Research on Xi Jinping Thought in Taiwan——Based on Bibliometric Analysis

Cong Zhao
School of Marxsim, Zhejiang A&F University, Hangzhou, 311300, Zhejiang, China

Yanmin Xu*
School of Marxsim, Guangdong Ocean University, Zhanjiang, 524088, Guangdong, China
yuyanmin85109@163.com

Sisi Chen
School of Marxsim, Liming Vocational University, Quanzhou, 362000, Fujian, China
20220037@ZAFU.edu.cn

Abstract: Background: With China's increasing global presence, Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era (Xi Jinping Thought) has captured the attention of international scholars, becoming a focal point in international studies on China. Notably, the academic community in Taiwan has also displayed a growing interest in this subject. Purpose/Significance: This study aims to objectively reveal the key areas and evolving trends in academic research on Xi Jinping Thought in Taiwan. It seeks to explore how cross-strait exchanges and dialogues can be enhanced in the context of the new era, thereby advancing discussions on Xi Jinping Thought. This research is committed to driving both theoretical innovation and practical applications, improving the dissemination of international discourse, and providing a reliable reference base. Methods/Process: This research applied social network analysis, cluster analysis, and strategic diagram to analyze the keywords extracted from articles on Xi Jinping Thought indexed in the Airitilibrary Database. Results: The findings reveal that "CPC's Policy toward Taiwan" is the core research subject on Xi Jinping Thought in Taiwan's academic arena. Conversely, "Foreign Strategies", "Thought on Strengthening the Military", and the "19th National Congress of the CPC" represent comparatively niche areas of research in this field. Despite receiving significant attention, the concept of the "BRI" lacks a comprehensive theoretical framework. Recent research frontiers in Taiwan include "United Front", "20th National Congress of CPC" and the "COVID-19 Pandemic". Conclusion: This study concludes that there has been consistent enthusiasm for the exploration of Xi Jinping Thought in Taiwan's academic community since the 18th Party Congress of the CPC. However, research perspectives vary widely, and the topics are fragmented, lacking systematic and continuous exploration. An established academic community has not yet emerged.
Keywords: Xi Jinping Thought; Taiwan academia; Bibliometrics; International Communication

1. INTRODUCTION

Due to China's increasing prominence on the global stage, the international academic community has intensified its research on this country, focusing particularly on the governing philosophy of its contemporary leaders. General Secretary Xi Jinping has led the nation into a new era of socialism with Chinese characteristics. Since the 18th National Congress of the Chinese Communist Party (CPC), China's reform and opening-up, along with its tendency toward socialist modernization, have achieved significant success, enhancing the nation's comprehensive strength and international standing. This progress can be attributed to the strong leadership of the Party Central Committee, with Comrade Xi Jinping at its core (CHEN, 2019). The 19th National Congress of the CPC introduced "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era" (Xi Jinping Thought), providing a significant theoretical innovation and the latest achievement in adapting Marxism to the Chinese context(XIAO, 2018). Consequently, research on Xi Jinping Thought has garnered widespread attention and acclaim from the global academic community. The academic community has widely used bibliometric methods to systematically analyze aspects of Xi Jinping Thought.

(1) For example, from the perspective of Xi Jinping Thought on news and public opinion, Zhu Runping and Yu Xinxin conducted a bibliometric analysis using CiteSpace software, identifying four main research hotspots: background origin, ideological core, news public opinion, and learning perception (Zhu & Yu, 2023). In addition, Gong Chengbo and Sun Yu conducted a comprehensive analysis of Xi Jinping's discourse on news and public opinion using co-word analysis on papers from core CNKI journals. They found that academic achievements in this field focus on diachronic combing, systematic construction, and constructive improvement of Xi Jinping's discourse (Gong & Sun, 2022).

(2) From the viewpoint of Xi Jinping Thought on youth works, Liang Tongtong and Zhang Liang conducted a bibliometric analysis of the CSSCI database from 2013 to 2021. They focused on the formation background, scientific connotation, practical paths, and contemporary value of Xi Jinping Thought on youth works (Liang & Zhang, 2023).

(3) Regarding Xi Jinping Thought on ecological civilization, Deng Siyang and Zhang Xiao used the CSSCI database from 2013 to 2021 to analyze the background, essence, path exploration, significance, and

value of its formation and development. They emphasized the need for future research to strengthen problem awareness, interdisciplinary collaboration, and the practicality and application of their study (Deng & Zhang, 2022).

(4) In terms of Xi Jinping Thought regarding scientific and technological innovation, Jiang Tianchan and Zhang Xiao handled a bibliometric analysis of the CSSCI database from 2013 to 2021, examining Xi Jinping's discourse on scientific and technological innovation. Their research concentrated on the connotative significance, implementation mechanisms, institutional guarantees, and applications (JIANG & ZHANG, 2022).

(5) From the aspect of Xi Jinping Thought on diplomacy, Jiang Tianchan systematically analyzed used the CSSCI database from 2013 to 2021 to obtain a series of significant research findings (Jiang, 2022).

(6) In terms of Xi Jinping Thought on socialism with Chinese characteristics for a new era, Yu Hongjun and Yin Jun performed a bibliometric analysis of CNKI literature from 2012 to 2020. They noted that significant achievements have been made in theoretical traceability and framework systems, but empirical research methods remain relatively weak (YU & YIN, 2021). The research on Xi Jinping Thought in Taiwan's academic circles mainly includes the following aspects:

(1) Regarding diplomatic thought and foreign policy, Win-ping Kuo and Mao-chia Sun analyzed Xi Jinping's diplomatic speeches since he took office in 2012 using text mining and corpus analysis. They identified three main themes in Xi Jinping's diplomatic discourse: development cooperation, the Belt and Road Initiative (BRI), and the vision of global win-win (Win-ping & Mao-chia, 2023). Li I-Chen analyzed Xi Jinping's foreign policy and argued that its overall framework continues along four axes: the key to great powers, the primacy of neighboring countries, the foundation of developing countries, and the multilateral arena. Under the influence of globalization, the policy emphasizes economic integration and global governance. It aims to build a community with a shared future for mankind, pursue strategic goals in global governance reform, establish new types of major-country relations, and either rebuild or lead global governance (Li, 2019).

(2) Chang Hsiang-Shan analyzed Xi Jinping Thought and policy towards Taiwan, highlighting its core components: the Chinese Dream, the One-China Principle, and a diplomatic strategy towards small countries. Emphasizing the national interests of a cross-strait community with a shared future, Xi Jinping proposes a systematic and

step-by-step ideological framework (Chang, 2018).

(3) Jin-Ping Chen analyzed Xi Jinping's military strategic thinking, identifying that it has the following components: military strategic principles, strategic objectives, four strategic supports, and strategic means for the new era. Emphasizing trends such as obedience to CPC command and intelligent warfare, Xi's strategic guidance has achieved significant results, despite encountering challenges of compatibility (Jin-Ping, 2020). Hansheng Chu discusses Xi Jinping's four comprehensive general strategies from the perspective of the CCP's deepening national defense and military reform (Hansheng, 2016). Currently, Chinese scholars extensively employ bibliometric methods to study Xi Jinping Thought, encompassing diplomacy, ecology, news and public opinion, science and technology, youth work, ideological and political theory, and the overall study of socialism with Chinese characteristics. However, these studies are confined to mainland Chinese academic databases such as CNKI or CSSCI. Conversely, Taiwan's academic circles primarily focus on diplomacy, Taiwan policy, and military matters, without utilizing bibliometric research methods to explore Xi Jinping Thought. Mainland Chinese scholars are less engaged in Taiwan-related research, while Taiwanese academic circles lack comprehensive and systematic analyses. Given substantial differences in academic background, resources, and research directions between China and Taiwan, there is a crucial need to comprehensively understand the research status, primary fields, and developmental trends of Xi Jinping Thought in Taiwan's academic circles. Drawing upon the extensive application of bibliometrics in China, this paper aims to address this gap by systematically examining the current research status of Xi Jinping Thought within Taiwan's academic circles. By conducting bibliometric analyses of relevant literature from the Taiwan Huayi database spanning 2012 to 2024, this study intends to uncover research hotspots, trends, and potential avenues for cross-strait academic exchanges and dialogues. Specifically, it employs keyword extraction, social network analysis, cluster analysis, and strategic map analysis to elucidate the research characteristics and latest developments of Xi Jinping Thought in Taiwanese academic discourse. Given the unique dynamics of cross-strait relations, Taiwan's academic community has maintained a vigilant focus on the Chinese Communist Party (CPC). With the growing international interest in studying Xi Jinping Thought, Taiwan's scholars have also increased their attention to this topic. However, there is currently a lack of comprehensive analysis and research on Xi Jinping

Thought within Taiwan's academic sphere. The perspectives of Taiwanese scholars on the dissemination of research achievements regarding Xi Jinping's ideology significantly shape Taiwanese compatriots' understanding of the CPC under Xi Jinping's leadership and their perceptions of Socialism with Chinese Characteristics in the New Era. Therefore, it is essential to comprehensively and systematically understand the current status, key areas of interest, and evolving trends in research on Xi Jinping Thought within Taiwan's academic domain for two main reasons. Firstly, it can broaden horizons in Chinese academic circles, fostering the understanding of diverse perspectives and research outcomes across regional, cultural, and political contexts. Concurrently, amid this new era, active engagement in academic exchanges and collaboration across the Taiwan Strait can promote interaction and cooperation among researchers, advance the exploration of Xi Jinping Thought, continually integrate theory and practice, and deepen research on its application and development. Secondly, this endeavor can promote cross-strait exchanges and dialogue, enhancing mutual understanding and respect between compatriots on both sides of the Taiwan Strait. In this way, it can achieve Peaceful Reunification and realize the strategic goal of the Great Rejuvenation of the Chinese Nation. This effort will effectively convey China's narrative, bolster its global voice, enhance overseas discourse power, and provide a solid foundation for reliable reference.

2. DATA SOURCE AND METHODOLOGY

2.1 Data Source

The Taiwan Airitilibrary Academic Literature Database currently serves as the most comprehensive repository for gathering academic information from Taiwan. This study utilized this database as its primary data source, employing "Xi Jinping" as the primary search term and specifying the region as "Taiwan". Although Xi Jinping Thought was officially introduced at the 19th National Congress of the Communist Party of China, numerous studies on General Secretary Xi Jinping's significant speeches have been conducted since the 18th National Congress. Therefore, this study systematically searched the database from 2012 (YU & YIN, 2021) to 2024. Following manual screening and filtering, it excluded articles lacking author-designated keywords and categorized them as non-academic literature. In total, it identified 324

relevant articles. This search was conducted on April 20th, 2024.

2.2 Theories of Research Methods

This study primarily utilizes co-word analysis to explore themes presented in the literature collection. Co-word analysis is a method for examining the content of articles, used by Callon in the 1970s (Callon et al., 1991). Keywords, in this context, are words or phrases that offer insight into the thematic content of literature and capture relevant concepts, theories, and methodologies. They are the primary source for co-word analysis (Changping & Guo, 2014). This method involves counting pairwise occurrences of the same set of keywords within articles, generating a co-occurrence matrix. Examining intrinsic relationships and the scientific structure of literature through co-word analysis paves the way for assessing the developmental stage of a discipline and the alterations in its internal framework (Donohue, 1973).

3. PRELIMINARY STATISTICAL ANALYSIS

3.1 Publication Years

The number of publications is a crucial indicator of progress within an academic field. Figure 1 depicts the annual and cumulative counts of publications related to research on Xi Jinping Thought in Taiwan. The distribution of publication years for the 325 papers spans from 2012 to 2024, without any relevant papers published during 2009-2011. Figure 1 shows the distribution of 325 papers by publication year, reflecting the evolution of research on Xi Jinping Thought in Taiwan across the following two distinct stages.

(1) The first stage ranges within 2012-2017, witnessing a rapid growth period along with fluctuating paper publications. In 2013, published papers increased by 4.5 times compared with the previous year. Then, the overall trend increased year by year, and the first publication peak reached in 2016. One reason for this growth is that socialism with Chinese characteristics entered a new era after the 18th Dynasty.

(2) The second stage is a steady developmental period within 2018-2024. This stage, compared to the previous one, experienced the continuation of further increase in the publication, after the successful convening of the 19th National Congress of the Communist Party of China. Then, it entered a stable period of high publications, with an average annual publication of 31.43 papers (an increase of 79.6% over the

previous stage) and a total of 220 papers (an increase of 1.1 times compared with the previous stage), reaching the highest peak of publications in 2019.

Figure 1: Temporal Distribution of Research on Xi Jinping Thought in Taiwan

3.2 Published Journals

A total of 324 papers were published in 58 journals. Table 1 lists the journals that published more than 5 articles each, indicating two journals, i.e., 1- Navy Professional Journal and 2- Prospect & Exploration, with the most publications on this topic. The research encompasses a range of fields such as military studies, law, political science, and economics. Among all the journals, 11 publications, including Mainland China Studies and Prospect Quarterly, are indexed in the Taiwan Social Science Citation Index (TSSCI) while a journal, EurAmerica: A Journal of European and American Studies, is indexed in TCHI, totaling 69 articles as shown in Table 2 and representing 21.3% of the total journal articles. Furthermore, influential academic journals in Taiwan record a relatively low proportion of research outputs related to this topic, introducing the theme as high-quality research to a limited extent within Taiwan's academic community.

Table 1(a): Published journals (Threshold≥5)

No.	Names of Journals	Number of Published Articles
1	Navy Professional Journal	55
2	Prospect & Exploration	50
3	Mainland China Studies	25
4	Economic Outlook Bimonthly	24
5	National Defence	21
6	Issues & Studies	20
7	Prospect Quarterly	13

Table 1(b): Published Journals (Threshold≥5)

No.	Names of Journals	Number of Published Articles
8	Journal of Development and Prospect	13
9	Taiwan International Studies Quarterly	12
10	Review of Global Politics	10
11	Fu Hsing Kang Academic Journal	9
12	Army Bimonthly	5
13	Publication of Military Social Science	5

Table 2: Published journals from TSSCI

No.	Names of Journals	Number of Published Articles
1	Mainland China Studies	25
2	Issues & Studies	20
3	Prospect Quarterly	13
4	Chinese Political Science Review	2
5	Taiwan Democracy Quarterly	2
6	Mass Communication Research	1
7	Chinese Journal of Communication Research	1
8	Journal of Communication Research and Practice	1
9	Taiwan Journal of Political Science	1
10	Political Science Review	1
11	Soochow Journal of Political Science	1
12	EurAmerica: A Journal of European and American Studies	1

3.3 Institutions

Table 3 lists institutions that published more than 5 articles in the field. According to Table 3, the 325 papers are predominantly distributed among universities, particularly within specialized research institutes at a few institutions, including National Defense University, National Cheng-Chi University, and Chinese Culture University.

The National Defense University ranks first with 63 publications, accounting for 19.38% of the total, closely followed by National Cheng-Chi University and the First Research Division from Chung-Hua Institution for Economic Research, with the second and third ranks, respectively. The National Defense University focuses on military research while the First Research Division from Chung-Hua Institution for Economic Research concentrates on research related to China's economic policies from Taiwan's perspective.

Table 3: Institutions (Threshold≥5)

No.	Names of Institutions	Number of Published Articles
1	National Defence University	63
2	National Cheng-Chi University	38
3	Chinese Culture University	26
4	The First Research Division, Chung-Hua Institution for Economic Research	24
5	Tamkang University	12
6	National Sun Yat-sen University	12
7	Army Academy R.O.C	10
8	National Taiwan Normal University	9
9	National Taiwan University	9
10	Ministry of National Defense	6
11	Kainan University	6

3.4 Authors

Figure 2 displays the distribution of papers among researchers. Regarding Figure 2, the 325 papers have a total of 278 authors including 170 sole authors. Among them, You-lin Shei from the Army Academy R.O.C. has the highest number of publications, with a total of 10 papers. Following closely is Huan-Sen Chen from the Political Warfare College of National Defense University, with 7 papers that primarily focus on military reforms during the Xi Jinping era, while Huan-Sen Chen specializes in the issue of anti-corruption within the CPC. According to Price's formula: $Np = 0.749 \times \sqrt{nmax}$ (where n_{max} represents the maximum number of articles published by the most productive author within a certain period), an author must publish at least N papers to be considered a prolific author. In this case, the most productive author has published 10 articles, which results in N≈2.27. This means that authors who have published 2 or more articles can be considered prolific. Therefore, a total of 68 authors are prolific with 2 or more articles. Figure 2 illustrates a knowledge graph based on publication count and collaboration relationships for 68 prolific authors, drawn by the VOSviewer software. It employs font size of nodes and labels to show the publication count, and utilizes connections between nodes to indicate collaborative relationships among authors. Based on the figure, the authors hold limited collaboration and communication, indicating a focus on individual authorship and relatively dispersed nodes. These 68 prolific authors have collectively contributed 266 articles, amounting to 81.85% of the total publications, averaging 3.91 papers per

author.

Globally, their performance brings relative satisfaction, comprising 24.55% of all authors, slightly below Price's conjecture that 10% of scholars publish half of the total number of papers. In terms of research continuity, the Lotka's Law suggests that if authors with only one published article account for over 60% of all authors in a particular study, it suggests that most authors have not conducted sustained research on that topic. The statistical analysis within Taiwan's academic field reveals that 75.45% of authors who have published on the topic of "Xi Jinping Thought" have contributed only one article. This percentage significantly exceeds the reference value of Lotka's law. This observation suggests that the majority of authors in Taiwan lack strong research continuity on this topic, indicating a lack of systematic and sustained research within Taiwan's academic domain. Most authors have not deeply delved into this area of study.

Figure 2: Authors Cooperation Network (Threshold≧2)

4. RESEARCH HOTSPOTS ANALYSIS

4.1 Determination of High-frequency Keywords

Table 4: List of High-frequency Keywords (Threshold≥5)

No.	Keywords	Freq	No.	Keywords	Freq
1	Xi Jinping	66	25	21st Century Maritime Silk Road	6
2	BRI	41	26	Rise of China	5
3	19th National Congress of CPC	15	27	Joint Operations	5
4	China	14	28	South China Sea	5
5	Military Reform	13	29	COVID-19 Pandemic	5
6	Cross-Strait Relations	13	30	PLA	5
7	Target of Strengthening Military	11	31	AIIB	5
8	Chinese Dream	10	32	Geopolitics	5
9	CPC	10	33	Preferential Policies for Taiwan	4
10	CPC's Policy toward Taiwan	10	34	Institutionalization	4
11	New Model of Major-country Relations	9	35	Trade Wars	4
12	Political Work	9	36	Dream of Strengthening Military	4
13	China-US Relations	8	37	Ma Ying-jeou	4
14	Anti-corruption	8	38	Law-based Governance	4
15	20th National Congress of CPC	8	39	North Korea	4
16	One Country Two Systems	7	40	PLAN	4
17	China Mainland	7	41	Balance of Power	4
18	1992 Consensus	6	42	China-Japan Relations	4
19	United Front	6	43	Economic Development	4
20	Silk Road Economic Belt	6	44	Obeying the Command of the Party	4
21	Authoritarian Regime	6	45	Ideology	4
22	CMC	6	46	AI	4
23	Foreign Policy	6	47	Common Prosperity	4
24	Indo-Pacific Strategy	6			

This research extracted author keywords from a total of 325 papers, and used the Co-Occurrence 14.5 software (abbreviated as COOC14.5) for synonym merging. It obtained a total of 906 keywords with a cumulative frequency of 1,410, out of which 716 keywords appeared only once. This result indicates that the research on the theme of "Xi Jinping Thought" in Taiwan is characterized by dispersed keywords, suggesting that a concentrated focus on this topic has yet to be established in Taiwan. To realize the high-frequency keywords, this research calculates the Donohue's equation, $T = \frac{1}{2}(-1+\sqrt{1 + 8I1})$, where $I1$ represents the number of keywords with a frequency of 1 (Han et al., 2007). The resulting T-value is approximately equal to 37, indicating only two high-frequency keywords including "Xi Jinping" and "BRI". However, this result provides insufficient evidence to robustly reflect the current state of research in Taiwan on "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era". To comprehensively present the research content, this paper selects keywords with a frequency of 4 or more as high-frequency terms, resulting in a final selection of 47 high-frequency keywords (as shown in Table 4). The table introduces the following keywords as the prominent topics within research on this theme: 'Xi Jinping', 'BRI', 'Cross-Strait Relations', 'China', 'Military Reform', 'Target of Strengthening Military', 'Chinese Dream', 'CPC', and 'CPC's Policy toward Taiwan'.

4.2 Construction of High-Frequency Keywords Matrix

Statistics of high-frequency keywords allow one to identify the hot topics in a research field. However, it does not provide insights into the relationships between individual keywords. Therefore, the software COOC14.5 is used to construct a 47×47co-occurrence matrix for the aforementioned high-frequency keywords, as shown in TAB.5. The values at the intersections of different keywords represent their co-occurrence frequency, while the values at the intersections of the same keyword indicate its occurrence frequency.

4.3 Social Network Analysis

This study imported the co-occurrence matrix of high-frequency keywords generated from Table 5 into UCINET

to visualize the co-occurrence network graph, as shown in Figure 3. The graph consists of 46 square nodes connected to each other, representing the relationship network. The number and size of the square node represent the number and centrality of a keyword. The connections between nodes indicate that the keywords co-occur in the same papers, with thicker lines representing higher co-occurrence frequencies and stronger associations between the keywords. A combination of Table 5 with Figure 3 shows that "Xi Jinping" occupies the most central position. In addition, the next tier of centrality involves "BRI", "China-US Relations", "Target of Strengthening Military", "1992 Consensus", "PLA" and "CMC", forming the current hot topics in the research field of "Xi Jinping Thought" in Taiwan academic domain. Keywords such as "Joint Operations", "North Korea", "China Mainland" and "Trade War" receive less attention and are on the periphery of research, indicating emerging research areas.

Table 5: High-Frequency Keywords Matrix (Partial)

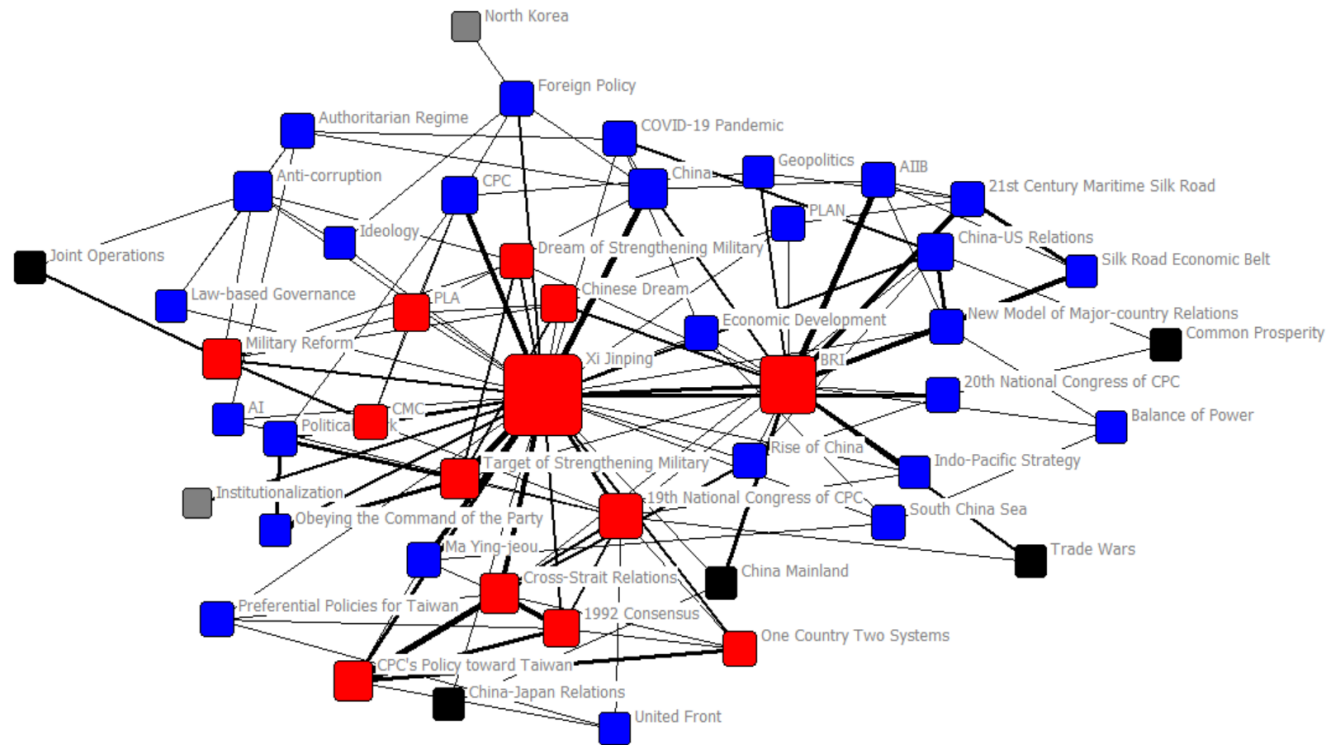|	Xi Jinping	BRI	19th National Congress of CPC	China	Cross-Strait Relations	Military Reform	Target of Strengthening Military	CPC's Policy Toward Taiwan	CPC
Xi Jinping	66	3	3	5	4	2	5	3	4
BRI	3	41	1	2	0	0	1	0	0
19th National Congress of CPC	3	1	15	0	0	0	1	2	0
China	5	2	0	14	0	0	0	0	0
Cross-Strait Relations	4	0	0	0	13	0	0	5	0
Military Reform	2	0	0	0	0	13	0	0	0
Target of Strengthening Military	5	1	1	0	0	0	11	0	0
CPC's Policy Toward Taiwan	3	0	2	0	5	0	0	10	0
CPC	4	0	0	0	0	0	0	0	10

Figure 3: High-Frequency Co-Occurrence Network Graph (Threshold≧4)

Furthermore, this research refines and determines the research hotspots in this field using three centrality indicators. Degree centrality is a commonly used metric in social network analysis to measure the centrality of a node in a relational network. In the graph, each square represents a keyword, and connections between squares indicate co-occurrence of keywords in the same paper. Thick connections denote a high frequency of occurrence of the two keywords in the same paper, suggesting their strong association. According to analysis conducted using Ucinet, the overall degree centrality of the network is 27.73%, indicating a relatively low level of association and co-occurrence among keywords in this research field.

Table 6 presents keywords with higher degree centrality scores, with "Xi Jinping" having the highest centrality, indicating its core position in the network. The average degree centrality value calculated by the software is 8.936. Degree centrality values are higher than the average in some keywords, e.g., "BRI", "Cross-Strait Relations", "CPC's Policy toward Taiwan", "Target of Strengthening Military", and "19th National Congress of CPC". This observation implies their close relationship within the entire network and their prominent position in the field as current hot topics.

Table 6: Degree Centrality Data for High-Frequency Keywords

No.	Keywords	Degree	NrmGegree	Share
1	Xi Jinping	70.000	30.435	0.167
2	BRI	39.000	16.957	0.093
3	Cross-Strait Relations	19.000	8.261	0.045
4	CPC's Policy toward Taiwan	18.000	7.826	0.043
5	Target of Strengthening Military	17.000	7.391	0.04
6	19th National Congress of CPC	15.000	6.522	0.036
7	1992 Consensus	13.000	5.652	0.031
8	China	12.000	5.217	0.029
9	China-US Relations	10.000	4.348	0.024
10	21st Century Maritime Silk Road	10.000	4.348	0.024
11	Military Reform	10.000	4.348	0.024
12	CPC	9.000	3.913	0.021
13	AIIB	9.000	3.913	0.021
14	Political Work	9.000	3.913	0.021

Betweenness centrality assesses the importance of a node in a network based on its position along the shortest paths between other pairs of nodes. If a node lies on numerous paths connecting other nodes, its intermediary role is sufficiently effective in controlling the interactions. Software analysis reveals that the overall betweenness centrality of the network is 60.03%, indicating moderate mutual influence among the keywords. Table 7 presents high-frequency keywords ranked by their betweenness centrality in descending order. According to Table 7, "Xi Jinping" has the highest betweenness centrality, highlighting its role as a central connector among other keywords and positioning it at the core of the network. The average betweenness centrality value is 26.596. Comparing Tables 6 and 7, although "Anti-corruption" and "Foreign Policy" have lower degree centrality values than the average, they exhibit higher betweenness centrality, confirming their ability to control other keywords and serve as important bridges

within the entire network.

Table 7: Betweenness Centrality Data for High-Frequency Keywords

No.	Keywords	Betweenness	nBetweenness
1	Xi Jinping	634.716	61.325
2	BRI	196.797	19.014
3	19th National Congress of CPC	59.413	5.74
4	Foreign Policy	47.202	4.561
5	China	35.371	3.417
6	Anti-corruption	30.731	2.969

Closeness centrality measures the ability of a node in a network to reach other nodes efficiently, without being controlled by them. According to calculations from Ucinet software, the overall closeness centrality of the network is 68.84%, indicating effective information transmission within the network. Table 8 lists keywords with closeness centrality values lower than the average of 99.190. It is observed that 'Xi Jinping' has the smallest closeness centrality value, indicating its easy accessibility to other keywords at the shortest distance and its core position in the network. Comparing Tables 6 and 7, keywords such as "Anti-corruption" and "Foreign Policy" exhibit slightly lower degree centrality but slightly higher betweenness centrality. Conversely, keywords like "Cross-Strait Relations", "1992 Consensus", "CPC's Policy towards Taiwan", "Target of Strengthening Military", "China-US Relations", "Military Reform", "CPC" and "Political Work" show slightly higher degree centrality but slightly lower betweenness centrality. These keywords also slightly fall below the average level in terms of closeness centrality. These indicators suggest the close connections of the mentioned keywords with other keywords and their role as bridges and core nodes, highlighting their significance as current research hotspots.

Table 8(a): Closeness Centrality Data for High-Frequency Keywords

No.	Keywords	Farness	Closeness
1	Xi Jinping	57.000	80.702
2	BRI	75.000	61.333
3	19th National Congress of CPC	84.000	54.762
4	China	88.000	52.273
5	Target of Strengthening Military	89.000	51.685
6	Dream of Strengthening Military	90.000	51.111
7	Chinese Dream	90.000	51.111

Table 8(b): Closeness Centrality Data for High-Frequency Keywords

No.	Keywords	Farness	Closeness
8	New Model of Major-country Relations	91.000	50.549
9	Rise of China	91.000	50.549
10	20th National Congress of CPC	92.000	50.000
11	Economic Development	92.000	50.000
12	China-US Relations	93.000	49.462
13	Cross-Strait Relations	93.000	49.462
14	PLAN	93.000	49.462
15	PLA	93.000	49.462
16	Indo-Pacific Strategy	93.000	49.462
17	CPC's Policy toward Taiwan	94.000	48.936
18	CPC	94.000	48.936
19	CMC	94.000	48.936
20	China Mainland	94.000	48.936
21	Foreign Policy	94.000	48.936
22	Military Reform	94.000	48.936
23	Anti-corruption	94.000	48.936
24	1992 Consensus	95.000	48.421
25	COVID-19 Pandemic	95.000	48.421
26	One Country Two Systems	96.000	47.917
27	AI	97.000	47.423
28	Ideology	97.000	47.423
29	Ma Ying-jeou	97.000	47.423
30	Political Work	98.000	46.939
31	Law-based Governance	98.000	46.939
32	South China Sea	98.000	46.939
33	Preferential Policies for Taiwan	98.000	46.939

Based on the analysis of the three centrality indicators, the Taiwan academic community has focused on "Xi Jinping", "BRI", "19th National Congress of CPC" and "China", indicating the popularity of these topics. Additionally, this community paid significant attention to "1992 Consensus", "Cross-Strait Relations", "Target of Strengthening Military", "CPC's Policy towards Taiwan", "Anti-corruption", "CPC", "China-US Relations", "Political Work", "Military Reform", and "Foreign Policy". However, the indicators show that the following topics are in the periphery category receiving relatively low attention: "North Korea", "Common Property", "Joint Operation", and "Institutionalization". This result

provides future research directions of interest within the Taiwan academic domain.

4.4 Cluster Analysis

This research uses the co-occurrence matrix of high-frequency keywords generated from COOC9.9 software to create a dissimilarity matrix. Then, it imported this dependency matrix into SPSS software for systematic cluster analysis of the 46 identified high-frequency keywords. Moreover, it employed the ward method as the clustering method, using squared Euclidean distance as the measurement criterion. Finally, it standardizes and manually adjusts the data, using Z-scores and clustering method in the software to classify the 46 high-frequency keywords into 8 thematic clusters. The clustering techniques based solely on the shortest distance between keywords may disregard semantic logical connections between words.

To analyze the core concepts of each cluster, this study adopts the cohesion concept introduced by scholars such as Zhong Jinwei et al. The cohesion value measures the contribution of each keyword within a cluster to the thematic clustering. A high cohesion value indicates a great contribution of the keyword to the cluster, thereby effectively representing the core concept of the cluster. Therefore, naming the cluster based on the keyword with the highest cohesion value is considered more objective and accurate. The cohesion is calculated by the following equation.

$N(Ai) = \frac{1}{n-1} \times \sum_{j=1}^{n \neq i} F(Ai \rightarrow Bj)$, where $N(Ai)$ represents the cohesion of keyword Ai, $F(Ai \rightarrow Bj)$ signifies the co-occurrence frequency of keyword Ai with other keywords within the cluster (Zhao & Wu, 2013), and n denotes the number of keywords in the cluster. Table 9 represents the results of the systematic clustering and the cohesion values of the keywords in each cluster. Based on the results, this study analyzes the semantic relationships within the combinations of thematic keywords based on the central word of each cluster. This analysis helps determine the names for each cluster by providing 8 thematic clusters (Category 1: CPC's Policy toward Taiwan, Category 2: Foreign Strategies; Category 3: BRI, Category 4: Thought on Strengthening the Military, and Category 5: 19th National Congress of CPC).

Table 9(a): Cohesion Values of Keywords in Each Cluster

No.	Category	Keywords	Adhesiveness Value	No.	Category	Keywords	Adhesiveness Value
1	CPC's Policy toward Taiwan	Xi Jinping	10			COVID-19 Pandemic	1.2
		Cross-Strait Relations	2.71			Economic Development	0.8
		CPC's Policy toward Taiwan	2.57	4	Thought on Strengthening the Military	Military Reform	1.11
		1992 Consensus	1.86			Target of Strengthening Military	1.89
		One Country Two Systems	1.14			Dream of Strengthening Military	0.78
		United Front	0.43			PLA	0.67
		Ma Ying-jeou	1			CMC	0.78
		Preferential Policies for Taiwan	0.57			Political Work	1
2	Foreign Strategies	New Model of Major-country Relations	0.64			Obeying the Command of Party	0.89
		China-Japan Relations	0.18			Joint Operations	0.33
		Rise of China				PLAN	0.44
		Foreign Policy	0.55			Chinese Dream	0.89
		North Korea	0.09	5	19th National Congress of CPC	Institutionalization	0.2
		China Mainland	0.45			Authoritarian Regime	0.5
		China-US Relations	0.91			Law-based Governance	0.3
		Geopolitics				CPC	0.9
		Indo-Pacific Strategy	0.45			Anti-corruption	0.7

Table 9(a): Cohesion Values of Keywords in Each Cluster

No	Category	Keywords	Adhesiveness Value	No	Category	Keywords	Adhesiveness Value
		South China Sea	0.36			19th National Congress of CPC	1.5
		Balance of Power	0.27			20th National Congress of CPC	0.6
		Trade Wars	0.27			China	1.2
3	BRI	BRI	7.8			Ideology	0.3
		21st Century Maritime Silk Road	2			AI	0.3
		Silk Road Economic Belt	1.6			Common Prosperity	0.2
		AIIB	1.8				

4.5 Strategic Diagram Analysis

Strategic coordinates, introduced by Law et al. in 1998, are a method that combines cluster analysis and two key indicators, centrality value and density value, to measure the internal connectivity between different thematic clusters. This approach can determine the relationships between different categories and identify core and mature categories within the clusters. Utilizing these strategic coordinates, researchers can gain insights into the interplay between various research domains and the internal connections within a given field. This approach helps map out the research landscape and fosters an understanding of the relationships between different thematic areas within that field. The density value assesses the degree of association among keywords within a cluster, indicating the cluster's ability to sustain and develop itself. It is calculated as the average of pairwise co-occurrence frequencies among keywords within the cluster. The centrality value measures the strength of the relationships between different thematic clusters, based on the co-occurrence frequency between the keywords of one cluster and those of other clusters. To create the strategic coordinate graph, this study calculated the density and centrality values for each of the nine thematic clusters. Their average values served as the coordinates for the origin (see TAB.10). Using this data, coordinates for each cluster

were determined, resulting in the generation of the strategic coordinate graph (FIG.4). This graph provides insights into the relationships between different thematic areas within the research field.

Table 10: Centrality Index and Density Index of Each Thematic Category

No.	Categories' Names	Density Index	Centrality Index
1	CPC's Policy toward Taiwan	9	8.75
2	Foreign Strategies	1	3.67
3	BRI	3.67	9
4	Thought on Strengthening the Military	0.8	7.1
5	19th National Congress of CPC	0.64	5.455
	Origin Coordinate	3.02	6.79
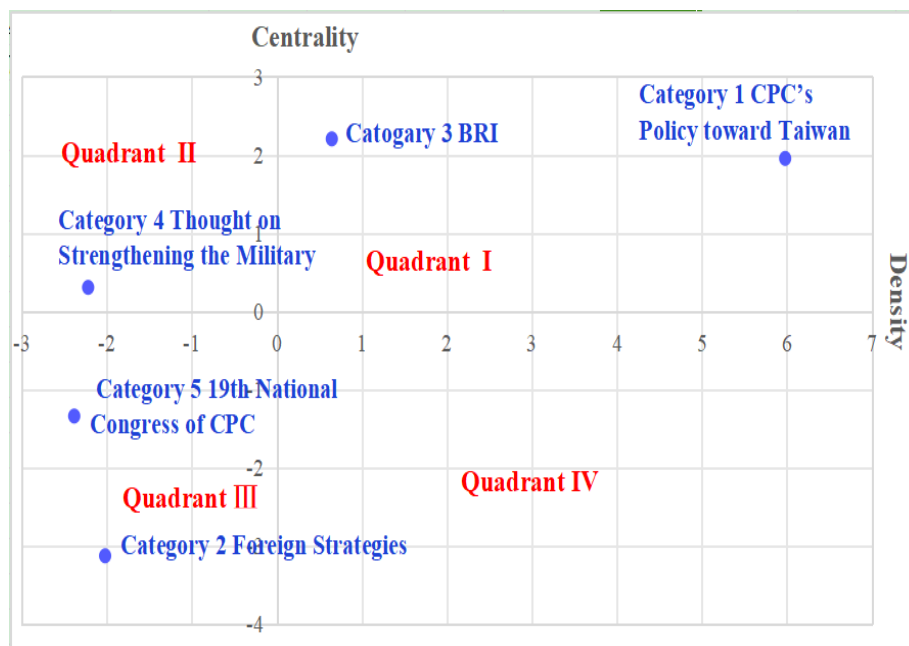
Figure 4: Strategic Diagram of "Xi Jingping Thought" in Taiwan

Based on the density and centrality value indicators, the clusters can be categorized into 4 quadrants. Categories in Quadrant I serve as the focus and core of research in this domain, indicating their relatively mature development. Categories in Quadrant II are positioned at the periphery of research in this domain and are relatively mature but with lower significance.

Categories in Quadrant III denote areas of research that have received less exploration and effort, possibly signifying emerging topics or fading themes. Categories in Quadrant IV wield significant influence in the domain and garner widespread attention from scholars. However, their development is not yet mature, despite their substantial potential for future research. Figure 4 displays the 4 quadrants that cover the 5

thematic clusters. Based on Figure 4, Quadrant I involves Category 1, CPC's Policy toward Taiwan, and Category 3, BRI. Both categories demonstrate high density and centrality, signifying that they are core areas of research on Xi Jinping Thought in the current academic domain in Taiwan. Category 1 boasts the highest density value among all thematic categories, suggesting a longer research history and a larger number of scholars, culminating in a well-established theoretical system. Quadrant Ⅱ includes Category 4, Thought on Strengthening the Military. It shows good centrality performance but with a relatively low density, implying its close connection with other categories and its general attention from the academic domain in Taiwan. Quadrant III encompasses Category 2, Foreign Strategies, and Category 5, 19th National Congress of the CPC. These categories have relatively lower density and centrality values, indicating the low popularity of their research topics within the field of Xi Jinping Thought. The internal structure of these thematic categories is also relatively loose, lacking a systematic theoretical framework and a strong connectivity with other thematic clusters, thus receiving less attention. Papers under the theme of "Foreign Strategies" primarily discuss Northeast Asia's situation and China's relations with Europe, US, Japan, and India.

Due to Taiwanese scholars' focus on the BRI, these two themes have relatively low density and centrality values. However, newly emerging topics often require time to mature, hence their initial placement in Quadrant III (He, 1999). A simple comparison shows that Category 5, 19th National Congress of the CPC, has a slightly lower density value than Category 2, Foreign Strategies, but its centrality value is significantly higher. This comparison indicates promising development potential in terms of centrality and density values compared to other themes in this quadrant, suggesting this topic as a future hot topic in the domain. Category 3, BRI, ranks first in centrality value among all thematic categories. This ranking indicates that, despite opposition and limited participation from the Democratic Progressive Party authorities towards the initiative, Taiwanese scholars maintain a high level of enthusiasm for investigating this topic. They are actively exploring the impact of the Belt and Road construction on Taiwan. However, due to the lower co-occurrence frequency among keywords within this category, the internal structure of the cluster is relatively loose, indicating its immaturity and lack of a well-established theoretical framework. Categories like this pose

challenges in predicting their future trajectory and may evolve into significant themes within their respective fields, showing strong growth potential. However, the loose internal structure of the cluster needs persistent attention, as it may gradually fade with research interests shift across the academic domain.

5. EVOLUTIONARY TRENDS AND CUTTING-EDGE FRONTIERS OF RESEARCH TOPICS

5.1. Research Frontier Trend

Based on the previous social network analysis, cluster analysis, and strategic coordinate analysis, this study used the COOC software to visualize the temporal distribution of keywords to clarify the research topics and development trends in the academic field of Taiwan. Figures 5 and 6 show the evolutionary process of this field as discussed in the earlier study on time distribution. During 2012-2017, when China experienced a period of rapid growth after the 18th National Congress of the CPC, Xi Jinping introduced a series of new ideas, concepts, and strategies for governing the country, ushering in a new era for China. Within this period, China witnessed significant achievements in various areas such as politics, military, culture, and economics, garnering considerable attention from the academic community in Taiwan. It was a pivotal time for the development of "Xi Jinping Thought", leading to a surge in research papers and the emergence of numerous high-frequency keywords such as "BRI", "Chinese Dream", "Military Reform", "New Model of Major-country Relations", and "Cross-Straits Relations". Amid the complex changes in peaceful Cross-Strait Relations and the Taiwan Strait situation, General Secretary Xi Jinping's important remarks on Taiwan-related work became a focal point for Taiwanese scholars. Since 2018, when China witnessed a period of steady development, researchers have deepened their own focus on the topic, compared to the previous phase, leading to the exploration of more specific research questions. Although studies in this period initiated numerous emerging keywords, high-frequency keywords showed a decrease in the total frequency. They emphasized military strategy and the development of the CPC, using terms like "Military Modernization", "Blue-water Navy", "Overseas Base", and "Military Training Practice" frequently appearing in research papers.
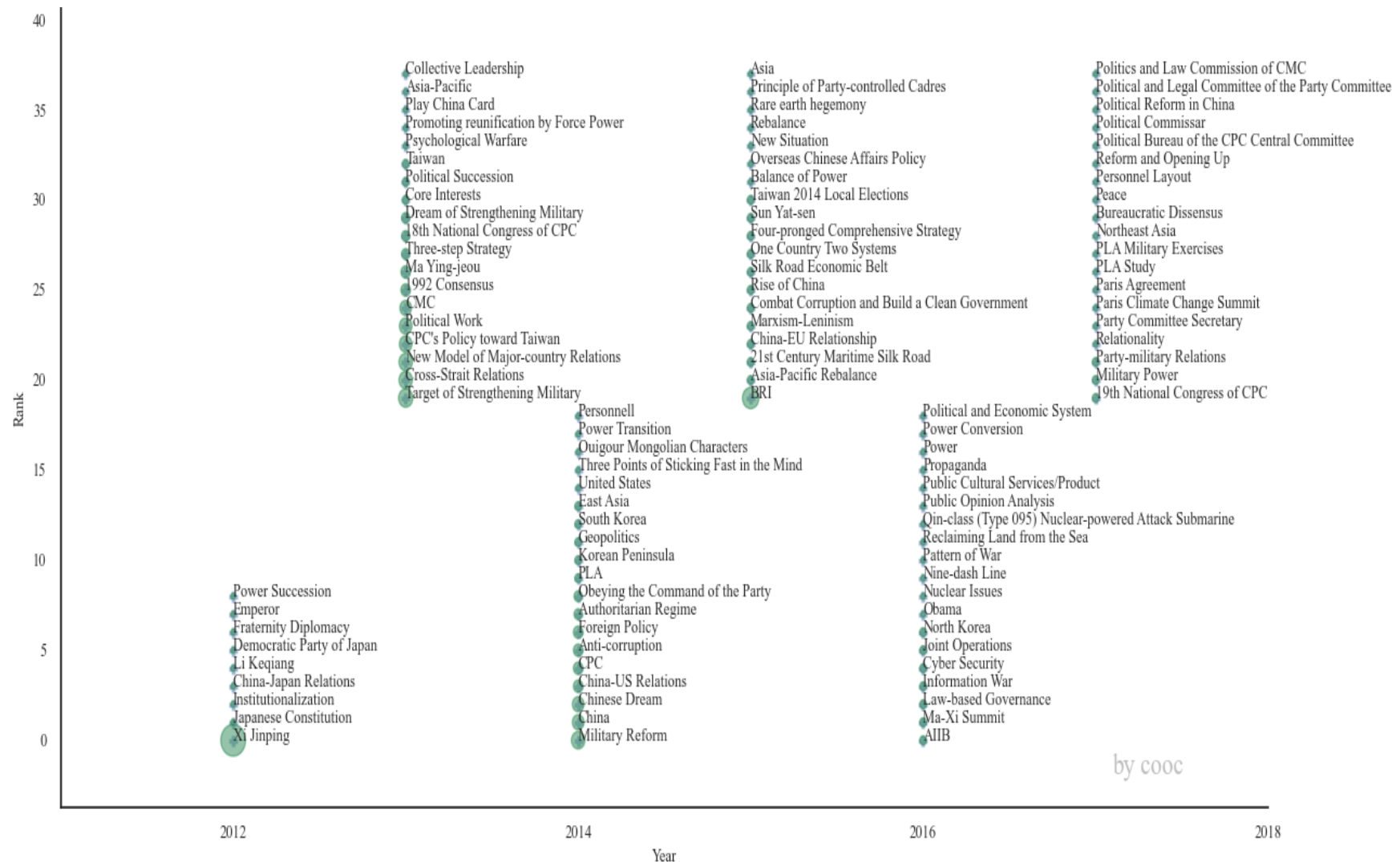
Figure 5: Keywords cumulative time zone distribution (2012-2017)
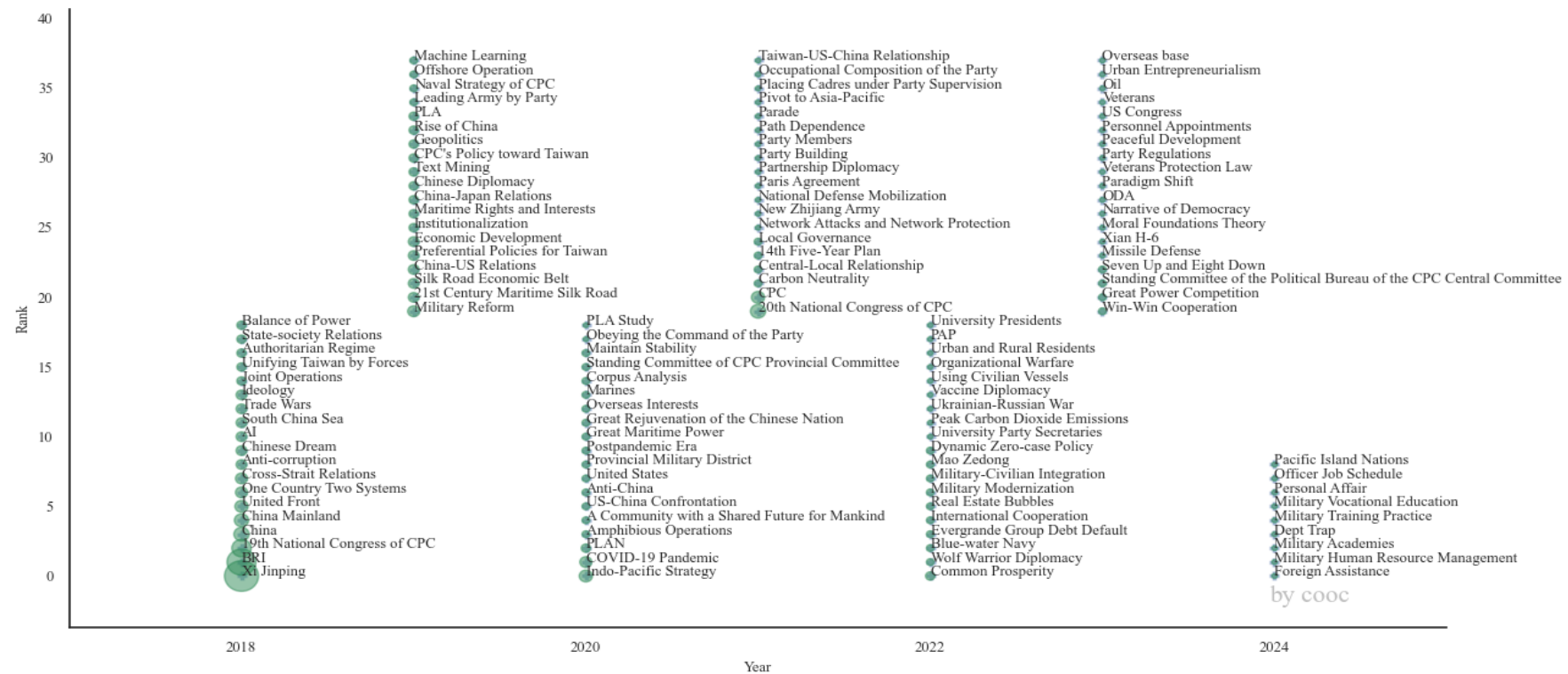
Figure 6: Keywords cumulative time zone distribution (2018-2024)

Studying the research frontier is crucial for advancing a field because it enables exploration of the latest trends and addresses forefront issues, which in turn contribute to predicting future development trends. Recent research findings not only reflect the current state of the field but also aid in forecasting its future direction. To further investigate the research frontiers, this study employs the widely used method of composite relationship analysis. This approach integrates mutation analysis with temporal zone views to identify emerging frontiers and hotspots in the academic community in Taiwan concerning Xi Jinping Thought on Socialism with Chinese Characteristics. In addition, it uses COOC software to create distribution maps of keyword frequency emergence and keyword-weighted temporal zone

views. These approaches are integrated into a knowledge graph that represents the research frontier in this domain. According to Figure 7, there were no burst keywords before 2013. In recent years, the primary mutated keywords include "United Front", "Trade War", "COVID-19 Pandemic", "20th National Congress of CPC", "Military Modernization", "China-US Relations", "Common Prosperity", "One Country Two Systems", "Economic Development". These burst keywords represent the forefront research topics on Xi Jinping Thought in the Taiwanese academic domain. In Figure 8, the size of the circles represents the frequency of the keywords, while the corresponding horizontal axis indicates the average time of occurrence for each keyword. According to the figure, new keywords have predominantly emerged in recent years including "United Front", "20th National Congress of CPC ", "COVID-19 Pandemic", "Indo-Pacific Strategy", and "Economic Development", which aligns closely with Figure 7.
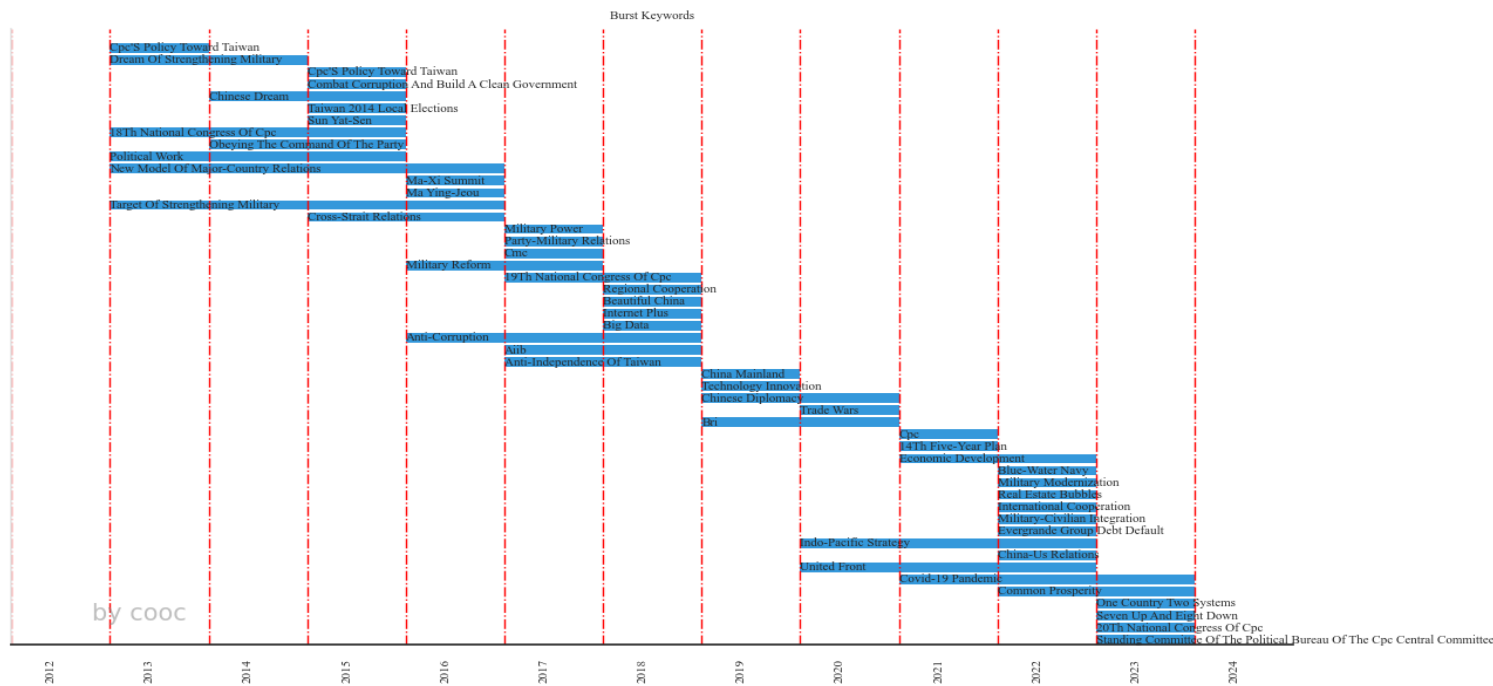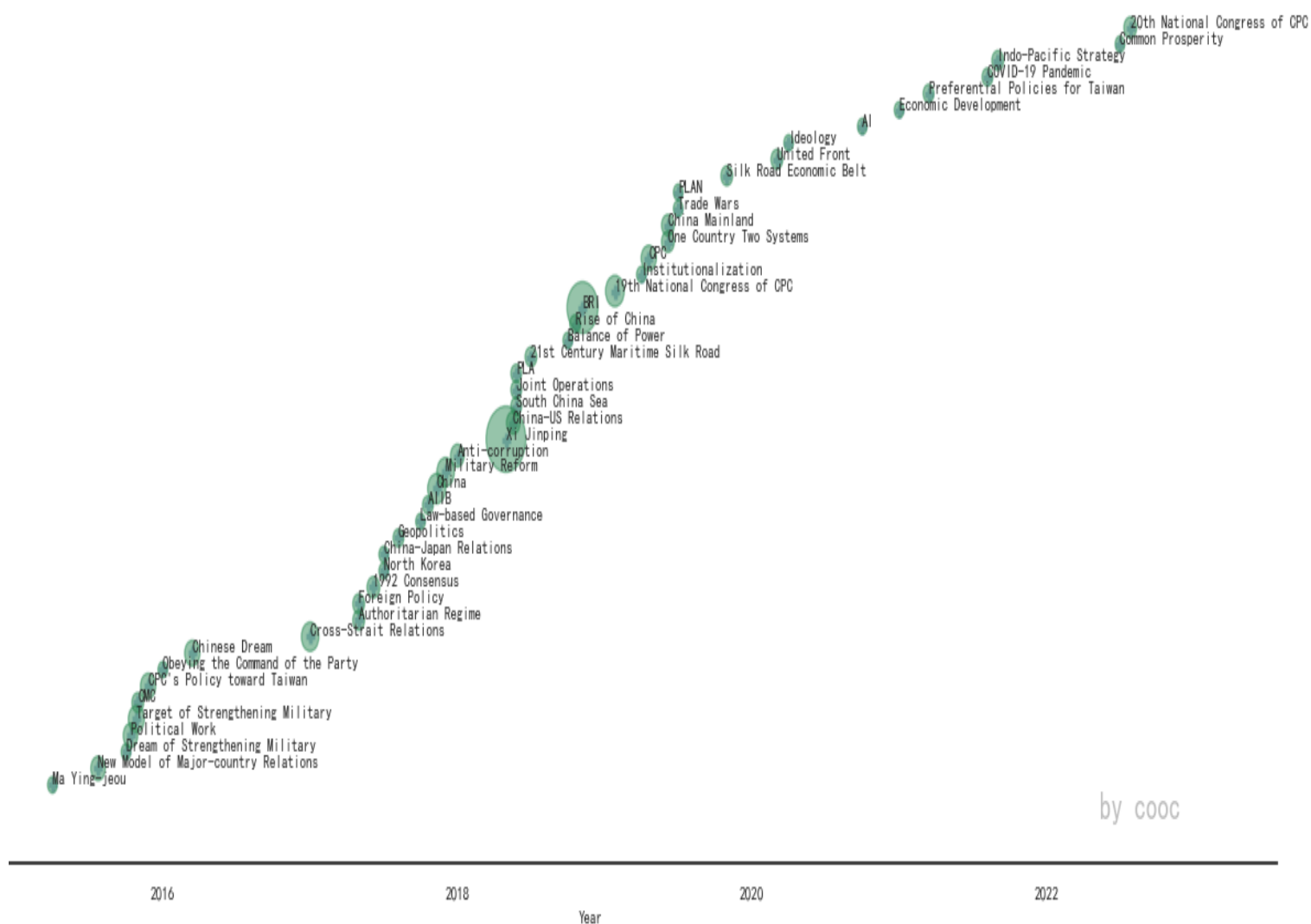

Figure 7: Top 50 Keywords temporal emergence

Figure 8: Keyword-weighted time zone graph

6. CONCLUSION AND DISCUSSION

This paper begins with an initial statistical analysis of 325 sample articles to reveal the fundamental characteristics of research on Xi Jinping Thought in Taiwan. It explores aspects such as publication year, journal sources, research institutions, and prolific authors. Subsequently, it uses visualization tools to expose the content of academic research on this topic within the Taiwanese academic landscape. Finally, it adopts a dynamic perspective to illustrate the evolution and trends of research topics, probing into the forefront of research. This comprehensive approach offers a holistic understanding of the hotspots and developmental trends in this field within the Taiwanese academic sphere. The study reveals a growing academic interest in Taiwan regarding Xi Jinping Thought as China enters a new era following Xi Jinping's policies and cross-strait interconnection. However, research on this topic lacks systematic development and continuity, with varying quality. Overall, it is in the early stages and lacks a cohesive academic community from the following two main aspects. Firstly, despite numerous publications on the topic in Taiwan, they cover only a limited number of core journals, indicating a scarcity of high-quality research outcomes. Secondly, there is a shortage of highly productive scholars in Taiwan focusing on this field. Most researchers engage sporadically, lacking sustained commitment. Moreover, collaboration among scholars is minimal, with independent research prevailing. Consequently, there is no established core group of authors driving research forward within the Taiwanese academic community. Furthermore, limited communication and cooperation with Chinese academic fields hinder a more holistic and systematic understanding of the essence of "Xi Jinping Thought". To encourage Taiwanese scholars to approach research on "Xi Jinping Thought" from a broader perspective and enhance the systematic and continuous nature of their research, the findings of this study offer the following recommendations.

6.1 Deepening Special Research

Future research should delve deeper into specific topics such as "Xi Jinping Thought on Ecological Civilization" and "Xi Jinping Thought on Diplomacy", exploring their theoretical foundations, developmental trajectories, and practical applications. Utilizing interdisciplinary approaches and drawing from fields like political science, environmental science, and international relations, this research aims to uncover the

unique implications and practical pathways of these topics. In this way, it seeks to establish a more systematic and comprehensive theoretical framework, offering robust support for policy formulation and practical implementation.

6.2 Organizing Academic Exchange Activities

Researchers in the field should enhance their own academic communication through organizing academic symposiums, forums, and research workshops. These activities should promote face-to-face interactions. This collaboration enables Taiwanese scholars to deliver specialized presentations, share research findings, and engage in discussions and evaluations with their Chinese counterparts. Such exchanges will facilitate comprehensive reviews and analyses of existing research, identify deficiencies and gaps, and suggest future research directions. Additionally, joint forums for young scholars from both sides can stimulate fresh perspectives and promote long-term and continuous research by Taiwanese scholars.

6.3 Initiating Collaborative Research Projects:

Promote cooperation through collaborative research projects focusing on various aspects of "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era", including international collaborations. These projects leverage resources and strengths from both sides, China and Taiwan, fostering innovative research outcomes. For instance, scholars from both regions can choose a shared research topic, with each team focusing on specific aspects. Maintaining close communication and collaboration throughout, these joint projects unite scholars, deepen understanding of the subject, and advance the researchers' relations.

6.4 Foster Academic Journal Collaboration

Researchers can enhance their cooperation by academic journals as platforms for scientific exchange. Collaboration through joint editing, peer review, or co-publication of articles can strengthen communication and collaboration between scholars from Taiwan and China. For example, they can serve as editors or join editorial boards of specific academic journals, supporting representation from both sides. Additionally, scholars from both regions can collaborate on writing articles, conducting joint peer reviews, or co-editing special journal issues. Such partnerships not only foster interaction but also elevate the quality and impact of research on "Xi

Jinping Thought on Socialism with Chinese Characteristics for a New Era".

6.5 Establishing Scholar Exchange and Visiting Programs

Mutual visits and exchanges should be encouraged between scholars from Taiwan and China through the establishment of exchange and visiting programs. These initiatives should facilitate scholars' visits, lectures, discussions, and collaborative research at academic institutions on both sides. Scholar exchange programs can significantly enhance understanding and communication. To achieve this end, academic and scientific institutions should organize academic lectures or scholar forums to compare research among scholars from both regions, focusing on specific policy measures, practical cases, and success stories of "Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era". This approach can promote the exchange of diverse academic viewpoints and jointly advance theoretical and practical innovations.

Reference

Callon, M., Courtial, J. P., & Laville, F. (1991). Co-word analysis as a tool for describing the network of interactions between basic and technological research: The case of polymer chemsitry. *Scientometrics*, *22*, 155-205.

Chang, H.-S. (2018). A Preliminary Analysis of Xi thought on Taiwan. *Prospect & Exploration*, *16*(07), 45-66.

Changping, H., & Guo, C. (2014). Characteristics of keywords in scientific papers and their impact on co-word analysis. *Journal of the China Society for Scientific and Technical Information*, *33*(1), 23-32.

CHEN, F. (2019). Bibliometric Explorations on Studies of Xi Jinping: Progress, Frontiers and Prospects. *Journal of Hunan University of Science and Technology(Social Science Edition)*, *22*(1), 103-111.

Deng, S., & Zhang, X. (2022). Progress and prospect of Xi Jinping Thought on Ecological Civilization since the 18th National Congress of the Communist Party of China——Bibliometric analysis based on CSSCI database (2013-2021). *Shandong Social Sciences*(12), 33-38.

Donohue, J. (1973). Understanding scientific literature: A bibliographic approach. In: The MIT Press.

Gong, C., & Sun, Y. (2022). The Theoretical Origin and Contemporary Value of Xi

Jinping's Important Discourses on News and Public Opinion Work: A Study on Xi Jinping's Important Discourses on News and Public Opinion Work Based on Bibliometrics. *China Publishing Journal*(19), 5-9.

Han, Z., Xiaoyu, W., & Lei, C. (2007). Research on the Development Trend of Subject Domain by Combining Co-word Analysis Method with Cited Times of Documents [J]. *Information Studies: Theory & Application*, *30*(3), 378-380.

Hansheng, C. (2016). An Exploration of Xi Jinping's Strategic Blueprintof the "Four Comprehensives" from the Perspective of the Communist China's Deepening National Defense and Military Reform. *Navy Professional Journal*, *50*(04), 6-34.

He, Q. (1999). Knowledge discovery through co-word analysis.

JIANG, T.-c., & ZHANG, X. (2022). Research Status and Prospect of Xi Jinping's Important

Treatise on Scientific and Technological Innovation: A Bibliometric Analysis Based on CSSCI Data (2013—2021). *Journal of Hunan University of Science and Technology (Social Science Edition)*, *25*(04), 90-97.

Jiang, T. (2022). Research Status and Research Prospects of Xi Jinping Thought on Diplomacy: A Bibliometric Analysis Based on CSSCI (2013-2021). *Journal of Guangxi University(Philosophy and Social Science)*, *44*(04), 26-36.

Jin-Ping, C. (2020). Analysis of the Development of "Xi Jinping's Military Strategic Thoughts". *Publication of Military Social Science*, *03*(16), 5-32.

Li, I.-C. (2019). Xi Jinping's Foreign Policy: An Observation Based on the Influence of Globalization. *Prospect & Exploration*, *17*(08), 27-48.

Liang, T., & Zhang, L. (2023). The Current Situation and Prospect of Xi Jinping's Important Thought on Youth Work: A Bibliometric Analysis Based on CSSCI Database (2013-2021). *Journal of University of Jinan (Social Science Edition)*, *33*(01), 165-172.

Win-ping, K., & Mao-chia, S. (2023). elling China Stories Well? Collocational Network and Keyness Keyword Analysis of Xi Jing-Ping's Diplomatic Discourse from 2012~2022. *Mainland China Studies*, *66*(02), 93-125.

XIAO, G.-q. (2018). Several Issues of Grasping Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. *Journal of Hunan University of Science & Technology (Social Science Edition)*, *21*(1), 77-83.

YU, H., & YIN, J. (2021). A Preliminary Study on Research Methods of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era: Bibliometrics on Literatures in CNKI from 2012 to 2020. *Journal of the Party School of the Central Committee of the C.P.C. (Chinese Academy of Governance)*, *25*(01), 5-16.

Zhao, R., & Wu, S. (2013). Thematic Analysis of Library Collection Resource in China Based on the Strategic Diagrams. *Library & Information*(2), 88-92.

Zhu, R., & Yu, X. (2023). News and Public Opinion Thought of Xi Jinping in the New Era: Citespace-Based Bibliometric Research. *Media Observer*(07), 50-60.