Analysis of The MICE Tourism Research in China in the Last Twenty Years

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Abstract: The Meetings, Incentives, Conferences and Exhibitions (MICE) tourism has developed rapidly in China and has become an important tourism product. By use of CiteSpace software, authors performed the scientific measurement and visual analysis of MICE tourism research papers collected in China National Knowledge Infrastructure (CNKI), including the research institutions, important journals, core authors and other external characteristics, and the knowledge graphs of co-occurrence, clustering, burst and time-line of keywords. The results showed that MICE tourism research in China has achieved great progress in the last 20 years. However, these researches generally lack of long-term investigation and cooperation, and the technology and forward-looking are not strong enough. The future research needs to be improved in depth, precision and technology, and sustainable development of MICE tourism should be regarded as an important concept and goal. The paper provides a new perspective for the scientific observation and analysis of MICE tourism research and development in China.

1. Introduction
In April 1957, ‘the Import and Export Fair of China’ was established in Guangzhou, referred to as ‘Guangjiaohui’. By June 2020, it has been held for 127 times and has become a landmark brand of exhibition industry in China. However, the MICE tourism, as a new and fashion term, appeared in China media in the early 1990s. It began to be accepted by tourism of China in the late 1990s. In May 2002, the journal Tourism Tribune held the first ‘China MICE Tourism Development Seminar’ in Beijing, which effectively promoted the development of MICE tourism in China.

Since 2003, Chinese academia has undertaken extensive studies on the connotation and role of MICE tourism, and the literature on MICE tourism has increased significantly. There have been several review papers on MICE tourism research in China. Guo and Zheng et al. reviewed MICE tourism of foreign countries from the perspective of MICE management, marketing, service and education and the implications for China in 2006[1]. In 2015, Zhang et al. reviewed the research situation of MICE tourism in China from 2000 to 2014[2]. These reviews on MICE tourism research in China are based on qualitative analysis and literature statistics, and the years are relatively limited. Thereby, it is difficult to present the development history and advances of MICE tourism research in China and its implications.

Today, the MICE tourism has developed rapidly in China and has become an important tourism product[3]. As a cross-field of tourism and MICE industry, the research dimension of MICE tourism in China is rather extensive, but further researches are facing a ‘bottleneck’. It is necessary to analyze the MICE tourism research, reveal its existing problems, and point out the future direction. So, based on China National Knowledge Infrastructure (CNKI) resources and CiteSpace software, we conducted this research to explore the research themes, frontier hotspots and evolution trends of MICE tourism
research, and provide reference for MICE tourism research in the new era.

2. Data source and research method

The data were collected from CNKI, which is the largest literature database in China. We used the term ‘MICE tourism’ and ‘even tourism’ searching in the literature title, respectively. The time spans are from January 1, 1979 to December 31, 2019. The first research paper about MICE tourism in China appeared in 2000, so the period of analysis in this paper is from 2000 to 2019; the types of literature we searched include journal papers, doctoral and master’s Dissertations, conference papers, and newspaper papers. All types of the literature have their own independent databases but all are subordinated to CNKI. We search and find a total of 969 papers on MICE tourism research, including 96 master’s dissertations (9.9%), 44 Chinese Social Sciences Citation Index (CSSCI) journal papers (4.6%), 794 ordinary journal papers (81.9%), 21 conference papers (2.2%) and 14 newspaper papers (1.4%).

According to the annual number changes of papers on MICE tourism research, the literature growth in this field has experienced 4 stages. The first stage is 1999–2002: with the establishment of the economy and industry of MICE tourism, especially with the wide acceptance of MICE tourism, scholars have started to focus on MICE tourism research, and the number of papers published in these 3 years increased from 3 to 25. The second stage is 2003–2006, the number of MICE tourism papers increased by 5.8 times compared with the previous stage. The third stage is 2007–2014, which lasted for 8 years, and the number of papers published increased by 22.6 times and 3.3 times compared with the first and second stages respectively. The fourth stage is 2015–2019, the number of research papers declined to a level comparable to that of the second stage, but the output in each year was relatively balanced.

NoteExpress format files of the retrieved literature are used for statistical analysis of author, year, institution and other related information. The determination of minimum papers published by core authors is by use of the Price formula. Calculated the candidate’s conversion index of number of published papers, the conversion index of paper citation and the composite index, and then further identify the core authors[4]. The Refworks format file of the retrieved literature is converted and used for knowledge graph analysis in CiteSpace V (5.0 R1 version) with the time slicing of 2000–2019 and the years per slice of 1 year. Keywords were selected from title, author, abstract and keywords, network node type were selected keywords. The selection criteria were assigned to the top 50 data with the highest frequency in each time zone without cropping. To save space, all the graphs for analysis and research are not presented.

3. Research institution, author and academic influence

3.1. Research institutions and their cooperation

In terms of the quality of papers published, postgraduate cultivation units are important institutions for MICE tourism research in China, a total of 96 master dissertations have been completed so far. These dissertations came from 66 universities, in which Guangxi Normal University has the largest quality (6 dissertations); followed by Zhejiang University of Commerce and Industry, 4 dissertations; Yangzhou University and other 4 universities each published 3 dissertations. The 8 institutions that have produced more than 10 papers are Guilin Tourism University, Guangdong University of Finance & Economics, Guangxi Normal University and other 5 universities, with a total of 122 papers. The publication years of these institutions are recent and last a long time, they can be considered as core institutions for MICE tourism research and talent cultivation in China.

The results of visual analysis with institution as node indicated that there are 552 cooperative network nodes in MICE tourism research papers in 2000–2019, very few research institutions have relevance, obviously depending on the relevance formed by individual institutions, only 6 institutions with significant relevance (frequency of occurrences > 10 times), the top 3 institutions are Shenyang Normal University (23 times), China Convention/Exhibition/Event Society (21 times) and Zhejiang
Province Tourism Bureau (19 times); Shenyang Normal University participated in the most of papers, China Convention/Exhibition/Event Society, Zhejiang Provincial Tourism Bureau, and Party School of Suzhou Municipal Committee of CPC played an outstanding role in the organization of MICE tourism in China.

3.2. Authors and their cooperation
In the last 20 years, there have been more than 2,000 authors of papers on MICE tourism in China, and authors who have published more than 3 papers and have been cited more than 8 times are the core authors. There are 11 core authors, and they published a total of 42 papers in this field, including 2 master's degree dissertations and 40 journal papers. The authors’ cooperation knowledge graph shows that there are 2 authors who have the largest cooperation times (16 times, respectively). However, neither of them is the first author, and although the Q value of the knowledge graph reaches 0.8653, i.e. the clustering is good, there are significantly fewer connections between network nodes (authors), the network density is rather small (0.0013). These show that a large number of scholars research MICE tourism in China, but there is very little communication among them and little cooperation among inter-agency R & D teams.

3.3. Characteristics of papers with high academic influence
Table 1 is the main academic journals that publish MICE tourism research papers in China. Among the papers, 6 papers with high academic influence have the cited frequency >100 times and downloads >2,500 times: a discussion on the developing mode of convention and exhibition tourism, on the conception connotation and marketing promotion of MICE tourism, a research on building the optimized developing model of MICE tourism in China, on comparison between convention and exhibition activities and tourism activities, an outline of MICE research in China, and reflections on MICE tourism in China. They separately published in Tourism Tribune, Tourism Science, and Tourism Forum. However, they were all published very early from 2001 to 2003, the research questions deeply reflect the era when the term ‘MICE tourism’ was just accepted and recognized by the Chinese academia and tourism industry. There were few influential or iconic papers in this field in China in recent years.

Table 1 Journals with > 50 papers or total citations >100 times in the field of MICE tourism research in China

| Journal name         | Compound impact factor | Number of papers published | Percentage (%) | Time of publication (year–year) | Total citations (times) |
|----------------------|------------------------|----------------------------|----------------|---------------------------------|------------------------|
| Tourism Overview     | 0.163                  | 65                         | 6.71           | 2012–2019                       | 58                     |
| Market Modernization | 0.263                  | 28                         | 2.89           | 2006–2017                       | 103                    |
| Special Zone Economy | 0.476                  | 17                         | 1.75           | 2004–2016                       | 115                    |
| Tourism Forum        | 1.108                  | 17                         | 1.75           | 2001–2017                       | 405                    |
| Tourism Tribune      | 3.632                  | 15                         | 1.55           | 2001–2009                       | 1309                   |
| Tourism Science      | 2.181                  | 13                         | 1.34           | 2002–2012                       | 328                    |
| Total                |                        | 155                        | 16.00          | 2001–2019                       | 2318                   |

4. Research themes and evolution trends

4.1. Keyword co-occurrence
The analysis results of keyword co-occurrence knowledge graph indicate that the content and themes of the China’s MICE tourism research papers are strongly correlated. Taking the MICE tourism as the center, we extracted a total of 289 keywords in the research field of MICE tourism in China. Among these keywords, 160 keywords have the cited frequency ≥ 2 times, 46 keywords have the cited frequency ≥ 5 times and centrality ≥ 0.01, 38 keywords have the cited frequency ≥ 5 times and centrality ≥ 0.01; the cited frequency of ‘MICE tourism’ (674 times) and network centrality (1.08) ranks the first, much higher than other keywords; followed by 13 Keywords with high centrality and high frequency (Table 2). Combined with the analysis of relevant literature, it can be seen that MICE
tourism research in China takes MICE tourism as the main body and from multiple perspectives of competitive environment and competitive situation analysis, MICE industry management, and tourism agency management, the research mainly focuses on MICE tourism development model, MICE tourism economy, and MICE tourism development countermeasures, which can be further reflected in subsequent keyword clustering analysis.

Table 2 Keywords with high centrality and high frequency in MICE tourism research papers of China
(The cited frequency is greater than 15 times and the centrality is equal or greater than 0.01)

| Keywords                     | Cited frequency (times) | Centrality | Keywords                        | Cited frequency (times) | Centrality |
|------------------------------|-------------------------|------------|---------------------------------|-------------------------|------------|
| MICE tourism                 | 674                     | 1.08       | Development countermeasure      | 24                      | 0.02       |
| MICE industry                | 91                      | 0.23       | Tourism MICE                    | 22                      | 0.05       |
| Tourism industry             | 56                      | 0.12       | MICE economy                    | 21                      | 0.09       |
| SWOT analysis                | 54                      | 0.04       | Tourism product                 | 19                      | 0.02       |
| MICE tourism industry        | 32                      | 0.12       | SWOT                            | 18                      | 0.01       |
| Development strategy         | 31                      | 0.04       | Tourism industry                | 17                      | 0.04       |
| Development model            | 24                      | 0.03       | MICE activity                   | 16                      | 0.08       |

4.2. Keyword clustering

The knowledge graph Q value and S value of MICE research keyword cluster are 0.6385 and 0.506 respectively, each cluster is relatively clear, and there are a total of 12 clusters. According to their main contents and mutual connections, these clusters can be divided into 5 cluster groups. Group 1 ‘MICE tourism management’, including 5 clusters (MICE tourism, tourism exhibition, development strategy, development countermeasures and SWOT); Group 2 ‘MICE tourism industry’, including 3 clusters (MICE tourism industry, MICE industry and tourism industry); Group 3 ‘MICE tourism economy’, including 2 clusters (World Expo and MICE tourism economy); Group 4 ‘MICE tourism city’, including 2 clusters (MICE tourism in Beijing and Shanghai). No doubt, MICE tourism management, MICE tourism industry, MICE tourism economy, and MICE tourism city are main research directions in MICE tourism research in China. Through the cluster analysis, we obtained 33 main keywords with log-likelihood ratio (LLR) ranking top 3 in each cluster (Table 3). According to the descending order of LLR value, these 33 keywords are ‘MICE tourism’ (119.47), The LLR values of the remaining 32 main keywords are all greater than 33.0. These 33 keywords are all included in the statistical results with high cited frequency and high centrality as indexes, and they alone or in combination constitute the main themes of MICE tourism research in China.

Table 3 Key clusters and details of keywords in MICE tourism research papers of China

| Group appellation | Cluster sequence number | Cluster appellation | Number of keywords | Shadow value | Average time (year) |
|-------------------|-------------------------|---------------------|--------------------|--------------|--------------------|
| MICE tourism      | 0                       | MICE tourism        | 114                | 0.952        | 2009               |
|                   | 2                       | Development strategy| 40                 | 0.930        | 2008               |
|                   | 5                       | Tourism MICE        | 31                 | 0.874        | 2010               |
|                   | 6                       | Development         | 23                 | 0.965        | 2004               |
|                   | 10                      | SWOT                | 16                 | 0.962        | 2009               |
| MICE tourism industry | 1                     | MICE tourism industry | 43               | 0.832        | 2012               |
|                   | 3                       | MICE industry       | 34                 | 0.814        | 2007               |
|                   | 8                       | Tourism industry    | 21                 | 0.887        | 2008               |
| MICE tourism economy | 4                     | World Expo          | 33                 | 0.868        | 2004               |
|                   | 11                      | MICE tourism economy| 13                 | 0.980        | 2011               |
| MICE tourism city | 7                       | Beijing City        | 23                 | 0.883        | 2008               |
|                   | 9                       | Shanghai MICE tourism| 19               | 0.946        | 2012               |

4.3. Review of main research themes

4.3.1. MICE tourism development strategy
In terms of MICE tourism research in China, the MICE tourism development strategy is mainly cut in and expanded from two dimensions. (1) Proposing the development strategy and the evaluation system for MICE tourism through analyzing the basic issues of connotation, industrial relations, and software and hardware conditions of MICE tourism development. Such as a revised IPA-based study on the development strategies of MICE tourism[6], and research on the marketing strategy of MICE tourism development[7]. (2) Studying the development path and strategy of MICE tourism based on a certain area or a specific city, focusing on the location conditions and environment of the city, using qualitative and quantitative combined analysis methods. These studies are more targeted and more practical. For example, research on the development strategy of MICE tourism in Ningbo City, Guilin City, and Hainan Province based on SWOT analysis[7]. However, on the whole, insufficient cultivation of well-known marketing brands and incomplete market operation mechanism are the main negative factors influencing the sound and stable development of China’s MICE tourism industry at that time, which deeply reflects the situation of China’s MICE tourism in the first 10 years of the 21st century, but still no similar research reports after 10 years or even more than 10 years of development.

4.3.2. Research of MICE tourism city
There are nearly 100 papers on MICE tourism cities or urban MICE tourism, which is closely related to the MICE tourism development strategy, but the content, is much richer. (1) There are many case studies on a specific city (such as Beijing, Shanghai, Guangzhou, Nanjing, Hangzhou, Zhengzhou, Xiamen, etc.), focusing on the competitiveness analysis of the city’s MICE tourism industry, and establishing evaluation model or system based on the analysis. Such as research on the competitiveness of MICE tourism city based on IPA analysis — taking Zhejiang Jinhua as an example[8]. (2) Focus on large-scale urban events, especially taking use of these opportunities as the host city of Asian Games, the Olympic Games, and various World Expos for developing urban tourism, and explore the relevant conditions of the target city, construction and development strategies, and the role, effect and influence of these events on urban tourism development and image building. The research suggests that the World Expo and the tourism industry of the host site have formed a close interactive relationship, and it is required to give full play to the tourism effect of the post-Expo era[9]. However, there has been no further relevant research report so far.

4.3.3. MICE tourism development model
The research on the development mode of MICE tourism in China is mainly oriented towards a specific city, and is closely related to the aforementioned three points (development strategy, city and integrated development), but the focus is obviously different. For example, through summarizing the typical development models of MICE tourism both at home and abroad, Liang et al. proposed the Guangdong-Macao cooperative ‘exhibition in the front and factory at the back’ model for Macau’s MICE tourism development, ‘government support + tourism gambling industry-driven’ model, and suitable path for the development of MICE tourism in Macau[10]. Besides, some papers have conducted theoretical research on MICE tourism development model. For example, in the opinion of some researchers, there is an essential difference between the MICE industry and tourism, but there are similarities in development, and there is overlap, integration and penetration, thus it is necessary to build a ‘dual power’ industrial development model that gives consideration to each other[11]. The construction of development model plays an important role in guiding the development of MICE tourism. However, due to the systematic, complex and intersecting characteristics of the development model itself, as well as the insufficient development, practice and research of China’s MICE tourism industry, regions or cities are very different and have different situations, so there is still no independent, systematic, special mature theory on the development model of MICE tourism.

4.3.4. Industrial economy of MICE tourism
The research in this aspect mainly involves the development competitiveness, driving mechanism and industry-driven effect of MICE tourism. It nearly lasts from the beginning to the present. Different
Provinces show significant differences in the location conditions, facility levels and the competitiveness of MICE tourism development. Based on the analysis of factors influencing the development of urban MICE tourism, the driving mechanism of urban MICE tourism development has been built, and the power value of MICE tourism development in some cities has been calculated[12]. Most scholars consider that ‘Beijing, Shanghai, Guangzhou’ and ‘Jiangsu and Zhejiang’ regions generally have the competitiveness close to the international average level in developing MICE tourism. These two regions are the development centers of MICE tourism in Mainland China. Statistics on the development of MICE tourism in Beijing and calculations using the input and output combined method indicate that the coefficient of the driving effect of MICE tourism on related industries is 8.44[13]. However, the economic driving coefficient of the Changchun International Automobile Expo calculated by some scholars is 1.535, which is much smaller than the aforementioned value[14], implying that there are significant regional differences in the industrial economy of MICE tourism.

5. Research hotspots and evolution trends

5.1. Keyword burst
There are 20 citation burst keywords in MICE tourism researches in China (Table 4). These 20 burst keywords, in 2000–2004, i.e. two years before and after the ‘China MICE Tourism Development Seminar in Beijing’, the research hotspots are mainly ‘MICE economy’ and ‘tourist products’, followed by ‘tourism development’, ‘MICE education’ and ‘MICE industry’, and ‘MICE tourism’ has not become a research hotspot. In 2005–2009, there are also 5 burst keywords (‘competitiveness’, ‘SWOT analysis’, ‘development status’, ‘development countermeasures’, ‘MICE tourism product’), and the duration is not as long as in 2000–2004, but all are closely connected with ‘MICE tourism’, indicating that ‘MICE tourism’ research has obviously become the hotspot and the timeliness is strong. In 2010–2014, the research hotspots in the field of China’s MICE tourism are the most, and ‘MICE tourism industry’ becomes the keyword with the strongest burst. In 2015–2019, ‘development model’, ‘industrial integration’ and ‘MICE tourism economy’ become the burst keywords and the research hotspots become much clearer.

5.2. Keyword time-line
The keyword time-line of MICE tourism research in China has a total of 500 nodes, 908 lines, and a total of 43 hot keywords have been identified, which are not the same as the main keywords from cluster analysis and the keywords obtained in the citation burst analysis. From 2000 to 2019, in the first 5-year period (2000–2004), the hot keywords are mainly ‘MICE industry’, ‘tourism industry’, ‘SWOT analysis’ and ‘development model’, followed by ‘tourism’, ‘MICE economy’, ‘tourism exhibition’, ‘tourism industry’, ‘MICE management’ and ‘MICE tourism products’, a total of 15 hot keywords, generally in the stage of transition from ‘MICE’ to ‘MICE tourism’ and focusing on the analysis and discussion of the connotation and feasibility of MICE tourism; in the second 5-year period (2005–2009), hot keywords show significant change, mainly ‘MICE tourism’ and ‘development strategy’, followed by ‘travel agency’, ‘competitiveness’, ‘development status’, ‘industry chain’, ‘product development’, ‘MICE tourism brand’, a total of 15 keywords, showing that it has really entered the stage of MICE tourism research, the research core is industrial integration and product development; in the third 5-year period (2010–2014), the hot keywords are ‘MICE tourism management’, ‘MICE enterprises’, ‘exhibitors’, ‘Shanghai World Expo’, and ‘IPA analysis’, etc., a total of 9 keywords, indicating that development and research of scholars in this field have entered the stage of MICE tourism management; in the fourth 5-year period (2015–2019), there are 4 hot keywords such as ‘development model’ and ‘integrated development’, showing that the number is small, but the research core is not industrial integration but integrated development, and related research and China’s MICE tourism industry has entered a new stage.
Table 4 Top 20 keywords with strongest citation bursts in MICE tourism research papers of China

| Keywords                   | Strength | Begin (year) | End (year) | Duration (years) | Keywords                   | Strength | Begin (year) | End (year) | Duration (years) |
|----------------------------|----------|--------------|------------|------------------|----------------------------|----------|--------------|------------|------------------|
| MICE economy               | 2.4703   | 2000         | 2006       | 7                | Development model           | 4.6411   | 2010         | 2013       | 4                |
| Tourism product            | 3.7260   | 2001         | 2008       | 8                | MICE enterprise            | 2.8202   | 2011         | 2016       | 6                |
| Tourism development        | 2.4563   | 2001         | 2003       | 3                | Harbin                     | 2.4982   | 2011         | 2014       | 4                |
| MICE education             | 2.7543   | 2003         | 2006       | 4                | MICE tourism industry      | 5.3026   | 2013         | 2016       | 4                |
| MICE industry              | 2.5936   | 2003         | 2004       | 2                | Tourism MICE               | 4.3878   | 2014         | 2015       | 2                |
| Competitiveness            | 2.4605   | 2006         | 2007       | 2                | City MICE tourism          | 3.0296   | 2014         | 2017       | 4                |
| Development countermeasure | 4.4050   | 2007         | 2009       | 3                | Management model           | 3.0259   | 2015         | 2019       | 5                |
| SWOT analysis              | 4.2016   | 2007         | 2008       | 2                | MICE industry              | 2.6523   | 2015         | 2016       | 2                |
| MICE Tourism product       | 2.5782   | 2008         | 2009       | 2                | MICE tourism economy       | 2.5041   | 2016         | 2019       | 4                |
| development status         | 2.7594   | 2009         | 2011       | 3                | Industry convergence       | 3.4023   | 2016         | 2019       | 4                |

5.3. Review of main research hotspots

5.3.1. Research of MICE tourism behavior

At present, the research on the behavior of MICE tourism enterprises and tourists is very limited, but it is undoubtedly a research hotspot, mainly focusing on the participation motivation (purpose), behavior and exhibition performance of exhibitors and professional visitors\(^{[15]}\). Using the qualitative method, scholars analyzed the diversified visit purposes, types and levels of professional visitors, and divided the professional visitors into core layer, sub-layer and outer layer, explored the participation purposes and performance evaluation of the exhibitors, and analyzed their correlation\(^{[16]}\). Luo (2009) survey found that improving the MICE tourism product system, creating an English environment for MICE tourism, and joint marketing have an important relationship with expanding the MICE tourist source market\(^{[17]}\). Using the content analysis method, Luo & Tong studied the categories and characteristics of the experience of visitors to the Shanghai World Expo, and found that the travel experience of large scale events is different from the general travel experience, which has a significant impact on the role of the national image building and communication process\(^{[18]}\). However, similar to the researches on MICE tourism product marketing and industrial economics, researches on the development of MICE tourism and the behavior of MICE tourism

5.3.2. Marketing of MICE tourism products

Most researchers believe that China must actively promote the market positioning of MICE tourism products, pay more attention to the diversification, personalization, high quality and local characteristics of MICE tourism products, and attach importance to multi-party joint marketing. Even if MICE companies carry out marketing activities separately, they must also combine tourism resources and tourist reception facilities in and around the exhibition host site. For example, a survey of the current status of MICE tourism in the powerful MICE country Singapore and research on its marketing experience, and the research on marketing methods of MICE tourism with the MICE tourist market as the entry point\(^{[19,20]}\). At present, the research on marketing of MICE tourism products in Chinese academia presents significantly microcosmic and quantitative trends. Scholars conduct research on the marketing of MICE tourism products with the aid of the basic theories and models of other disciplines, such as the research on marketing strategy of urban MICE tourism based on perceived value of tourists, and the research on MICE tourism marketing based on social media communication\(^{[21,22]}\). However, related studies are still insufficient, especially for MICE tourism market types and characteristics, market segmentation strategies, etc., and urgently need to expand content and in-depth research.
5.3.3. MICE tourism integrated development

With the progress of the times, especially the prosperity of the cultural industry and the popularization of big data and information technology and equipment, many forms of industrial integration such as ‘MICE tourism + cultural creativity’, ‘MICE tourism + new and high technology’, ‘MICE tourism + urban marketing’, ‘MICE tourism + financial commerce’, ‘MICE tourism + agricultural and forestry specialty products’ have attracted the attention of both the industry and researchers. Thus, the ‘integrated development’ of MICE tourism has become the latest research hotspot in this field and a new type of economic phenomenon and development path. At present, CNKI has collected more than 20 related research papers, all of which were published in the 5 years since 2016. The research content is fragmented, and no system or characteristic has been formed, but some findings are very meaningful. For example, according to some studies, the integrated development of MICE tourism industry should strengthen resource sharing, technology embedding, talent integration, enterprise cooperation, and marketing[23]; in the context of comprehensive tourism, the integrated development of Guizhou’s MICE tourism industry should strengthen the integration with characteristic resources, markets, technologies, functions and businesses of Guizhou Province[24]. At the end of 2019, a study of Xiamen City found that the culture, tourism, and MICE industry contain enormous energy, they are important support for accelerating the high-quality development of Xiamen and the three industries complement and supplement each other[25].

6. Conclusions and discussion

Driven by industry development and profession setting in institutions of higher learning, MICE tourism has become a rapidly developing field in China in last 20 years. It is necessary to review MICE tourism research, reveal its existing problems, and point out the future direction. The analysis of this paper using Citespace software provides a new perspective for scientific observation and investigation of China research progress in the MICE tourism field compared to previous similar documents.

From the analysis of key words co-occurrence, there are 33 main keywords in China’s MICE tourism research papers; they belong to ‘MICE tourism’, ‘MICE tourism industry’ and other 10 clusters, and 4 major groups: group ‘MICE tourism management’, group ‘MICE tourism industry’, group ‘MICE tourism economy’ and group ‘MICE tourist city’. There are 20 burst keywords in the papers, they are highly evolving over time; there are a total of 43 hot keywords in the keyword time-line knowledge graph, which is not exactly the same as the results of cluster analysis and burst analysis, moreover, the time evolution is also significant. There are 7 themes or hotspots have been studied more thoroughly; MICE tourism city, MICE tourism development strategy, and MICE tourism development model occupy an important role in China’s MICE tourism industry and research.

Therefore, in the last 20 years, the MICE tourism research of China has achieved great progress, mainly as follows: the concept, connotation, characteristics, categories and research objects of MICE tourism have been scientifically defined; the extension, type, evolution rules of MICE tourism and the behavior of MICE enterprises and tourists have been studied; the basic issues related to the field of MICE tourism have been summarized and condensed through empirical analysis and using scientific theories of other disciplines. Furthermore, scholars and entrepreneurs have performed extensive studies on the strategies, models, and management of MICE tourism development in China, especially in many central cities. These achievements play an excellent practical guidance role. However, compared with the development scale of China’s MICE tourism industry, these achievements are not suitable. The quality of papers published so far is large, but the scientific level obviously needs to be improved overall, and the in-depth research and theoretical exploration are inadequate and also need to be improved.

Among the MICE tourism research papers, some use SWOT analysis, and even SWOT and SWOT analysis method have become the main keywords or burst keywords, but most of the papers belong to qualitative and descriptive research. Although some papers use hierarchical analysis, IPA analysis, cluster analysis, factor analysis, social network analysis, and regression analysis, quantitative research
papers account for only a small number and the analyzed content is mainly limited to evaluation of the competitiveness of MICE tourism, influencing factors and effects, hardly involving the related chemistry, biology, ecology, social psychology, and information technology analysis. On the whole, there is a lack of complete data and meticulous deduction. Some MICE tourism research papers are not reasonable and scientific enough. In the future, it is necessary to combine the theories and technical methods of multiple disciplines and conduct targeted in-depth research.

In terms of MICE tourism research content, most papers lack the research on negative effects in development. The fact is that the MICE tourism development will inevitably bring a certain degree of negative impacts, such as lack of scientific planning, blindly launching construction, resulting in waste of resources, environmental pollution, landscape destruction, a large number of idle resources, and hostile competition, which will bring burdens to urban management, environmental protection, social harmony and coordinated development of related industries, but related research is rarely involved and basically blank. In addition, the research on ‘MICE tourist facility’, ‘MICE tourist industry’ and ‘tourist’ should be more in-depth, meticulous and solid, strive to form new ‘growth points’, and take sustainable MICE tourism as an important concept and goal.

Undoubtedly, it is necessary to effectively strengthen the research on the changes of MICE tourism and various integrations brought about by IT technologies such as mobile internet, 5G, artificial intelligence, blockchain, big data, and cloud computing, and attach importance to the important promotion of the development of engineering technology, information technology and new media to the MICE tourism industry. The next research should consider the integrity of MICE tourism, not just focus on hot issues. Issues easy to be ignored or low in popularity, research should be strengthened. It is necessary to horizontally broaden the research scope and longitudinally deepen the exploration of specific details.

In addition, MICE tourism and management are closely related with exhibition activities and involved diverse links such as profit forecasting, marketing promotion, personnel management, risk assessment management, and crisis management of MICE activities. The research on the management and operation mechanism should be based on the practice of the entire activity, provided with a more systematic vision and more sufficient facts and data, and it is worth making innovation in how to release and mobilize the values of small and medium-sized cities in the integrated development of MICE tourism.

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