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Analysis of the Research Status of University Governance ——Visual Analysis Based on Chinese and English Literature

Yujie Xue, Chang Zhu
Vrije Universiteit Brussel

Abstract: In the context of globalization, public organizations are undergoing rapid transformation, and how to govern them scientifically has become an important research topic. As a part of public organizations, university governance is an important research direction in the field of higher education, which has been widely concerned by many scholars in the world. In order to fully understand the current status of research in this field, this article collects the literature data in the Web of Science (WoS) and China National Knowledge Infrastructure (CNKI) database and analyzes authoritative journals, time of publication, country and institution of publication, research topic hotspots and research frontiers through visualization software, and analyzes the research status in the field of University governance from multiple perspectives.

Through the analysis, it is found that the research on University Governance in western countries started earlier and produced a large number of academic achievements. The United States and the United Kingdom are in a leading position in the field of university governance. Currently in the field of university governance, "Higher Education", "Studies in Higher Education" and "Higher Education Policy" are English-language journals with a large number of publications, and are important journals that can reflect the research achievements related to university governance. The research on University Governance in China started later than that in western countries, but it's developing fast. Huazhong University of Science and Technology, Beijing Normal University, Renmin University of China, and Xiamen University have achieved fruitful research results. The published paper of Higher Education Research and China Higher Education Research is relatively large, and the distribution of journals is relatively balanced as a whole. Western scholars mostly focus on the issues of governance and management, internationalization and innovation, academia and performance, policy and reform, personnel and union organization, etc., focusing on theoretical innovation, the relationship between universities and the outside world. Future research directions

will be more detailed and micro-oriented, focusing on models, leadership, government, transformation, challenges, neo-liberalism, etc., and research from multiple different perspectives. Chinese scholars focus on governance structure, university charter, university management, power restriction, governance modernization and other aspects, more on the internal research of universities, and closely combined with China's actual situation. In the future, they will make more academic contributions around the construction of "double first-class" and world-class universities, and the governance system and governance modernization with Chinese characteristics will become the research focus spots.

Keywords: university governance; higher education; visualization; mapping knowledge domains

1 Introduction

Governance has always been an important topic in public organizations and the public sector, especially when public organizations are undergoing rapid transformation (Carnegie & Tuck, 2010). University governance is an important part of education governance, and it has a unique status and role in national governance. In the context of internationalization and globalization, with the development of society and economy, the functions of universities have gradually expanded due to the development and changes of the times, from talent training, scientific research, social services, to cultural innovation and international exchange and cooperation (Mittelman, 2019). With the expansion of university functions, university governance has become more complicated. Therefore, how to govern universities has gradually become a research topic of concern to scholars around the world.

The research of higher education in western countries started early, with a large scale and relatively mature development, and occupied a relatively dominant position in the research of higher education in the world. Therefore, scholars in western countries have more experience in higher education and university governance. At present, China has established a large-scale higher education system. Due to the system and national conditions, China has certain differences from western developed countries in terms of higher education management and university governance. In order to improve the ability and level of Chinese university governance, it is necessary to study the advanced experience of Western countries. Sorting out the research situation in the field of global university governance can help scholars quickly understand the current research situation and the differences between China and the west, and provide important help to promote the level of university governance and the development of higher education.

In this study, the core collection of Web of Science (WoS) and the Chinese National Knowledge Infrastructure (CNKI) database are used as the analysis database, through the analysis of English literature and Chinese literature, to compare the research situation of the world and China. Web of Science is the world's leading citation database and is one of the mainstream evaluation standards in academia. CNKI (China National Knowledge Infrastructure) is China's authoritative document retrieval tool and online publishing platform for national academic journals. It is the world's largest full-text database of Chinese academic journals. It basically covers all academic journals in China and covers all disciplines. The purpose of this study is to make a visual analysis of Chinese and English literature on university governance. In this paper, CiteSpace software is used to analyze the English literature and Chinese literature, and analyze the number of papers in the field of university governance research, countries and institutions, high-frequency keywords, etc., to show the development context and development trend of university governance research.

2. Research Methods

2.1 Literature Retrieval Method

Retrieve relevant literature information in the WoS core collection. The detailed search strategy is: topic: (university governance) AND topic: (higher education), select the literature type as: (ARTICLE), select the category : (EDUCATION EDUCATIONAL RESEARCH, MANAGEMENT, SOCIAL SCIENCES INTERDISCIPLINARY, PUBLIC ADMINISTRATION, POLITICAL SCIENCE, EDUCATION SCIENTIFIC DISCIPLINES), the time span is all years, and the index includes SCI-EXPANDED, SSCI, A & HCI, CPCI-S, CPCI-SSH, ESCI. A total of 640 articles were found.

The specific search strategy in the CNKI database is: select the journal database, the topics are "University Governance" and "Higher Education", and the time limit for publication is unlimited.

Table 1 shows the specific data selection criteria and processes.

Table 1 Specific retrieval strategies

Step	Description (WoS)	Number of publications (WoS)	Description (CNKI)	Number of publications (WoS)
Step 1	Retrieve articles with selected keyword topics from WoS	1140	Select CNKI Journal Database	/
Step 2	Select literature (type: journal)	875	Retrieve articles from the database with topics which have selected keywords	/
Step 3	Select literature whose segmentation are: education educational research, management, social sciences interdisciplinary, public administration, political science, or education scientific disciplines	645	Posting time is unlimited, select "All Journals"	1542
Step 4	Remove duplicate and irrelevant documents	640	Select the language "Chinese", delete duplicate and irrelevant literature	1424
	Final Results	640	Final Results	1424

Note: The data retrieval time for this study is March 12, 2020

2.2 Research tools

This article uses Excel and CiteSpace citation analysis tools with visualization functions to analyze the number and time of publication of Chinese and English literature data, the country and institution of the publication, authoritative journals and keywords, and present research hotspots and development trends in the field of university governance.

3. Research Results

In order to objectively analyze the research literature information about university governance, this study conducts data statistics and visual analysis on 640 English literatures and 1424 Chinese literatures from the perspectives of high impact journals, annual number of publications, high-yield international and institutional, high-frequency keywords, etc.

3.1 High Impact Journal

Journals are important carriers for academic information exchange. Research on high-quality journals helps scholars to better understand the research preferences of each journal in the field of university governance, and thus be more targeted when subscribing to journals and publishing articles. The quality and influence of journals are affected by many factors such as journal impact factors, paper load, and frequency of citations. Paper load directly indicates the level of academic journals' ability to transmit academic information. Therefore, based on the number of articles, this study counts the source journals of research literature in the field of university governance, and sorts out the top 10 journals with the number of published articles, as shown in Tables 2 and 3.

Among the English journals, "higher education" is the one with the largest number of articles published on "university governance", with 88 articles. It is an internationally recognized journal of higher education research, providing authoritative overview articles, comparative studies and analysis of specific issues. "Studies in Higher Education" followed by a total of 41 articles, it is also the world's leading high-quality journals, publishing research articles on higher education issues from a disciplinary or multidisciplinary perspective. The number of articles in these two journals accounts for about 20% of the total sample of this study. It can be seen that different English journals have different preferences for various research fields. In the field of university governance, the publishing journals have a certain degree of concentration. The above two journals have a high degree of concern in this field, which can better reflect the research results in this field. Researchers in this field also prefer to contribute to this kind of journals.

Among the Chinese journals, the number of "Higher Education Research" articles was the largest, with 65 articles, and 55 of "China Higher Education Research" articles ranked second. Different from English journals, articles related to university governance are not concentrated in a few journals. The proportion of articles in Chinese journals is less than 5%, which shows a certain degree of dispersion. Unlike English journals, articles related to university governance have not concentrated in a few journals. The proportion of articles in Chinese journals is less than 5%, showing a certain degree of dispersion, which indicates that most of the fields of higher education in high-quality journals have a high degree of attention to the topic of university governance, and Chinese scholars have more journal choices when subscribing and publishing.

Table 2 Top 10 Journals in higher education and university governance (WoS)

Serial number	Journal Title	Quantity	Proportion (%/640)	Impact factor
1	Higher Education	88	13.75	3.005
2	Studies in Higher Education	41	6.41	2.854
3	Higher Education Policy	23	3.59	1.333
4	Journal of Higher Education Policy and Management	15	2.34	/
4	Tertiary Education and Management	15	2.34	1.20
6	International Journal of Sustainability in Higher Education	14	2.19	1.437
7	Comparative Education	11	1.72	2.455
7	Minerva	11	1.72	1.952
9	Higher Education Quarterly	10	1.56	1.1
10	Asia Pacific Education Review	9	1.41	0.847

Note: The factors listed in the table are the 2018 journal impact factor. This is the latest journal impact factor data.

Table 3 Top 10 Journals in higher education and university governance (CNKI)

Serial number	Journal Title	Quantity	Proportion (%/1425)	Impact factor
1	高等教育研究 Journal of Higher Education	65	4.56	2.009
2	中国高教研究 China Higher Education Research	55	3.86	3.061
3	黑龙江高教研究 Heilongjiang Researches on Higher Education	50	3.51	0.592
4	江苏高教 Jiangsu Higher Education	47	3.30	1.214
5	国家教育行政学院学报 Journal of National Academy of Education Administration	41	2.88	1.266
6	现代教育管理 Modern Education Management	40	2.81	0.989
7	复旦教育论坛 Fudan Education Forum	36	2.53	1.565
8	高教探索 Higher Education Exploration	35	2.46	0.864
9	高校教育管理 Journal of Higher Education Management	32	2.25	1.945
10	中国高等教育 China Higher Education	24	1.68	1.141
10	大学教育科学 University Education Science	24	1.68	0.978

Note: The factors listed in the table are the 2019 journal impact factor of CNKI. This is the latest journal impact factor data.

3.2 Posting time analysis

The time sequence change of the number of literature publications can directly reflect the development of a certain field, and also help scholars to grasp the current research and development situation of the subject field and the possible development trend in the future.

By plotting the annual distribution of university governance research literature, it can be seen that in the English literature, since there is a documentary record in 1992, research in the field of university governance has not received much attention from scholars in the early stages. The number of documents in this field since 2015 has been roughly with the growth trend, specifically, the annual published paper of the literature from 1992 to 2008 is relatively low, and the average annual published paper is less than 10; from 2009 to 2014, the annual number of the literature has basically remained at about 20, compared with the previous period There has been some development in the first stage, but the overall development rate is relatively slow; from 2015 to 2019, the number of publications in the literature increased rapidly, especially in 2018, reaching its peak (Figure 1). Based on this, the development of university governance research can be roughly divided into three development stages, the slow-growing germination period (1992-2008), the growth-enhancing growth period (2009-2014), and the active period of prosperity and development (2015-present).

In the Chinese literature, as shown in Figure 2, it can be seen that the research records on the subject of university governance in the field of higher education started in 2002. The first article is an international comparison of the governance structure of universities, which shows that, Chinese research in the field of university governance started later than in Western countries. From 2002 to 2011, research in this field has been basically increasing year by year, but the development process is relatively slow. There was a large increase for the first time in 2012. After 2012, the number of papers published each year exceeded 100, entering a period of rapid development, and peaked in 2016. Since 2017, the research fever of university governance topics has declined, and the number of paper publications has generally declined, showing a downward trend. Based on this, the development of Chinese university governance research can also be roughly divided into three phases: a period of slow growth (2002-2011), a period of active prosperity (2012-2016), and a period of decline in heat (2017-present).

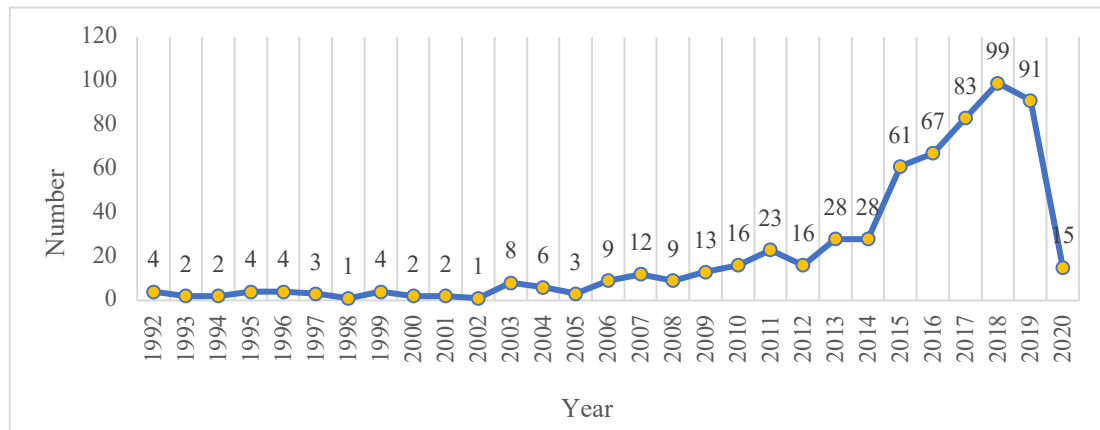


Figure 1 Published paper of journals in the field of university governance from 1992 to 2020 (WOS)

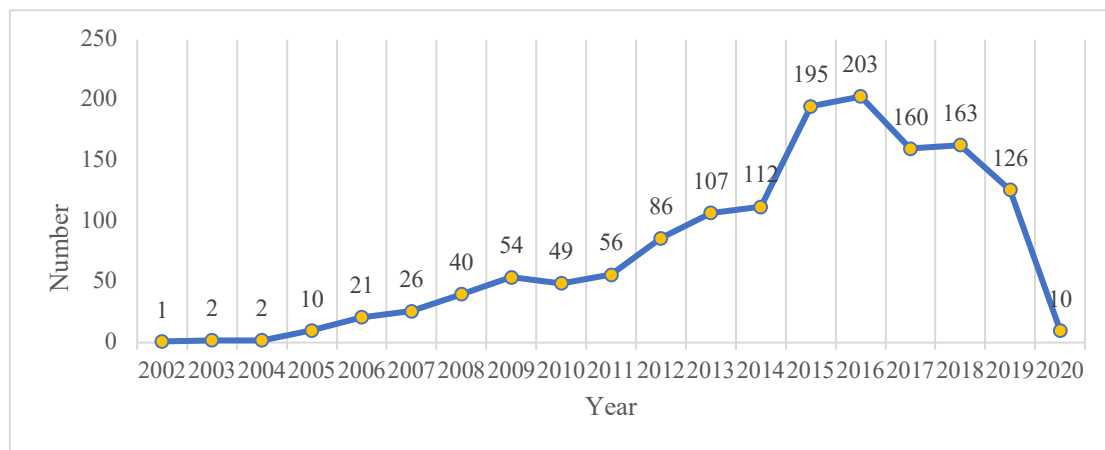


Figure 2 Published paper of journals in the field of university governance from 2002 to 2020 (CNKI)

3.3 Country and Institutional Studies

Country statistics based on literature sources can reflect the contribution of each country to university governance research, and understand the popularity of university governance research worldwide. In the sample collected in this article, there are 618 valid English literatures with clear country information from 61 countries (based on the country of the first author), and they are widely distributed around the world. Figure 3 shows the top 10 countries and the number of papers published in the field of university governance research. The authors of these 10 countries have published 422 papers, accounting for 68.3% of the total, indicating that scholars in these countries have more research results and higher research enthusiasm. It can be seen from Figure 3 that the number of U.S. journals ranked first, and the United Kingdom second, indicating that these two countries are leading in the field of university governance. The number of papers in Australia and China also far exceeds other countries, showing a strong scientific research output ability and academic research ability. Among the top 10 countries in terms of publications, Oceania, the Americas, Europe, Asia, and Africa are all involved. There are 5 European countries, indicating that

university governance is a worldwide research topic, both universal and unique. Each country has conducted in-depth research on its own university governance according to its actual situation.

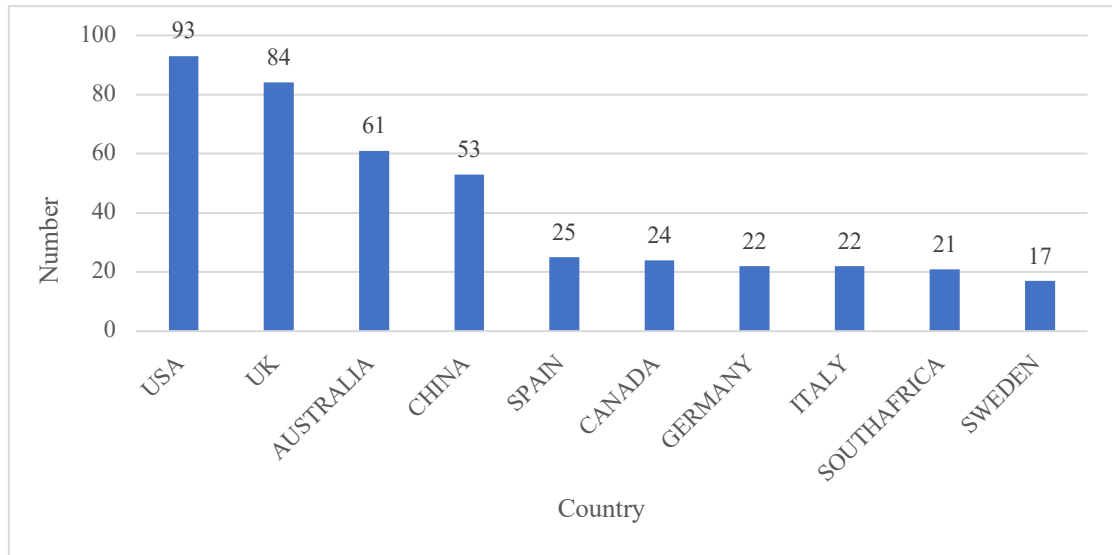


Figure 3 Top 10 Countries and Number of Publications of Journals in the field of university governance (WoS)

For Chinese literature, statistics can be made from the perspective of the institution of the article author. As can be seen from Table 4, Huazhong University of Science and Technology, Beijing Normal University, Renmin University of China and Xiamen University are the most fruitful institutions in this field.

Table 4 Top 10 institutions and publications in journals in the field of university governance (CNKI)

Serial number	Institutions	Publications
1	华中科技大学 Huazhong University of Science and Technology	50
2	中国人民大学 Renmin University of China	47
3	北京师范大学 Beijing Normal University	46
4	厦门大学 Xiamen University	34
5	浙江大学 Zhejiang University	27
6	南京师范大学 Nanjing Normal University	25
7	大连理工大学 Dalian University of Technology	23
8	北京大学 Beijing University	22
9	华南师范大学 South China Normal University	17
10	吉林大学 Jilin University	16
10	浙江师范大学 Zhejiang Normal University	16

3.4 research topic hotspots and development trends

Key words have refined the core of the entire article. By analyzing the high-frequency keywords, this paper analyzes the general characteristics and hotspots of the research field. After statistical analysis of frequency, a co-occurrence map of keywords was drawn, as shown in Figures 4 and 5. Circles represent keywords. The larger the circle area, the more frequently keywords appear,

indicating that scholars pay more attention to this direction and are more likely to become research hotspots. The nodes of the keywords "higher education", "governance", and "university" in Figure 4 have large node areas, indicating that they are in the most important position in the entire network structure as a bridge. Keywords "management", "autonomy", "quality", "policy", "leadership", "internationalization", "globalization", "accountability", "performance" and other keywords appear more frequently, management, autonomy, internationalization, leadership Etc. become hot research topics.

As shown in Figure 5, in the Chinese literature, "University Governance", "Higher Education", "Modern University System", and "University Regulations" appear more frequently. University internal governance and structure, governance system, governance model, and dual-class Construction has become a hot research topic that has attracted much attention. Academic power, academic freedom, professorship, and modern university systems with Chinese characteristics have become hot topics.

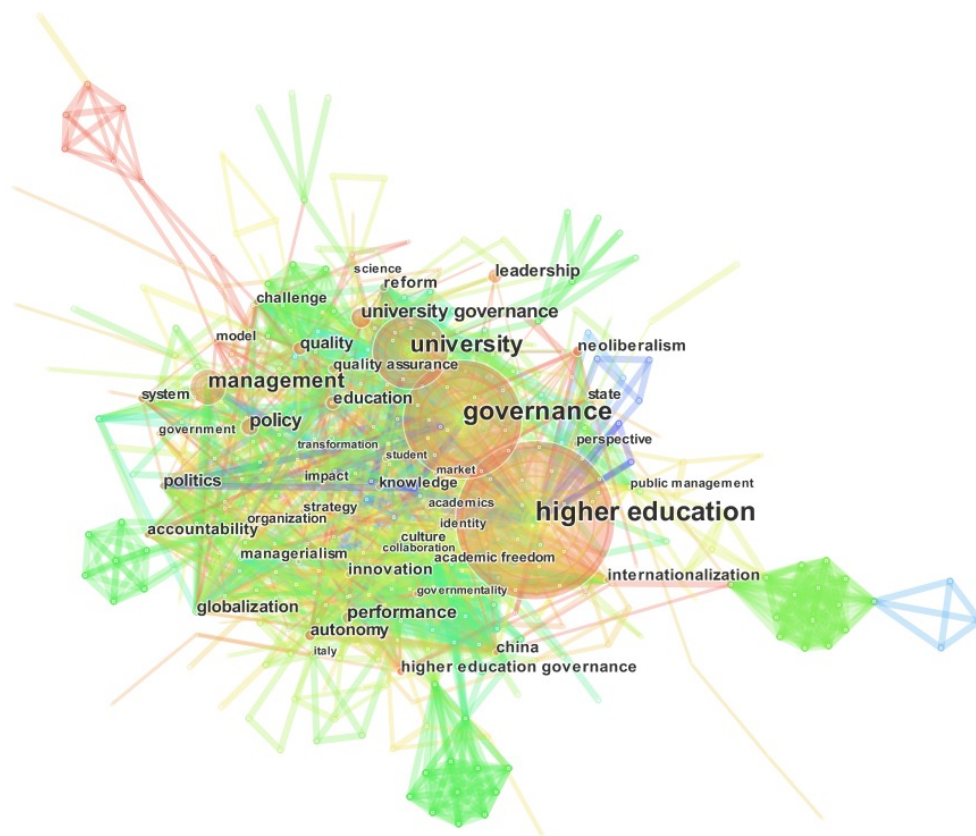


Figure 4 Co-occurrence map of high-frequency keywords (WoS)

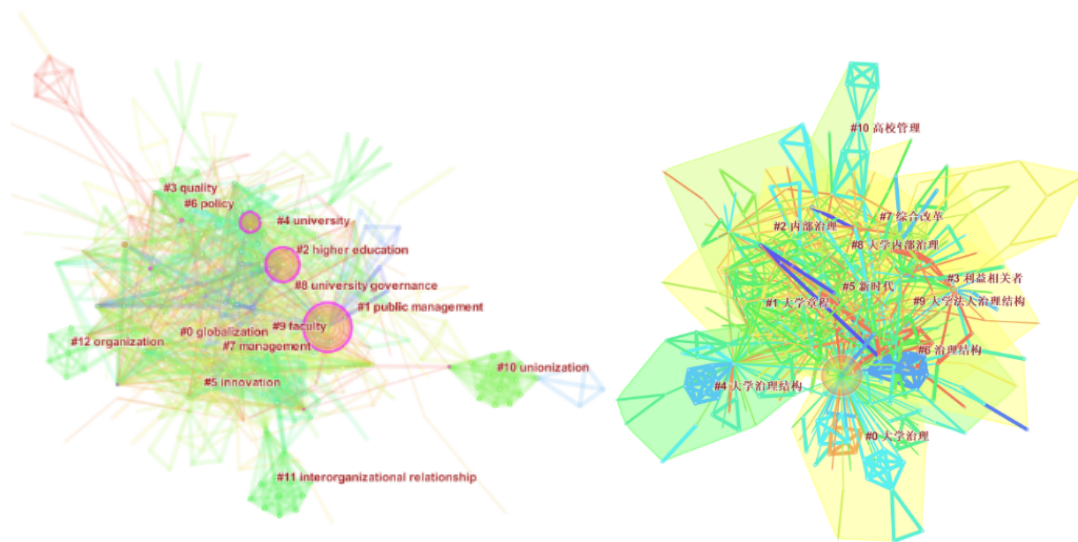


Figure 6 High-frequency keyword clustering diagram (WoS and CNKI)

By analyzing the current hot research topics and combining the previous summary of publication time, we can draw a map of the evolution of research topics in the field of university governance. It can be seen from Figure 7 that in the early stages, Western researchers focused more on macro-level research, focusing on topics such as universities, higher education, politics, governance, management, satisfaction, and change. With the acceleration of globalization, scholars have studied topics such as internationalization, reform, policy, quality, organization, autonomy, and academic freedom since 2002. In the past ten years, they have studied innovation, sustainability, development strategies, leadership, and governance. Research in more detailed directions, such as models, and from more perspectives such as students, employees, institutions, etc.

As shown in Figure 8, Chinese scholars initially focused on public universities, governance models, and case studies, especially learning about governance models and experiences through research in American universities. After that, Chinese scholars focus on the governance structure of universities, the modern university system, university regulations, autonomy, etc., and carry out research on administrative power and academic power against power constraints. Since 2013, research in the field of university governance has been valued. As the research continues, scholars emphasize Chinese characteristics and begin research on university governance systems, governance modernization, comprehensive reform, and "double first-class" construction. Based on the actual situation in China, Chinese scholars began to explore a series of researches in the field of university governance with Chinese characteristics based on the previous experience of university governance in western countries.

can be seen from Figure 9 that in the field of university governance, the research frontiers of Western scholars focus on models, leadership, government, transformation, challenges, neoliberalism, etc. The future research directions will be more detailed and micro, and will research from many different perspectives, such as students. Theories and backgrounds in other fields will be applied to the field of university governance, and theoretically continue to integrate and innovate to provide strategic support for the development of university governance in the context of internationalization. Analysis of Chinese literature data shows that Chinese scholars will conduct more research with Chinese characteristics in the field of university governance, conduct more discussions on academic freedom, and make more academic contributions around the "double-class" construction and world-class universities. Governance system and governance modernization will also become the focus of future research, and more in-depth research will be conducted on private universities.

Top 25 Keywords with the Strongest Citation Bursts



Figure 9 Information of keywords with the strongest citation bursts (WoS)

Top 25 Keywords with the Strongest Citation Bursts



Figure 10 Information of keywords with the strongest citation bursts (CNKI)

4. Conclusion

Through statistical and visual analysis of English and Chinese journal article data in the field of university governance, this paper mainly draws the following conclusions:

Among the Chinese periodicals, the published paper of Higher Education Research and China Higher Education Research are relatively large, and other high-quality journals in the field of higher education also pay more attention to university governance. Overall, the distribution of journals is relatively balanced.

(1) Distribution of major journals. At present, English journals with a large number of publications in the field of university governance are "Higher Education", "Studies in Higher Education", and "Higher Education Policy". These three journals have relatively high amount of publications and great influence. They are important journals that can reflect the research results of university governance. Among the Chinese journals, "Higher Education Research" and "China Higher Education Research" have a relatively large number of papers, and the overall distribution of journals is relatively balanced.

(2) Development stage. Western countries' research on university governance started earlier, and is mainly divided into a slow-growing budding period (1992-2008), a development period (2009-2014), and an active period (2015-present). Chinese research in the field of university governance started later than Western countries, and is roughly divided into three phases: a period of slow growth (2002-2011), a period of active prosperity (2012-2016), and a period of decline in heat (2017-present).

(3) Distribution of major countries and institutions. In the English literature, the United States and the United Kingdom are in the leading position in the field of university governance, Australia and China also show strong research output capacity and academic research capacity. In the Chinese literature, Huazhong University of science and technology, Beijing Normal University, Renmin University of China and Xiamen University have conducted in-depth research in this field, with fruitful research results.

(4) Research topic hotspots and frontier. At present, most of the English literature focuses on internationalization and innovation, governance and management related issues, academic and performance, policy and reform, personnel and trade union organizations. In the future, the research direction will be more detailed and microcosmic, focusing on model, leadership, government, transformation, challenge, neo-liberalism and other directions, from different perspectives. Chinese literature focuses on governance structure, university charter, university management, power restriction, governance modernization and other aspects. In the future, more academic contributions will be made around the construction of "double first-class" and world-class universities. The governance system and governance modernization with Chinese characteristics will also become the research focus.

References

- Carnegie, G. D., & Tuck, J. (2010). Understanding the ABC of university governance. *Australian Journal of Public Administration*, 69(4), 431–441. <https://doi.org/10.1111/j.1467-8500.2010.00699.x>
- Mittelman, J. H. (2019). To risk or derisk the soul of the university? The peril in educational globalization. *Globalizations*, 16(5), 707–716. <https://doi.org/10.1080/14747731.2019.1578065>