Nanyang Technological University in Singapore, and the University of Texas at Austin in the United States all ranking among the top ten globally in communication and media studies according to the latest QS World University Rankings, exerting significant influence on global media research.

We further identified 17 high-output authors with more than 10 publications over the past five years among 12,688 authors, as shown in Table 4 . The top authors by publication volume come from Austria and Singapore, with the highest proportions from the United States and the Netherlands—7 out of 17 authors are American and 5 are Dutch. Analysis of high-output institutions and authors yields a common conclusion: academic communities in the United States, the United Kingdom, the Netherlands, and other countries pay greater attention to media research and possess higher authority. By contrast, Chinese media researchers engage less frequently in international knowledge exchange, preferring to publish in Chinese-language journals [20]. Unlike fields such as computer science and life sciences that feature close collaborative relationships [21], most authors and institutions in media research exhibit low co-authorship frequencies and limited collaboration scope. High-output authors in media research tend toward relatively independent research models, with most collaboration occurring within the same research institution rather than forming mature academic communities across authors or institutions.

3.2. Overall Knowledge Structure of International Media Research

A discipline' s knowledge structure centrally reflects current social needs and era characteristics. By analyzing research themes and hotspots, scholars can

gain insights into existing theoretical and practical problems to identify future research directions [22]. These conclusions also help policymakers improve decision-making efficiency and promote disciplinary development. Using LDA-based topic discovery methods, we mined research themes from 5,307 papers. Figure 3 [Figure 3: see original paper] visualizes each topic' s contribution proportion in the corpus based on the document-topic distribution matrix, intuitively displaying research hotspots in high-quality international media journals. For more objective and comprehensive topic interpretation, Table 5 lists the five most characteristic words for each topic.

As shown in the topic distribution (Figure 3) and characteristic word distributions (Table 5), news (T28, T08, T22, T19), political communication (T27), social media (T11, T03), advertising (T01), and science communication (T25) constitute major research hotspots in international media studies in recent years. Meanwhile, digital technology (T18) plays an increasingly important role in shaping social structures and academic research.

News analysis (T28) represents a core research issue in media studies [23]. Its characteristic words indicate a primary focus on analyzing news content and formats. Meanwhile, the concept of "digitalization"has given rise to data journalism (T08), which is gaining prominence and occupying a substantial proportion of textual content. Political communication (T27) can be understood as elucidating communication' s role in shaping political behavior from sociological, psychological, and economic perspectives [24], with related theories widely applied in public opinion polling (T10), social participation (T23), and e-government. As a major research hotspot, social media (T11) has profoundly impacted advertising and marketing (T01) and transformed public behavior and public opinion dissemination patterns [25]. Numerous studies have focused on Twitter and Facebook to clarify media' s role in social interaction and audience behavior on social networking sites. Additionally, science communication (T25) research continues to emerge, aiming to uncover media' s significant role in education, knowledge sharing, and technological innovation to enhance public scientific literacy and improve knowledge dissemination efficiency among scientists.

Thus, in the digital era, the interactive development of mobile communication and internet technology has driven profound transformations in the media field. Digital technology continuously helps traditional journalism find breakthroughs for disruptive innovation, changes approaches to political and science communication, and influences users' social habits and behavioral characteristics online.

Figure 3 and Table 5 also reveal that some topics, though relatively less prominent, may harbor substantial research potential. For instance, privacy disclosure (T29) and collective action (T07) received limited attention in media research over the past five years. However, as digitalization advances, user actions on social platforms exhibit new characteristics such as low cost and low risk [26], with user-generated content growing exponentially, necessitating further attention to these themes.

To validate our findings on the current state and overall knowledge structure of media research, we constructed a keyword co-occurrence network using VOSviewer, as shown in Figures 4a [Figure 4: see original paper] and 4b. Figure 4b reveals keyword co-occurrence relationships in international journal papers from 2015-2019, demonstrating that our LDA-based topic extraction results adequately reflect the main content while providing more detailed characterization that preserves semantic information, enhancing the scientific accuracy of topic interpretation. Comparing keyword co-occurrence patterns before and after 2015 (Figures 4a and 4b) shows increased academic attention to climate change and political communication, with Facebook, Twitter, and social media becoming high-frequency keywords closely connected to internet and public participation. This aligns with our earlier interpretations of science communication (T25) and social media (T11, T03) themes, further corroborating the LDA topic analysis conclusions.

3.3. Country-Topic Distribution in International Media Research

Over the past five years, China has published 146 papers in Q1 communication journals on the WoS platform, ranking tenth globally, with no particularly prominent high-impact academic institutions or authors, indicating considerable room for improvement. Building on this analysis, we further jointly modeled document content and geographical metadata to explore national-level characteristics of media research themes, uncovering research hotspots in global ideological and cultural exchange, integration, and confrontation, and clarifying China' s strengths and weaknesses from an international perspective.

Based on the earlier analysis of international contribution patterns, we selected China, the United States, the United Kingdom, the Netherlands, Australia, and Germany—countries with the highest publication volumes—and calculated the country-topic distribution matrix for visualization. As shown in Figure 5 [Figure 5: see original paper], the vertical axis lists 30 topics in descending order of research 热度 across the entire dataset, while the horizontal axis represents six countries. Rectangle shades and lengths reflect a topic' s research proportion in a given country.

Figure 5 shows that commonly studied themes across countries include "digital technology," "social media," and "political communication." In recent years, China, Australia, the United Kingdom, the United States, and many other countries have prioritized basic and applied research on digital technology to seize opportunities for national economic and social development. General Secretary Xi Jinping first incorporated "digital economy" as a key term in the report to the 19th National Congress [27], while the UK government has proposed the UK Digital Strategy to enhance national competitiveness in the digital age.

Digitalization has spurred continuous research on social media. Chinese scholars have conducted extensive studies on social media communication characteristics

and advertising marketing, while foreign researchers have focused more on science communication, privacy issues, and social media' s impact on youth and children—consistent with existing comparative analyses of Chinese and international social media research hotspots [25]. Additionally, new communication models under digital transformation have profoundly impacted the political ecology. As Figure 5 shows, China and other major countries all emphasize "political communication," largely because new media play pivotal roles in foreign political elections, while China' s Publicity Department has launched the "Study the Great Nation" platform, transforming political theory and red culture into popular formats—a major breakthrough in political communication practice.

We further examined characteristics of Chinese scholars'topic selection. Through vertical comparison of topic importance within China and horizontal comparison with international distributions, we identified and discussed differences in research preferences between China and leading media research countries from an international academic journal perspective.

(1) China' s media research shows relatively higher attention to "advertising" and "risk communication" compared to other countries. China' s advertising research has developed a relatively complete system with rich achievements in advertising forms, media, and regulation [28], which Figure 5 reflects as strong research accumulation and intense focus. However, domestic advertising research has yet to surpass European and American countries theoretically or practically, and has not formed influential academic communities of authors or institutions [29]. Future research should draw on classic theories from international advertising studies, emphasize industry-academia integration and interdisciplinary research, and promote coordinated development of basic and applied research. Additionally, China demonstrates higher concern for risk communication than other countries. Since risk communication efficiency varies across countries due to differences in political systems and cultural backgrounds, public health emergencies like COVID-19 have made academia increasingly aware of the need to further improve risk communication mechanisms within China' s specific social context.

(2) Chinese researchers show high attention to news analysis and digital technology, but relatively few research 成果 on data journalism. Figure 5 indicates that China' s data journalism research has not yet achieved a dominant position internationally. As a typical emerging interdisciplinary field, foreign data journalism research started earlier and developed faster, while China' s research in this area exhibits certain lags and convergence tendencies, particularly in theoretical development [30]. General Secretary Xi Jinping has noted that China' s construction of emerging and interdisciplinary disciplines remains relatively weak [31]. Researchers and policymakers should work together to address these shortcomings and further improve China' s media research disciplinary system.

(3) Figure 5 shows that science communication is a common concern among

Australia, the United Kingdom, Germany, and other countries, while China' s research output still lags behind these major nations. As science increasingly permeates economy, social life, and cultural undertakings, science communication bridges scientific specialization and public demand, demonstrating growing significance in international technological competition [32]. China should actively develop a science communication theoretical system with Chinese characteristics to maintain a science popularization orientation that meets China' s social development needs.

4. Conclusion

By combining bibliometric methods and scientific text mining technology, this study jointly modeled document content and metadata to comprehensively present the geographical distribution characteristics and knowledge structure of international media research over the past five years, using this foundation to analyze China' s research themes. The main conclusions are as follows:

(1) From an international journal perspective, article publication in the media field shows a notably uneven distribution. Mainland China ranks tenth in publication volume, possibly because most leading media journals originate from developed countries with potential biases in editorial board composition, and because domestic researchers prefer publishing in Chinese-language journals with limited international knowledge exchange [20]. From an international perspective, countries need to jointly promote a balanced global contribution model that makes media a truly international research field. For China, establishing internationally influential media journals could help promote academic progress and enhance competitiveness in the field.

(2) High-output authors and institutions in media research tend toward relatively independent research models without forming stable academic communities. However, traditional research paradigms are continuously changing under the digital wave, with media research undergoing a "scientification" process where quantitative and experimental analysis thinking is gradually strengthening [33]. Whether future research needs to expand collaboration approaches remains a question for further consideration and practice.

(3) Digital technology has profoundly impacted the media field. The popularization of big data, IoT, artificial intelligence, and virtual reality has accelerated media form transformation, with new media's vigorous development continuously stimulating industrial upgrading and cultural reshaping. Media transformation and convergence have made emerging interdisciplinary themes such as data journalism and social media focal points, injecting fresh vitality into advertising, political communication, science communication, and risk communication while prompting academic reflection on issues like privacy disclosure. Researchers should emphasize technological

studies while returning to media research' s fundamental questions, exploring opportunities and challenges that digitalization brings to media from surface to depth.

(4) China' s media research hotspots echo national policies, social forms, research paradigms, and disciplinary development origins. Compared with leading countries, China exhibits shortcomings in certain themes, including insufficient theoretical foundations, limited industry-academia exchange, and inadequate interdisciplinary integration. Only by fully understanding the internal knowledge structure of the target field, drawing upon and enriching classic theories from international media research, learning and applying cutting-edge methods brought by technological innovation, and emphasizing interdisciplinary, industry-academia, and international collaboration can China develop media research that fits its social context and pave the way for academic development and disciplinary system improvement.

In summary, this study objectively analyzes the geographical distribution and knowledge structure of the international media field, ultimately focusing on China' s media research status. However, limitations remain. This study only included journal literature from WoS, and future research should incorporate data from domestic literature retrieval platforms to better compare domestic and international priorities. Additionally, domain topics are not isolated but interconnected, and future studies should further consider semantic relationships between topics and explore hotspot migration and changes from a network perspective.

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References

[1] Liao Xiangzhong. Future Media: Our Reflections and Educational Responsibilities[J]. Modern Communication (Journal of Communication University of China), 2019, 41(3): 1-7.
[2] Xi Jinping. Speech at the Symposium on Philosophy and Social Sciences[N]. People' s Daily, 2016-05-19.

[3] Cheng Ming, Zhan Lingqi. A Knowledge Mapping of China' s Media Economy Research Driven by Technology (2013-2017): A Bibliometric Approach[J]. Journalism & Communication Review, 2018, 71(2): 52-63.
[4] Du Zhitao, Zhang Dandan, Bo Xiaolin. Integration and Leap: Multidimensional Perspectives on New Media Research in the Past Decade[J]. Journal of Information Resources Management, 2019, 9(3): 19-32.
[5] Zhang Yong' an, Wang Xuetao. Visualization Analysis of the Evolution and Frontiers of Social Media Research[J]. Library Journal, 2017, 36(7): 74-81.
[6] Huang Wei, Zhang Xiaojun. Visualization Analysis of Research Progress on China' s Online Public Opinion Based on Knowledge Mapping[J]. Information Science, 2016, 34(6): 87-92.
[7] Cao Shujin, Yue Wenyu. Topic Mining and Evolution Analysis of Public Health Emergency Microblog Public Opinion[J]. Journal of Information Resources Management, 2020, 10(6): 28-37.
[8] Demeter M. Changing Center and Stagnant Periphery in Communication and Media Studies: National Diversity of Major International Journals in the Field of Communication from 2013 to 2017[J]. International Journal of Communication, 2018, (12): 2893-921.
[9] Montero-Diaz J, Cobo M J, Gutierrez-Salcedo M, et al. A Science Mapping Analysis of 'Communication' WoS Subject Category (1980-2013)[J]. Comunicar, 2018, 26(55): 81-91.
[10] Zeng A, Shen Z, Zhou J, et al. The Science of Science: From the Perspective of Complex Systems[J]. Physics Reports, 2017, 714-715: 1-73.
[11] Zhang Y, Zhang G Q, Chen H S, et al. Topic Analysis and Forecasting for Science, Technology and Innovation: Methodology with a Case Study Focusing on Big Data Research[J]. Technological Forecasting and Social Change, 2016, 105: 179-191.
[12] Chen H S, Zhang G Q, Zhu D H, et al. Topic-based Technological Forecasting Based on Patent Data: A Case Study of Australian Patents from 2000 to 2014[J]. Technological Forecasting and Social Change, 2017, 119: 1-11.
[13] Fan Yunman, Ma Jianxia. A Review of LDA-based Emerging Topic Detection Techniques[J]. New Technology of Library and Information Service, 2012, (12): 58-65.
[14] Liu Xiaomin, Ma Na. Analysis of International Influence of Science and Technology Journals under China Association for Science and Technology[J]. Chinese Journal of Scientific and Technical Periodicals, 2014, 25(3): 335-9.
[15] Blei D M, Ng A Y, Jordan M I. Latent Dirichlet Allocation[J]. J Mach Learn Res, 2003, 3(4-5): 993-1022.
[16] Chen H, Wang X, Pan S, et al. Identify Topic Relations in Scientific Literature Using Topic Modeling[J]. IEEE Transactions on Engineering Management, 2019, 1-13.
[17] Mimno D M, McCallum A. Topic Models Conditioned on Arbitrary Features with Dirichlet-multinomial Regression[C]. 24th Conference on Uncertainty in Artificial Intelligence (UAI), Helsinki, 2008: 7.
[18] Zhang Lu, Zhao Shuang, Ren Hui, et al. International Perspective on the Theoretical Research Context and Hotspots of Innovation: Analysis Based on

SSCI/SCI Data Sources from Wos[J]. Science & Technology Progress and Policy, 2019, 36(7): 153-60.
[19] Zhao Rongying, Wang Qing. Structural Characteristics and Hotspots of Domestic Competitive Intelligence Research in the Past 20 Years: Bibliometric and Visualization Analysis Based on CNKI[J]. Information Science, 2016, 34(3): 166-72.
[20] Shu F, Julien C-A, Lariviere V. Does the Web of Science Accurately Represent Chinese Scientific Performance?[J]. Journal of the Association for Information Science and Technology, 2019, 70(10): 1138-52.
[21] Huang Y, Porter A, Zhang Y, et al. Collaborative Networks in Gene Editing[J]. Nature Biotechnology, 2019, 37(10): 1107-9.
[22] Hu Xiaoyang, Li Xiaotao, Yu Houqiang, et al. Exploring the Multidisciplinary Knowledge Structure Under the Theme of "Information Visualization": Bibliometric and Content Analysis Based on WoS Database from 2004-2013[J]. Research on Library Science, 2015, (5): 88-95.
[23] Harcup T, O' Neill D. What is News?: News Values Revisited (Again)[J]. Journalism Studies, 2017, 18(12): 1470-1488.
[24] Bennett W L, Iyengar S. A New Era of Minimal Effects? The Changing Foundations of Political Communication[J]. Journal of Communication, 2008, 58(4): 707-31.
[25] Chen Yangsen, Chen Jun. Analysis of Hotspots in Domestic and International Social Media Research Based on Keyword Co-occurrence and Social Network Analysis[J]. Journal of Information Resources Management, 2017, 7(3): 45-55.
[26] Schumann S, Klein O. Substitute or Stepping Stone? Assessing the Impact of Low-threshold Online Collective Actions on Offline Participation[J]. European Journal of Social Psychology, 2015, 45(3): 308-22.
[27] Xi Jinping. Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era[N]. People' s Daily, 2017-10-28.
[28] Zhou Maojun, Di Ming. Reproduction of Knowledge Mapping of China' s Advertising Research: Based on CSSCI Literature Data from 1998-2019[J]. Advertising Panorama (Theory Edition), 2020, (5): 80-90.
[29] Zeng Qiong, Zhang Jinhai. Evolution and Logical Turn of Knowledge Production in Chinese Advertising Studies: Considerations and Bibliometric Analysis Based on Applied and Basic Research in Journal Articles[J]. Journalism Research, 2015, (1): 126-33.
[30] Fu Juzheng, Yu Guoming. The Origin and Development of Data Journalism Research at Home and Abroad: A Comparison of Disciplinary Genealogies —Visualization Analysis Based on CiteSpace Knowledge Mapping[J]. Journal of Xi' an Jiaotong University (Social Sciences Edition), 2019, 39(1): 111-20.
[31] Xie Fuzhan. Accelerating the Construction of Philosophy and Social Sciences with Chinese Characteristics: Disciplinary System, Academic System, and Discourse System[J]. Social Sciences in China, 2019, (5): 4-22.
[32] Jia Hepeng, Yan Juan. The Origin, Transformation, and Chinese Opportunities of Science Communication[J]. Journalism & Communication, 2017, 24(2):

64-75.
[33] Xie Jiandong. Coexistence of Humanistic and Scientific Integration: Reflections on the Scientification of Journalism[J]. Contemporary Communication, 2017, (3): 25-9.

Note: Figure translations are in progress. See original paper for figures.