

A Review and Prospective Study of The Econometric and Visual Analysis of Chinese Management Philosophy Literature Using Citespace

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ABSTRACT

The aim of this comprehensive and systematic visual analysis of the research field of management philosophy in China is to explore the hotspots and trends of research, to summarize the evolution of research themes, and to understand the current status of research and the outlook for future research. Using the authoritative Chinese database CSSCI as the data source and Citespace software, the knowledge map of management philosophy research was mapped and the literature visualization analysis was conducted. It is found that the research trend covers research fields, figures, organizations and writings, but the coverage is not enough and systematic, and many other research fields and organizations are less involved. It is necessary to strengthen relevant research in terms of interdisciplinary fields, and to seek breakthroughs in management philosophy methodology adapted to Keywords - Management philosophy, Literature measurement, Literature visualization

I. INTRODUCTION

CiteSpace is a citation visualization and analysis software that focuses on the analysis of the underlying knowledge contained in scientific analysis and was developed by Dr. Chaomei Chen's team, affiliated with Drexel University, in the context of scient metrics and data visualization. The visualization of the structure, patterns and distribution of scientific knowledge by means of visualization is also referred to as 'scientific knowledge mapping' and has become the definitive information visualization software in the field of information analysis. In recent years, the scientific knowledge mapping approach has been used to grasp the frontiers of disciplinary research and to develop a wave of knowledge bases. For example,

(Liu et al.) [1] used CiteSpace to reveal the development of aeronautical engineering, nanobiotechnology, digital libraries, energy technology and other disciplines and the frontiers of the disciplines, and achieved good results, and published a number of papers on the frontier network and the structure of related disciplines and scientific knowledge mapping.

II. RESEARCH METHODOLOGY AND DATA

Given that the bibliometric analysis method requires the use of a continuous period of time longer than five years, the data in this paper were selected for an advanced search in the authoritative Chinese database CSSCI, using the years 2000-2021 as the limited time period and the Chinese keyword "management philosophy" as the search term. This study uses 20 years as the time frame, which allows sufficient interval to observe the trends in the field of management philosophy research and its various subfields. At the same time, with the progress of the times and the development of emerging technologies, the literature from 2016 onwards was selected for review in order to ensure the forward-looking nature of the topic, allowing for a more in-depth exploration of representative topics in the field of management philosophy research and its cutting-edge research opportunities. In addition, Chinese President Xi Jinping stated at the 2016 Symposium on the Work of Philosophy and Social Sciences that "adherence to problem orientation is a distinctive feature of Marxism. Questions are the starting point of innovation and the power source of innovation (Xi) [2]". This important statement has pointed out the direction for the innovative development of Chinese philosophical and social sciences and

management philosophy. Dr. Liu Jinglu then published an article on "Promoting the Innovative Development of Management Philosophy in China" in People's Daily, which stated that "we should earnestly study and implement the spirit of Comrade Xi Jinping's important speech at the symposium on the work of philosophy and social sciences, adhere to the problem-oriented approach, and start from answering these new topics to promote the innovative development of management philosophy in China, so as to provide the national governance system and governance capacity modernization to provide intellectual support (Liu et al.)[1]". Therefore, it will be more valuable to explore the latest progress of management philosophy research in the new context of the times.

In this part of the study, the authors' research was conducted on papers in the CSSCI database. The papers were searched according to keywords and the number of papers was counted, irrelevant papers were removed and duplicates were filtered out. 413 papers were obtained from the CSSCI database, and the 413 papers were coded and the abstracts were carefully read, recorded and analyzed using CiteSpace for data visualization.

III. RESEARCH ANALYSIS AND REVIEW

ANALYSIS OF QUANTITATIVE TRENDS IN THE LITERATURE

The authors in this part of the study looked at papers in the CSSCI database and counted the number of papers based on set keywords (see Table1). The volume of literature searched shows that the average number of articles published per year is about 18. The 431 research papers on

management philosophy published from 2000-2021 are counted by year as shown in Table1, and the trend of change is shown in Fig. 1. Intuitively, the number of papers published as a whole shows a downward trend, and according to the annual trend graph, the research literature on management philosophy in the past 20 years is roughly divided into three periods.

(1) 2000-2006. During this period, research on management philosophy into the 21st century was in a stage of gradual development. The average number of articles published per year was 17, which was comparable to the annual average of the entire 20-year research cycle. Among them, the number of articles published in 2003 reached 25.

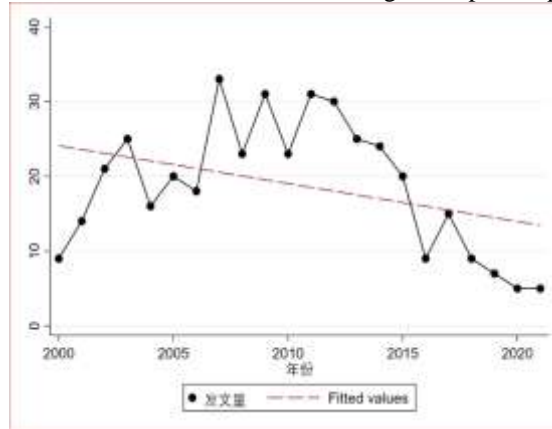
(2) 2007-2015. This period was at its peak, with the publication of Ge Rongjin's book *An Introduction to Chinese Management Philosophy* in 2007 and the first National Forum on Innovation in Management Philosophy co-sponsored by the School of Philosophy of Renmin University of China and the editorial board of the *Journal of Renmin University of China*, more and more scholars began to conduct in-depth discussions on many cutting-edge topics in management philosophy, which to a certain extent enlivened the development of Chinese management philosophy.

(3) 2016-2021. Research on management philosophy enters a wandering period, with the number of publications declining year by year, and the number of publications in 2020 and 2021 is only five. The research on management philosophy at this stage urgently needs to seek new turns and breakthroughs, and it is a challenge for management philosophy to get out of the immediate languishing period.

Table 1 Statistics on the number of articles issued in the year of management philosophy

Year	Number of publications	Year	Number of publications
2000	9	2011	31
2001	14	2012	30
2002	21	2013	25
2003	25	2014	24
2004	16	2015	20
2005	20	2016	9
2006	18	2017	15
2007	33	2018	9
2008	23	2019	7
2009	31	2020	5
2010	23	2021	5

Figure 1 Distribution of annual trends in management philosophy literature



ANALYSIS OF CORE AUTHORS AND RESEARCH INSTITUTIONS

Figure 2 Author co-occurrence network mapping of the management philosophy literature

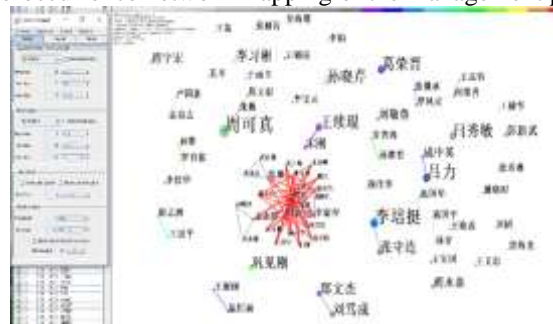


Table 2 Top 7 authors in management philosophy literature

	Count	Centrality	Year	Author
TRUE	8	0	2005	Zhou Kezhen
TRUE	7	0	2011	Li Peiting
TRUE	6	0	2011	Lu Li
TRUE	5	0	2007	Yan Xiumin
TRUE	5	0	2008	Wang Xukun
TRUE	5	0	2002	Sun Xiaoqin
TRUE	5	0	2006	Ge Rongjin

The core authors are leaders in a particular field of research and are the scholars who deserve to be highlighted in that field of research. A statistical analysis of 431 authors of management philosophy research literature published in 2000-2021 shows that there are seven high-output authors who have published more than five articles (including five) on the theme of management philosophy (see Fig.2), namely Zhou Kezhen, Li Peiting, Lv Li, Yan

Xiumin, Wang Xukun, Sun Xiaoqin and Ge Rongjin, of whom the most number of published papers is only eight (see Table 2), which, from this perspective, indicates that there are no core authors in the field of management philosophy research in the true sense of the word. Among the eight articles published by Zhou Kezhen, the one with the highest number of downloads and citations is his and Zhang Wei's "On the emergence of management

philosophy and its disciplinary nature", published in Jianghai Journal in 2010, which mainly discusses the "disciplinary orientation" of management philosophy itself. The article proposes that management philosophy is a cross-discipline between philosophy of science and management science, and its object of study is management as one of the special forms of scientific activities, where management includes management thinking and management behavior(Zhou)[3], providing a strong answer to the question of "what is management philosophy". In his latest article "Confucianism and Postmodern Neo-Confucianism in the Perspective of Management Philosophy: A Review of Neo-Confucianism in its Pluralistic Development", Zhou Kezhen considers the reconstruction of Confucianism from the perspective of management philosophy and presents a series of research reviews on Confucianism (Zhou) [4].

In his 2021 review of Zhou Kezhen's article 'On the emergence of management philosophy and the nature of its discipline', Li Peiting suggests that the essence of management philosophy is the study of philosophical issues within the field of management, and that the 'path of truth' pursued by management philosophy is not a general essence or general law, and that when management philosophy becomes a general law, it may also be the time when it loses its value for discussion (Li) [5]. This paper argues that there is a logical flaw in Li Peiting's conclusion, as he overlooks the fact that management philosophy is always a study of the general nature and laws of management activities, and is not just 'concerned with organizations'. Therefore, management philosophy itself does not become a "general law" as it claims, nor does it lose its "value for discussion". Secondly, regarding the discussion of why the two scholars do not have a 'precise' definition of management philosophy, this paper argues that the 'static' definition model of the two scholars does not reflect well the positioning of management philosophy itself. In the interaction between philosophy and management, the positioning of management philosophy should also be in a "dynamic balance" in order to be more reasonable.

Among the six articles published by Lu Li, the most downloaded and cited is his 2010 article "The meta-problem of management and management philosophy", in which he argues that management philosophy, through its rational critique of the mainstream research paradigm in management, can provide a guide for reflection and exploration of local management in China. He also calls on the

academic community to pay attention to a discursive approach, and to exclude philosophy from in-depth management research, which will most likely turn some of the "management in China" discussions into a circle in place (Lu) [6]. It is worth exploring the fact that the ontology of management, which is at the heart of this essay, is philosophically classified as a branch of 'metaphysics' under 'theoretical philosophy'. For ontology: "It is fundamental to find out what objects are, what ideas are, and how they are connected", but ontological connections are one-sided. For example, the connection Descartes found was that the connection between "I" and "I am" is "thought", but this is not a universal connection in materialist dialectics. We know very well that Descartes' existence is objectively a fundamental fact, and that whether Descartes "thinks" or not is not necessarily linked to whether he exists in a given space-time. By connection, the materialist dialectic means "the objective connection inherent in the existence and movement of things, which is not transferred by human consciousness." Therefore, the connection that Lu Li tries to establish here in his ontology of management philosophy is not a truly objective response to its necessary laws. This is also corroborated by Lu Li's article "The Primary School, the University and Philosophy of Management" published in 2019. He argues that management philosophy is similar to the righteousness of the University, which requires a general and dialectical thinking (Lu) [7], and chooses to develop his argument with management dialectics as the core.

In terms of the research perspectives of the core authors, most of the studies mainly focus on the disciplinary perspective of management philosophy as well as the localized research perspective. Although the current studies show a trend of multiple perspectives, they are still relatively weak in general and need to be further strengthened.

Using CiteSpace to analyze the collaborative network of research authors (see Fig.3), there is a core network of key nodes consisting of scholars such as Zhou Kezhen, Li Peiting and Lu Li, key nodes consisting of scholars such as Yan Xiumin, Wang Xukun, Sun Xiaoqin and Ge Rongjin, and a group centered on scholars such as Wang Yonggui, Xi Youmin and Li Xinchun. The majority of the members are individually distributed and lack communication and cooperation. Most of the existing collaborations are limited to internal units, fellow departments or between teachers and students, while cross-unit and interdisciplinary collaborations still need to be strengthened.

				innovation
TRUE	5	0.01	2003	Human Resource Management
TRUE	5	0.09	2010	Renmin University of China
TRUE	5	0.31	2001	People-oriented
TRUE	5	0.01	2002	Corporate Culture
TRUE	4	0	2008	Philosophy
TRUE	4	0.29	2011	Deng Xiaoping
TRUE	4	0.06	2001	Human Resources
TRUE	4	0	2002	Entrepreneurs

Figure 5 Keyword clustering co-occurrence mapping of the management philosophy literature



As shown in Fig.5 and Table 4, the larger the node the higher the frequency is the hotspot of management philosophy research. The keywords with larger nodes are management philosophy, Chinese management philosophy, corporate culture, social management thought, corporate management philosophy, subjectivity, people-oriented, and high-tech. These areas are closely interconnected and interrelated, and together they form a complex and diverse network map. From the analysis of the map, the research content is concentrated on "management philosophy" and "Chinese management philosophy" respectively, which means that the hotspots of research are mainly focused on the elaboration of management philosophy system and traditional Chinese management philosophy.

ANALYSIS OF RESEARCH FRONTIERS

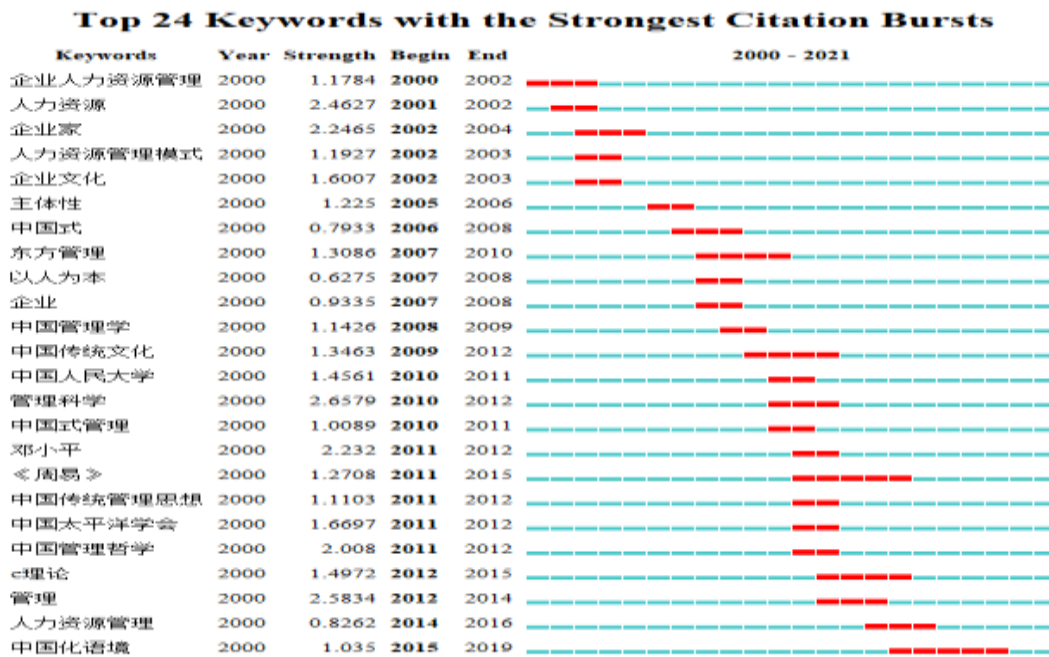
Research frontiers reflect the current state of thought in a field of study and were first introduced by Price to describe the dynamic nature of the field of study. Dr. ChaomeiChen defines a research frontier as a set of emergent dynamic concepts and potential research questions, while in

CiteSpace, research frontiers are based on burst terms extracted from titles, abstracts, keywords and identifiers(Liu et al.) [1]. keywords and identifiers identified by the burst terms extracted from the title, abstract, keywords and identifiers. Therefore, the burst term detection techniques and algorithms provided in CiteSpace are used to reveal the frontiers of localized research in preschool education by examining word frequency from a large number of subject terms, based on trends in word frequency rather than just frequency. In short, a sudden increase in the frequency of a term in a given year is a mutation, which is used to analyze changes in the subject matter of a research area. CiteSpace's mutation detection function was used to analyze the management philosophy problem by selecting burst terms, choosing Term and Keyword for the network nodes, and keeping other strategies unchanged. After running CiteSpace, a total of the top 24 keywords with the highest bursts in the study were detected (seeFig.6), where the red bars indicate the year in which the hot keywords burst and Strength indicates the burst. The 24 keywords were: "enterprise human resource management", "human resources",

"entrepreneur", "human resource management model", "human resource management", "human resource management", "human resources", "human resources", "human resources", "human resources", "human resources", "human resources", "human resources", "human resources", "human resources", "human resources", "human resources", "human resources", "HRM model", "corporate culture", "subjectivity", "Chinese style", "Oriental management", "people-oriented", "enterprise",

"Chinese management", "Chinese management", "Traditional Chinese Culture", "Renmin University of China", "Management Science", "Chinese Management", "Chinese Style "Deng Xiaoping", "Zhou Yi", "Traditional Chinese Management Thought", "Chinese Pacific Society", "Chinese "Chinese Management Philosophy", "Theory C", "Management", "Human Resource Management "Chinese Contextualization".

Figure 6 Burst terms for management philosophy keywords



From the perspective of research areas, the keywords related to "human resources" started to emerge in the period 2000-2002, with an intensity of 2.4627, and "human resource management" emerged in the period 2014-2016, with an intensity of 0.8262. The field of human resources has become a research hotspot three times, but the emergence of the related keywords did not last until now, showing a "short-lived" trend. In addition, the keywords related to "oriental management" started to emerge in the period of 2007-2010, with the intensity of 1.3086, and "Chinese style management" emerged in the period of 2010-2011, with the intensity of 1.0089. The change in the study of Chinese management also reveals the change in the positioning of Chinese characteristics. With the revival of Chinese studies and the study of traditional Chinese culture, some scholars have come to realise that the only way to be Chinese is to take up traditional Chinese culture, with Mr. Zeng Shiqiang famous for his emphasis on 'Chinese' management. However, these studies on

Chinese management philosophy are not entirely 'Chinese' in character, as most of them are still presented in a comparative perspective between East and West. "The majority of these studies are still articulated in a comparative perspective between East and West.

In terms of important figures and organizations related to management philosophy, "Deng Xiaoping" emerged in the period 2011-2012, with a prominence of 2.232. "China Pacific Society" emerged in the period 2011-2012, with a prominence of 1.6697. The main reason for this is the publication of a biography on Deng Xiaoping, *The Age of Deng Xiaoping*, written by Harvard professor Fu Gaoyi in 2011, which caused a stir. In the same year, the China Pacific Society made a breakthrough in the study of China's maritime security strategy and the study of China's philosophy of maritime management, providing theoretical support for the development of China's maritime career and the formulation of maritime strategies.

From the works on management philosophy, "Zhou Yi" emerged in the period of 2011-2015, with an intensity of 1.2708. "C Theory" emerged in the period of 2012-2105, with an intensity of 1.4972. In his book C Theory: Chinese Management Philosophy, Mr. Cheng Zhongying uses logical analysis and ontological interpretation to reconstruct Chinese philosophy, creating a new path in the study of contemporary Chinese philosophy and comparative philosophy between China and the West, in which the management interpretation of the philosophy of the I Ching has attracted the attention of the academic community and formed a new research trend. Many experts and scholars have published book reviews on the work and papers related to the study of Chinese management philosophy.

Management philosophy research hotspots cover research fields, people, organizations, writings, etc. The research hotspots are relatively concentrated, but the coverage is not enough and systematic, and many other research fields and organizations are less involved, and relevant research should be strengthened in terms of interdisciplinary fields.

Visual Timeline Analysis Of The Literature

A visual Timeline analysis of the literature using CiteSpace provides a visual representation of the time series of the occurrence of each popular keyword in the study. According to the output of the Timeline analysis (see Fig. 7 and Fig. 8).

In terms of chronological order, the keyword "Chinese management philosophy" has been around since 2000 and continues to be used until now; since 2009, "Chinese traditional culture" has been a popular research topic, after which domestic scholars have shifted their research centres to Since 2009, the term "Chinese traditional culture" has become a popular research topic, after which domestic scholars have shifted their focus to "Chinese management philosophy", "Huanglao Pali", "Taoist thought" and "Confucianism". In terms of specific research, the keywords are interrelated and intertwined with each other.

In general, the research is not yet cutting-edge enough, especially in such areas as Xi Jinping's Socialist Thought with Chinese Characteristics for a New Era, major events since the 19th National Congress, and research on Marx's philosophy, materialistic dialectics, and Western critical thinking, which still needs to be explored in a "breakthrough" manner

Figure 7 Timeline mapping of keywords

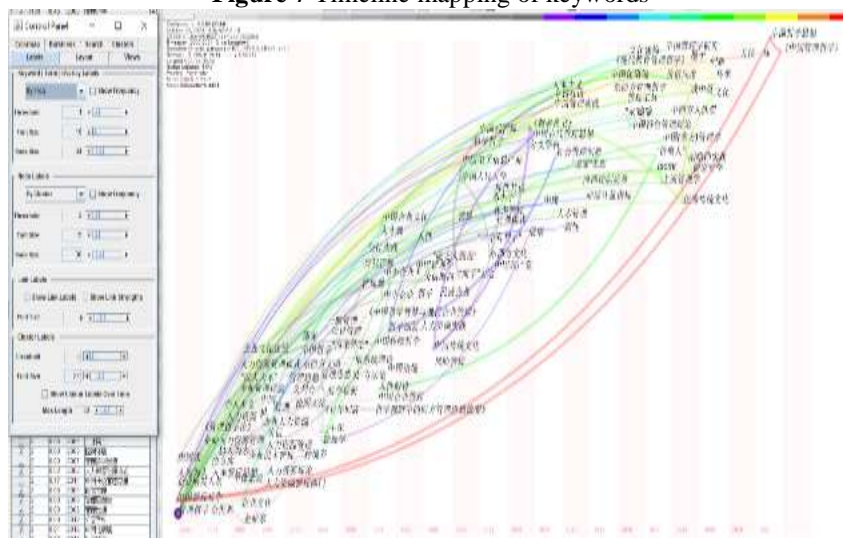
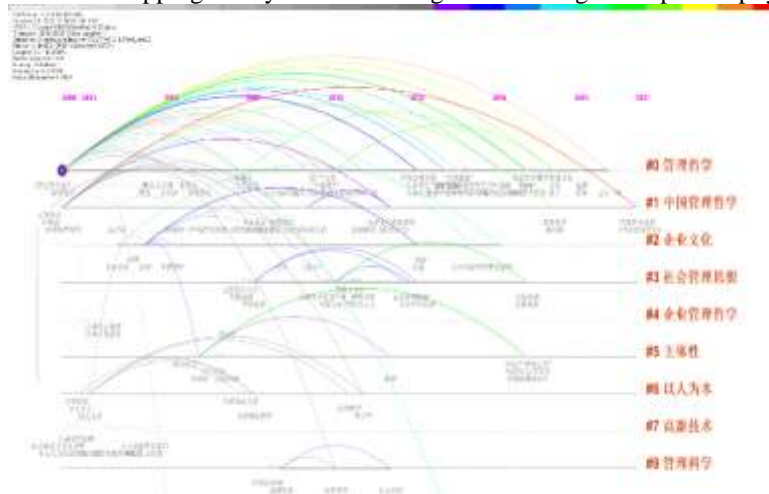


Figure 8 Timeline mapping of keyword clustering in the management philosophy literature



From the above analysis, the research on management philosophy in China shows a tendency towards a single research perspective and a lack of interdisciplinary cross-sectional research, while research in the fields of management philosophy epistemology and management philosophy methodology is very thin and needs to continue to expand more new perspectives of research. The road to disciplinary maturity of management philosophy is still a challenge that must be faced at this stage.

IV. RESULT AND CONCLUSION

This paper takes the literature in the field of management philosophy in China as the research object and uses the CSSCI database as the data source. Through bibliometric analysis, it shows the growth trend of the number of publications, the distribution of major researchers and research institutions, the hotspots and frontiers of research in management philosophy in China in the past 20 years, and provides an in-depth analysis of the knowledge base, social background and high-impact research population on which the development of the field depends, and draws the following conclusions.

(1) A significant number of researchers in this field have formed their own collaborative circles, but the frequency of collaboration is generally low, with the following researchers having a relatively high frequency of collaboration and publications: Kezhen Zhou, Peiting Li and Li Lu.

(2) In China, some of the more active research institutions in the field of management philosophy include: the School of Philosophy at Renmin University of China, the School of Business at Nankai University, the School of Government Administration at Heilongjiang University, the School of Public Administration and Law at Dalian

University of Technology, the Department of Philosophy at Sun Yat-sen University, and the School of Politics and Public Administration at Soochow University. These research institutions are mainly independent in their research, and there is a lack of cooperation and exchange between institutions.

(3) Over the past 20 years, there have been different research hotspots in the field of management philosophy at different times. Specifically, the keywords related to "human resources" began to emerge in the period 2000-2002, and "human resource management" emerged in the period 2014-2016. The field of human resources has become a research hotspot three times, but the emergence of this field has not lasted until now, showing a "short-lived" trend. In addition, the keywords related to "oriental management" started to emerge in the period of 2007-2010, "Chinese management" emerged in the period of 2010-2011, and "Chinese management philosophy" The time frame for the emergence of "Chinese management philosophy" is 2011-2012. In addition, the analysis of the management perspective of the philosophy of the I Ching has even formed a new research trend.

With the revival of the study of traditional Chinese culture, some scholars have gradually realized that only by taking up traditional Chinese culture can Chinese characteristics be achieved, however, these studies related to Chinese management philosophy are not entirely "Chinese" in character, most of them are still elaborated under the perspective of comparison between East and West. The majority of these studies are still conducted in a comparative perspective between China and the West, and if we take a closer look, we will find that these "Chinese" management philosophies have only "spoken for themselves", but

have not yet "spoken for themselves" in the true sense. In the future, in order to achieve the real sense of "speaking for oneself", Chinese management philosophy faces a new methodological change in line with the environment of socialism with Chinese characteristics and with the materialist dialectic.

REFERENCES

- [1] Liu, Zeyuan et al. Scientific Knowledge Mapping Methods And Applications. People's Publishing House, 2008.
- [2] Xi, Jinping. "Speech At The Philosophy And Social Science Work Symposium". Xinhuanet.Com, 2016, http://www.xinhuanet.com/politics/2016-05/18/c_1118891128.htm.
- [3] Zhou, Kezhen. "On The Emergence Of Management Philosophy And The Nature Of Its Discipline". Jiang Hai Academic Journal, 2010, Accessed 1 Apr 2022.
- [4] Zhou, Kezhen. "Confucianism And Postmodern Neo-Confucianism From The Perspective Of Management Philosophy: A Commentary On Neo-Confucianism In Pluralistic Development". Jiang Hai Academic Journal, 2020, Accessed 1 Apr 2022.
- [5] Li, Peiting. "What Is Management Philosophy? Comment On The Emergence Of Management Philosophy And Its Disciplinary Nature". Journal Of Shijiazhuang University Of Economics, 2011, Accessed 1 Apr 2022.
- [6] Lu, Li. "The Meta-Problem And Management Philosophy Of Management: Also Talking About The Logical Flaws Of "The Way Out And Prospect: Facing Chinese Management Practice". Chinese Journal Of Management, vol 8, no. 03, 2011, pp. 517-523., Accessed 1 Apr 2022.
- [7] Lu, Li. "Philosophy In Management.". Modern Business Magezine, 2019, Accessed 1 Apr 2022.