

Research on the Construction Mode and Development Trend of Think Tanks

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Abstract—Think tanks play an important role in the policies of government agencies around the world, and they influence social, economic, political, and diplomatic aspects with comprehensive professional research. In order to strengthen the construction of new think tanks with Chinese characteristics in the new era, and to give full play to the important role of think tanks in government scientific and democratic decision-making and national decision-making consultation, this paper firstly sorts out the development status of global think tanks, analyzes the evolution process of domestic think tank research by means of scientific measurement, and then discusses the current model and development trend of the think tanks in typical developed countries and its own characteristics through research and case analysis, then put forward the recommendations for the development of China's think tank construction.

Keywords: *think tanks, think tank research, think tank construction, development experience*

I. INTRODUCTION

The continuous development of information technology, especially the fourth industrial revolution represented by artificial intelligence technology, will affect the international order for a long time in the global scale, and bring confusion and unease to the public in many aspects including employment, personal safety, data security, identity and stability of the international order. This trend makes the decision-making environment of governments around the world increasingly complex, and the government needs to adhere to scientific decision-making to ensure policy effects. Therefore, think tanks as non-profit research institutions should play a more important role in influencing government

decisions and improving policy making, and shoulder the responsibility of guiding the current chaotic situation back to order. This paper intends to compare and analyze the think tank construction mode, development trend and characteristics of developed countries, summarize the relevant experience of think tank construction in western developed countries such as the United States, the European Union, and Japan, and put forward suggestions on the importance of promoting the construction of think tanks in China in the new era.

II. OVERVIEW OF GLOBAL THINK TANK DEVELOPMENT

A. Think tank overview

The term think tank first appeared in the United States during the 2nd world war. It is also known as brain enterprise, think tank, advisory group or think tank group [1]. It is a consulting research institution specializing in development research. The think tank includes experts and researchers from various disciplines. It is an indispensable and important part of the modern leadership management mechanism to provide solutions or optimization solutions to social problems for the government with their professional knowledge and wisdom.

Since the concept of think tanks was put forward in the 1940s, after more than 60 years of development, the academic community has formed a relatively unified understanding of think tanks: organizational forms are policy research institutions, work content is policy research, service targets are policy decision makers and the public, The goal of the work is to influence public policy, which is

characterized by independence, non-profit, multidisciplinary and multidisciplinary fields and multiple types [2] [3] [4].

The essence of think tanks is not their independence or non-profit, but to provide high-quality products of thought. Such products include policies, recommendations and analytical reports that serve public decision-making, as well as policy recommendations that promote economic and social development. Their main roles are to provide advice, feedback, make diagnosis and predict the future.

B. Theoretical construction and types of think tanks

The development of the think tank construction theory in western developed countries is based on their unique political and social system structure [5]. Therefore, different countries have distinct differences in the think tank construction mode and development path due to their different development stages and political and social system structure [6] [7], which is particularly important for developing countries.

In the practice exploration of the construction of think tanks in western developed countries, the basic theories such as pluralism theory, leadership theory, elite theory, new gramism, and institutionalism have gradually formed. They interpret the orientation, functions, attributes and characteristics of think tanks and the ways and functions of think tanks in influencing decision-making from different perspectives and positions.

There is currently no unified opinion in the academic world in regarding the classification of think tanks. The main reason is that the criteria and basis for the division are not the same, such as the type of research expertise of the think tank, the size of the think tank budget, the type of research problem, and so on.

Steven Boucher not only put forward nine definitions of think tank, but also divided four basic types according to the different goals and functions: academic think tank (including pure research university); Propaganda think tanks; Project contract think tank; Political party think tank [8] [9] Ding Huang (1997) divided the think tank into four categories: the official think tank, the semi-official think tank, the folk think tank, and the university think tank according to the official background of the think tank institution and the nature of the unit that relies mainly on [10]. Lu Xiaoping (2018) combed the main thoughts of think tanks, and pointed out four categories: academic think tanks, contract think tanks, advocacy think tanks, and party-building think tanks.

According to the combing of think tanks categories by domestic and foreign scholars, it can be seen that the academic community has not yet reached an agreement on the criteria for the division of think tanks. This is mainly due to different national conditions, different levels of development of think tanks, and great differences in the functions of think tanks in different countries [11].

C. Development status of global think tanks

On January 31, 2019, the Global Think Tank Report 2018 (hereinafter referred to as the "Report") prepared by the University of Pennsylvania Think Tank Research Project Team (TTCSP) was released globally [12]. Since 2007, the report has been continuously focusing on the important role and development trend of think tanks in global governance, ranking global think tanks and guiding them to build Bridges between society and government.

From a regional perspective, the Report showed that there were 8,162 global think tanks in 2018, an increase of 4.44% year-on-year. Among them, the number of European think tanks is 2,219, accounting for 27.2%, and continues to rank first; North America has 1972 think tanks, accounting for 24.2%, and Europe and North America have gathered 51.4% of think tanks worldwide, and the proportion has decreased compared with 2017. In the past 12 years, the rate of new regional think tanks has also declined. However, the number and types of think tanks from emerging regions are still growing, with Asia having a number of think tanks of 1829 (21.6%), ranking third; followed by Central and South America, with 1,023 (12.5%); sub-Saharan Africa The region has 612 think tanks (7.5%); the Middle East and North Africa region has 507 (6.2%).

As shown in "Table I", the United States, India and China are among the top three. A total of 177 think tanks have been shortlisted in the report's comprehensive list of the world's top think tanks. From the perspective of the ranking of think tanks, the number of U.S. think tanks is large and the overall ranking is very high.

TABLE I. THE NUMBER OF THINK TANKS IN 2018 RANKED TOP10

Ranking	Country	Quantity
1	United States	1891
2	India	509
3	China	507
4	United Kingdom	321
5	Argentina	227
6	Germany	218
7	Russia	215
8	France	203
9	Japan	128
10	Italy	114

In recent years, various regions and systems in China, such as universities, enterprises, and associations, have formulated a series of implementation plans for building new types of think tanks with Chinese characteristics, supporting, encouraging, and promoting the healthy and orderly development of various types of think tanks in China, and the overall strength of think tanks has risen. At the same time, there are more and more voices from Chinese think tanks, which play an increasingly important role in global governance and multilateral diplomacy. Compared with 2017, the number and quality of shortlisted Chinese think tanks have improved, but there is still a large space, as shown in "Table II". According to the "Report" over the years, the overall development of global think tanks shows a steady and slow growth trend. No matter in quantity or quality,

American think tanks are much higher than other countries, and they are the most developed think tanks in the world, with a mature think tank system [13]. Therefore, this paper studies the experience and trend of think tank construction in western developed countries such as Europe and America, compares and analyzes the construction mode, new features, new development and other aspects of think tank construction in typical countries, and summarizes relevant construction experience, so as to obtain reference significance for the construction of think tank in China.

No	CHN	Rank	US	Rank
8	Shanghai institute of international studies,	96	Center for American progress studies	13
9	Tianhe Economic Research Institute	105	Cato Institute	15
10	Solidarity Hong Kong Fund	131	Foreign relations association	17

TABLE II. 2018 CHINESE AND AMERICAN THINK TANK INSTITUTIONS RANKED TOP10

No	CHN	Rank	US	Rank
1	China Modern International Research Institute	30	Brookings Institution	1
2	Chinese Academy of Social Sciences	39	Carnegie Endowment for International Peace	3
3	China Institute of International Studies	51	Strategic and International Research Center	5
4	Tsinghua-Carnegie Global Policy Center	52	Heritage foundation	8
5	Development Research Center of the State Council	60	RAND Corporation	9
6	Peking University International Strategy Research Institute	81	Wilson Center	11
7	Globalization think tank (CCG)	94	Peterson International Economic Research Institute	12

From the perspective of research hotspots, the top 10 keywords are: think tank, think tank construction, university think tank, new think tank, education think tank, decision-making consulting, new think tank with Chinese characteristics, university library, etc. (See "Table III"). Through the co-occurrence analysis of key words (See "Fig. 2"), it can be concluded that the main contents of the think tank research include providing decision-making consultation and policy suggestions around the "One Belt And One Road" initiative and the construction of new think tank, building education think tanks and university think tanks, and expanding the influence of Chinese think tanks.

D. "Think tank phenomenon" has become an important issue in Chinese academic research

With the deepening of China's foreign exchanges and the increasing political, military and economic risks in its development with other countries, the role of think tanks become more and more significant. The status of think tank institutions in society has been continuously improved, and the think tank phenomenon has become an important academic research object. In this paper, think tank or think tank is taken as the key words to conduct compound search on CNKI of CNKI. Taking Peking University core, CSCD and CSSCI as the three source categories, and the literature type is limited to journal papers, a total of 1431 articles related to think tank research have been obtained (the retrieval date is August 29, 2019). This index only covers core journal articles and excludes newspaper articles, conference notices, news and yearbooks. CiteSpace is adopted in this paper to analyze the references after exporting.

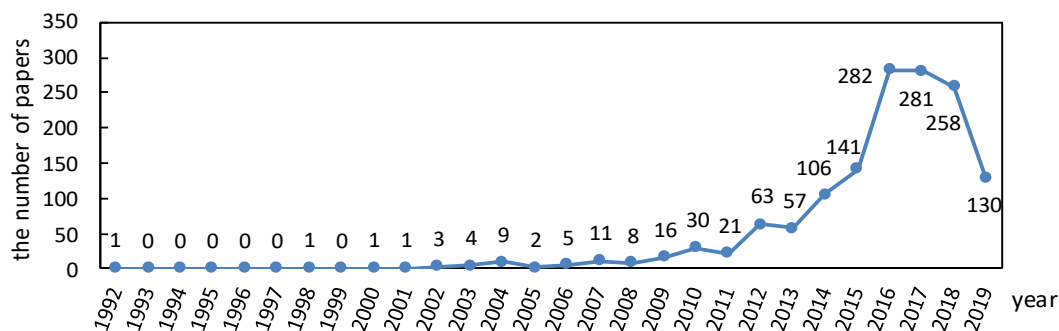


Fig. 1. Annual changes of the number of research papers on think tanks.

The annual change of the number of papers in mainland China studied by these think tanks is shown in "Fig. 1". As can be seen from the figure, domestic academic research on think tanks shows an overall upward trend (incomplete data in 2019 shows a downward trend). Between 1992 and 2008, articles on think tanks were in the single digits except for 2007. However, since 2009, the research on think tanks began to increase, especially since 2014, think tank research began to become a hot spot, the number of articles increased significantly, in 2017, the number of domestic core journal papers on think tank research reached 383.

As a visual tool for literature analysis, CiteSpace was developed in 2004 by Chen Chaomei [14], a tenure-track professor at the University of Philadelphia, and updated year after year 14. In this paper, the tool CiteSpace 5.5.r2 (2003-2019) was used for the visualization analysis of domestic think tank research. The data of 1,431 references involved were exported in the format of refworks, and the data format was converted and loaded as required. The time slicing of data analysis is from 1992 to 2019, and every the time slice is all 1 year; the term source also selects "Title", "Abstract", "Author Keywords (DE)" and "Keywords Plus (ID)"; the "keyword" is selected as: the node types. This paper draws the map of key words scientific knowledge in this field, and then explores its foreword hot spots, evolution and development trend.

The research hotspot clustering knowledge map is shown in "Fig. 2". A total of 200 keyword nodes and 597 lines connected with each other are obtained, and the results are displayed in the form of a visual map. Through the analysis of keyword clustering co-appearance (as shown in "Fig. 3"), the results show that the clustering modularity index (Q value) =0.4682 and the clustering contour index (S value) =0.4979, indicating that the clustering effect of the view is better. Think tank research is mainly focused on Chinese characteristics, "One Belt And One Road" initiative, operating mechanism, non-governmental think tanks, think tank services, influence, field, China's economic and social development, development path and reference consulting.

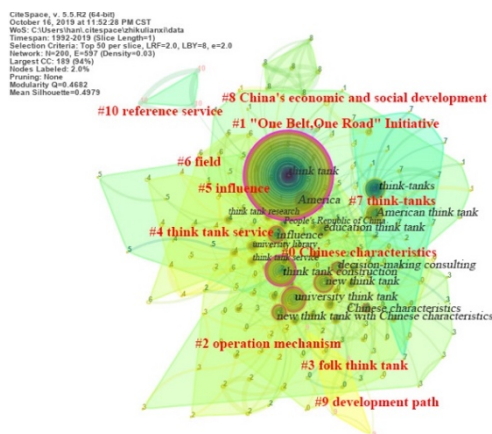


Fig. 2. Think tank research keyword clustering co-occurrence knowledge map.

Keywords are the extraction of the research topic and the high generalization of the core ideas of the article [15]. Keyword word frequency and corresponding centrality are shown in "Table III". Keywords are represented by nodes in the knowledge graph, and their shape and size indicate the word frequency of keywords. High frequency keywords can to some extent reflect the intersection of research orientation and focus of the field. According to Donoghue's defining threshold formula for high frequency words and low frequency words: $T = [-1 + \sqrt{1 + 8I}] / 2$ (Where I is the number of keywords [16]), the threshold for the research area of the think tank is 19.51. That is, the keywords with frequency of 20 or above are high frequency keywords. The centrality of the key words is marked by the purplish red ring of the ring. The greater the centrality, the wider the rings, the calculation of node centrality can excavate the key nodes that play a strategic role in the network and reveal the internal relations between nodes. The higher the centrality is, the higher the influence of the keyword in the network is, and it has a strong mediating effect. Therefore, it is necessary to comprehensively consider the word frequency and centrality of keywords to judge the accurate research hotspot. According to relevant data, the center degree is greater than 0.1, indicating that this keyword has research heat.

Combined with word frequency and degree of centrality, current research hotspots in this field mainly include: think tanks, think tanks construction, think tanks in universities, new think tanks, think tanks in the United States, influence, new think tanks with Chinese characteristics, decision-making consultation and private think tanks.

TABLE III. THINK TANK RESEARCH KEYWORD COUT LIST TOP 20

No	Cout	Centrality	Year	Keyword
1	646	0.57	1992	think tank
2	158	0.31	2010	think tank construction
3	135	0.15	2014	university think tank
4	99	0.16	2014	new think tank
5	57	0.09	2002	Think-tanks
6	54	0.08	2009	American think tank
7	53	0.16	2007	America
8	48	0.19	2004	influence
9	46	0.04	2014	education think tank
10	43	0.13	2013	new think tank with Chinese characteristics
11	42	0.13	2003	Decision-making consulting
12	32	0.04	2015	University library
13	27	0.07	2009	Chinese think tank
14	26	0.03	2009	China
15	26	0.03	2014	Science and technology think tank
16	25	0.07	2011	Think tank research
17	24	0.06	2017	Think-tank service
18	24	0.12	2013	Folk think tank
19	23	0.02	2015	Big data
20	22	0.04	2014	Chinese characteristics

Timezone View of CiteSpace is a view that focuses on representing the evolution of knowledge from the time dimension and shows the structural relationship of nodes in

the network graph over time. Keywords co-occurrence network time zone map can express the update and interaction of articles (as shown in "Fig. 3"). It marks the time when keywords first appear on the map. It can clearly show the evolution process of think tank field in time dimension, show the characteristics of keyword distribution in different time zones, and then obtain the characteristics of domestic think tank research in temporal distribution.

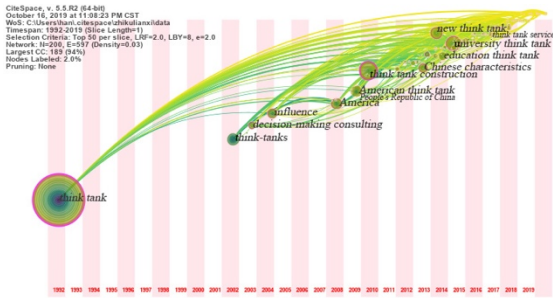


Fig. 3. Co-keywords map of think tank research papers.

III. AMERICAN THINK TANK CONSTRUCTION MODE AND CHARACTERISTICS

A. The origin and development of American think tanks

Think tanks play an important social role in the formation of American policies, such as providing national policies or regulations, providing policy programs for the government, providing and storing talents, and educating the society and the public [17]. Since the beginning of the 20th century, the development of American think tanks has gone through four stages. The number of think tanks is very large, and new types of think tanks are emerging constantly.

The first stage (early 20th century to before World War II): Think tank development is in its infancy. Think tank ideas began to take shape, the initial establishment of the system. Against the background of rapid economic and political development, the US government has established an official policy research institution within the government for the purpose of promoting the construction of public facilities and for the purpose of brainstorming. However, due to its own position, it has certain limitations. The Russell Sage Foundation, founded in 1907, is the earliest think tank in the United States. Founded in 1916 as the Institute of Archetype Politics of the Modern Think Tank (the predecessor of the Brookings Institution), it was the first independent organization in modern times to specialize in public policy research.

The second stage (from the beginning of World War II to the 1960s): The think tank is in its infancy.

Due to the complexity of the world situation and the need for war, the government's internal think tanks cannot meet the needs of the country, and many think tanks was launched to undertake projects commissioned by the government and the military. Think tanks tend to be marketized. The most representative of this period was the RAND Corporation,

founded in 1948, which focused on foreign affairs, politics, and military security.

The third stage (from the 1960s to the end of the Cold War): Think tank enters the second development peak. As a direct result of the ideological movement, partisan think-tanks with clear issues emerged, such as the heritage foundation (founded in 1973).

The fourth stage (since the end of the cold war): Think tanks continue to grow and develop. At the same time, there are a number of new think tanks founded by people with considerable political status or former presidents who are committed to promoting political ideas such as globalization, such as the Carter Center and the Nixon Center for Peace and Freedom. As the world economy deepens its cooperation, some of the top think tanks joined the study of globalization, and they are developing towards specialization and diversification to meet various challenges [18].

From the research content, it is easy to see that American think tanks are divided into four categories: One is a purely research-based think-tank, with a focus on long-term impact and an emphasis on independence, academics and objectivity, such as the Brookings institution. Second, the project contract think tank, mainly undertakes government and military projects, has a certain degree of independence, and emphasizes no preset positions and conclusions. Third, it focuses on liberal or conservative ideological tendencies, organizations or party services that are in line with the ideological tendencies of think tanks, and (policy) propagandizes think tanks that focus on short-term research and assisting political parties' campaigns. For example, the heritage foundation explicitly claims to focus on conservative public policies and traditional American values [19]. Fourth, it is a political party think tank affiliated to a specific party with the same ideological inclination as the party.

B. Characteristics of American think tank development

1) *Rapid development and large scale:* After a long period of development, the American think tank has a large number and a huge scale, and presents an industrial development trend, becoming an industry specialized in providing decision-making consulting.

2) *Diversification of research topics:* American think tanks cover a wide range of topics, including traditional politics, economics, military affairs, and diplomacy. They also include some cutting-edge scientific and technological issues, such as climate change and environmental protection.

3) *High internationalization:* American think tanks are highly international in terms of their service objects, research fields and the breadth of foreign exchanges. For example, the Brookings institution invites visiting scholars from all over the world and senior staff to study and exchange as an annual routine.

4) *Highly informative:* The development of American think tanks is closely integrated with modern science and technology, and its information construction is at the

forefront of the world. The application of information technology expands the depth and breadth of think tank research. American think tanks also attach great importance to the development and application of new media, and use the network platform to exchange information. For example, the seminars use video to broadcast live, and scholars in many countries can conduct online video communication in real time [17].

C. Development experience of American think tanks

1) *Maintain relative independence*: The vast majority of think tanks in the United States are registered as non-profit tax-exempt organizations under the Income Tax Act, so they cannot support any political faction and claim to be "independent". "Independence" is the foundation of American think tanks existence and development, including research independence, financial independence, operational independence and so on. The independence of research makes the research results scientific and objective; financial independence guarantees that its political position is not attached to other political factions, and is vulnerable to the trust and support of taxpayers; independent operation can obtain tax-free treatment and other preferential policies, which is beneficial to long-term development.

2) *Wide range of talents, efficient management*: The flexible "revolving door" mechanism is the most prominent feature of American think tanks, which builds a bridge between the government and experts to negotiate. Under this mechanism, the identities of outgoing government officials, well-known scholars and think tank researchers can be freely transformed, which provides a channel for think tanks to serve and make decisions, and greatly improves the level of think tank researchers. The use of multichannel open recruitment methods to select talents not only ensures the talent resources, but also makes the think tank field relatively broad. It has a very high recruitment threshold and is usually a leader in various industries.

At the same time, the United States has built an efficient operation management system to ensure the quality of think tank research. The think tank adopts the management mechanism of the board of directors, which are usually composed of founders and donors. The responsibilities of the board of directors are to determine the research direction of the think tank, formulate policies, review research proposals, audit finance, supervise operation and coordinate relations with other units. Think tanks in the United States operate independently and are not affiliated with government organizations. Think tanks will always maintain an objective and impartial position.

3) *Active marketing and promotion of results*: In order to expand its influence, think tanks spread their ideas and propositions through a variety of means to make the public recognize and accept their ideas. They usually hold conference forums, publish papers, give public speeches or disseminate their research results through media such as

newspapers, television and the Internet. And through these channels to influence public opinion, and ultimately affect the government decision-making.

4) *Diversified sources of funds*: Think tanks in the United States are funded from a wide variety of sources, and they have set up a special team to raise funds. American think tanks are funded from a variety of sources, including foundation donations, government donations, individual donations and so on. Because the U.S. government has tax incentives, donors are happy to give. The think tanks can maintain the balance of income and expenditure through efficient management and operation, which not only guarantees the independence of the think tanks, but also strives for sufficient funds for the think tanks.

IV. THE CONSTRUCTION MODE AND CHARACTERISTICS OF EUROPEAN THINK TANK

As mentioned above, the number of European think tanks is 2,219, which continues to rank first. From the indicators of quantity, category, influence and other indicators, the status and role of European think tanks is second only to American think tanks, and the concept of pan-regional think tanks with the new characteristics of "European think tanks" has also been developed. Therefore, it is of great significance to study and analyze the construction mode and experience of European think tanks and their core countries such as Britain and Germany.

A. Overview of European think tank development

As the region with the earliest start of industrial civilization, in the early 20th century, institutions with similar think tank functions also played a considerable role in politics, military, diplomacy and other aspects of individual countries. Since the end of World War II, the concept of think tank of modern significance has been introduced into Western Europe. With the integration process that Europe has gradually promoted since the 1980s, a group of "EU think tanks" with denationalization characteristics have been born in the context of regional integration. The EU think tank (as the main body of the European think tank) has distinct characteristics not only in the nature of the subject, the source of funds, the target group, and the scope of research, but also consistently manifests in group consistency in "interest-related" and "position-oriented" [20].

The development of European think tanks can be roughly divided into three stages: the first stage (from the end of the Second World War to the 1970s), think tanks set up in each country are mostly dedicated to serving their own countries, and their number and size grow slowly. The second stage (from the 1980s to the late 1990s), was the main stage of the integration process of the EU, which gave birth to a number of think tanks focusing on the EU's political, economic and military issues. Some of these think tanks are located in the EU headquarters in Brussels, including the European Policy Research Center (CEPS), the European Policy Center (EPC), the Friends of Europe (FOE), etc.; some are located in member countries, such as the European Reform Center

(CER), diplomacy in the UK Policy Center (FPC), etc., European Economic Research Center (ZEW) in Germany [21]. The third stage (2000-present), along with the Eu's eastward expansion and the further deepening of the Eu's influence, new think tanks have been born in Europe, and many other national think tanks have set up branches in Europe. They are more focused on macroeconomics and globalization, such as Bruegel, the rapidly rising institute founded in 2005, and the German Marshall branch.

B. United Kingdom

The UK has the fourth largest number of think tanks in the world, with Chatham House the seventh most influential global think tank. There are many think tanks in the UK, which can be divided into two categories as a whole: one is closely related to lawmakers, helping them make policies and thus influencing the public; The other group closely contacts with schools, scholars, magazine editors and the public to form opinions and ideas, and then influence lawmakers, generally independent think tanks [22].

1) Development history of British think tanks

- The first stage (the first half of the 20th century): During the Second World War, most of the British think tanks were developed, with distinctive features. Most think tanks promoted their non-partisan attributes, opposed any ideological motives, and insisted on their practical suggestions.
- The second stage (1970s to 1980s): At this stage, the British think tanks tended to develop in a variety of professional and diversified direction, among which "sales-oriented think tanks emerged" with clear party background and ideological tendency. They advocated return to economic freedom and reduced government intervention.
- The third stage (1990s): At this stage, a number of new think tanks with a new leftist style and a more "post modernity" in the United States had emerged. Its ideology is weak and more professional.

2) Development experience and characteristics of UK think tanks

a) Strong party orientation: Strong party tendencies are the most significant operating characteristics of British think tanks. British think tanks are more dependent on the government or political parties and have a distinct partisanship. Unlike the "independence" advertised by American think tanks, most European Union think tanks such as the United Kingdom do not evade close ties with the government or political parties, and form a unique party-think tank model of advance and retreat. [18]

b) Diversified sources of funds and strive for independence: The raising of think tank funds is a common challenge faced by think tanks all over the world. Although the UK has a strong party-oriented tendency, in order to maintain the independence and fairness of think tank research, the British government requires that the sources of

think tank funding must be diversified. Think tanks in the UK raise money mainly through government and agency funding, eu funding, corporate and individual donations, credit and research commissions. In addition, it receives membership dues, publishes monographs, holds BBS or conferences, provides paid training and consulting services, which guarantees the independent research funding of think tanks. In recent years, the UK think tank has not only set a maximum limit on donation funds, but also publicized the use of the funds in a timely manner. For example, the Adam Smith Institute stipulates that the annual donation amount of individual enterprises should not exceed 50,000 pounds [23].

c) Researchers have a wide range of sources and strong mobility: Most British think-tanks are under 50 people in size. British think tanks have the characteristics of "small core and big periphery". The first periphery is the members from various think tanks, and the second periphery is the British think tanks maintain close contact with government departments, universities, research institutes and consulting institutions, and form a loose and flexible cooperation mode with external experts in undertaking projects.

d) Paying attention to the transformation of think tank results: It is a prominent feature of British think tanks to attach importance to the promotion and publicity of their achievements. Fundamentally speaking, the goal and role of think tanks is to influence decision-making and the public. One of the important factors to judge whether think tanks work is whether the research results of think tanks are known or adopted by the government and society.

C. German

The number of German's think tanks ranks sixth in the world, among which the adenauer foundation (KAF) ranks 16th in the comprehensive influence of global think tanks. On the whole, German think tanks have strong influence, and traditional German think tanks can be divided into academic think tanks and endorsement think tanks [24].

1) Development history of German think tanks: The German think tanks have a long history. The Hamburg World Economic Archive, founded in 1908, is known as the originator of the German think tanks. After the end of World War II, the German economy recovered. The government set up a number of large-scale academic think tanks with economic issues as the main research direction in the form of public funding. In the 1970s, with the need of international communication, think tanks on diplomatic, security and environmental issues gradually increased. There are currently about 218 German think tanks, nearly two-thirds of which were established after 1975. Although German think tanks rank high in number, there are fewer well-known think tanks with global influence.

2) Main characteristics of German think tanks: The sources of funds are diverse, but relying on government funding is a serious phenomenon. More than 50% of the

think tank funds are fully sourced from public funds (shared by the federal government and the state government), followed by private groups and individual donations. The formation of such a mechanism is related to the perception of think tanks by German society. They generally believe that it is difficult to guarantee the so-called "independence" by relying on privately funded think tanks, and conflicts with the public interest attributes of think tanks. These public funds are usually injected into various think tanks in three forms: project funds, mainly used for policy research, state cooperation, personnel training, and international student funding, etc., mainly used for daily think tank operations; special funds, mainly used for public opinion guidance, public Political education and other work.

There should be more emphasis and attention to "independence" and "public welfare". Since most think tanks rely on public finances and relatively lack of market competition awareness, the overall show is academically oriented, and its research results lack certain applicability. From the perspective of research, German think tanks are highly specialized and generally focus on topics of strong relevance. However, with the continuous development in recent years and the changes in the European situation, the trend of Americanization of German think tanks is very obvious. The newly established think tanks have studied the American think tank construction model, constantly adapting to the new political and economic environment, and enhancing international influence and popularity.

The think tank is small and fine. The size of German think tanks is generally small, with a typical size of around 50 people. Unlike the US think tank, the German "revolving door phenomenon" is not significant. This is due to Germany's unique political environment. The think tank tends to recruit academic personnel, and the government only has a few research-based positions. The exchange of personnel is not as significant as the United States. However, with the integration of the EU and the needs of the development of the world situation, the exchange of personnel between the German government and the think tank has become closer.

V. THE CONSTRUCTION MODE AND CHARACTERISTICS OF JAPANESE THINK TANK

The number of Japanese think tanks is 128, ranking 9th in the world. The Japan Institute of International Studies (JIIS) ranks 14th among global. Although China has far surpassed Japan in the number of think tanks, it has to be acknowledged that there are still many aspects to be learned from Japanese think tanks in terms of quality.

A. Development history of Japanese think tanks

In general, the development of Japanese think tanks is roughly divided into three stages, namely, the early stage of think tank development, the period of development and prosperity, and the period of development stability. The early development of Japanese think tanks (before 1945-70s):

After the Second World War, especially the Cold War began, the US strategic focus was on Japan, and Japan's economy recovered rapidly. A large number of think tanks and research institutions focused on economic development emerged in Japan. Japan's think tank development and prosperity period (70s to 90s): With the economic take-off, the Japanese government urgently needed to restructure Japan's position in Asia and the world. In 1973, the "Comprehensive Research and Development Agency Act" was promulgated, and Japan's comprehensive think tank development entered a blowout period. The third stage is known as the stability period (after the 1990s): With the continuous economic downturn of Japan and the aging and childless population, entrusted projects from the government and private groups gradually decrease, many think tanks have to close down, the enthusiasm for think tank development gradually cools, and the development of think tanks gradually tends to be stable [25].

B. Development characteristics of Japanese think tanks

- Diversified sources of funding. Japanese think tanks expand the source of funding and increase the type of income to break the constraints of funding sources on the scale of research and development of research projects. The government can stimulate the enthusiasm of all parties in the society for funding think tanks through preferential policies. At the same time, the government requires the think tanks to publish the support information of relevant funds at the same time as it publishes its research results, and maintain the transparency of its use of funds in order to enhance the public's trust.
- The types are rich and the development is diversified. Japanese think tanks are rich in types and diverse in development. According to the nature of the theme, Japanese think tanks can be divided into seven categories: official and semi-official think tanks, corporate/financial institutions with think tanks, political parties\group attached think tanks, university affiliated think tanks, local government think tanks, and private independent think tanks.
- Establish a training system to encourage talent exchanges. In order to strengthen exchanges and cooperation, the Japanese think tank adopts a unique expatriate training system and exchanges personnel with the cooperation agencies for exchanges, such as government, universities, enterprises, research institutes and other organizations. The training system of Japanese think tanks contributes to the cultivation and reserve of young talents and can achieve the effectiveness of government decision-making. At the same time, it can actively invite well-known scholars and experts and retired government officials into think tanks to promote the construction of think tanks themselves.
- At the same time, the "revolving door" between the Japanese government and think tanks is quite

prominent, which promotes the two sides to maximize the absorption of high-quality talents. This talent exchange and cultivation mechanism provides researchers with opportunities to learn and practice, and helps them solve problems in the practical application of policies.

VI. CONCLUSION

Although western developed countries have many differences in political system, social culture, economic development degree and other aspects, there are still many valuable experience in the development of think tank construction. China should make full use of the advantages of all aspects, actively absorb the development experience of countries with better think tank development, and learn the construction mode of think tanks, so as to better serve the new think tanks with Chinese characteristics in the new era. To sum up, the successful experience of think tank development in western developed countries has brought enlightenment to China mainly in the following aspects:

- Build a safe and reliable political environment and provide institutional guarantee for the development of think tanks. With the increasingly complex new problems and new contradictions in China's economic and social development in the new era, the formulation of government public policies requires the support of a large number of high-level think tanks, so it is necessary to provide a safer and more reliable political system guarantee for its rapid development. The government should speed up the establishment and improvement of professional laws and regulations related to think tanks and make them institutionalized and legalized. At the same time, we should improve the evaluation and adjustment mechanism of policy implementation after decision making, and make the decision evaluation report available to the public in accordance with the law. We should increase support for the development of various think tanks in China in terms of fund management, personnel allocation, policies and regulations, and improve the research level and service efficiency of think tanks.
- Promote the construction of think tank information. Think tank informatization can provide solutions for the construction of new think tanks by virtue of the insight, efficiency and convenience of big data in information processing, and improve the technological content and operational efficiency of think tanks. The first is to provide big data support. Traditional think tanks mainly take text information and statistical data as research objects, and most of the research methods are conventional literature method and data analysis method, but the information obtained by them is usually incomplete and thus not complete. With the advent of the era of big data, the amount of data explodes. All kinds of unstructured data can be recorded and stored, mined, analyzed and utilized, and the knowledge service of think tank can

have a large amount of data with complete contents. In addition, since big data is mostly searched by machines, with less human intervention, and it is usually accessible to the public, the sources are more objective, avoiding the tendency of human analysis and omissions.

- Promote the professional development of think tanks, improve the evaluation mechanism of think tanks, and mobilize the enthusiasm of think tanks to participate in government decision-making. The evaluation of the influence of think tanks depends mainly on their ability and level of service government decision-making. Therefore, it is particularly important to improve the think tank evaluation mechanism. The first is to ensure the effectiveness of the research results of the think tanks, and to establish incentive and elimination mechanisms for relevant research results. The second is to provide financial incentives for research institutions that provide excellent programs, and to implement a system of accountability for research institutions that provide inferior programs to avoid the arbitrariness of decision-making. The third guides the relevant subjects to express their own interests and appeals to the think tank to provide constructive channels of interest expression.
- Promote personnel exchanges between the government and think tanks and strengthen the talent pool. Talent building is the core of the think tank. It is necessary to focus on talent development and to strengthen the ability of think tank scholars to ensure that they can "trust, use and rely on". At the same time, think tanks should actively provide space for talent development and do a good job in talent cultivation. First of all, we must increase the intensity of education and training, and focus on what is relatively lacking in talents, so as to avoid the excessive degree of homogeneity in the research team. Secondly, we should provide them with rich practical experience. Practice is the only criterion to test the truth. Think tank research should not only stay in the theoretical aspect, but should focus on solving social practical problems. Personnel exchange mechanism or dispatched research mechanism can be adopted to carry out multi-party exchanges among researchers in government organs, enterprises and think tanks, and at the same time promote the research results of think tanks to be closer to the social practice and reflect the social needs more truly.

REFERENCES

- [1] Zhao Rongying, Wang Xu, Yan Yongkang, et al. A comparative study on the operational models of Chinese and American think tanks [J]. *Books and Information*, 2018 (03): 73-79.
- [2] Zhang Zhiqiang, Su Na. The characteristics of international think tank development trend and the construction of China's new think tanks [J]. *Think Tank Theory and Practice*, 2016, 1 (01): 9-23.

- [3] Sun Zhiru, Zhang Zhiqiang. The historical evolution and development of think tanks [J]. *Journal of Information*, 2011, 30(1): 37-41.
- [4] Sun Zhiru, Zhang Zhiqiang. Analysis of the organization and development of scientific think tanks [J]. *Information and Documentation Work*, 2010, (2): 34-37.
- [5] Hu Yuwen. Analysis of the status of western think tank theory research [J]. *Academic Forum*, 2017, 40 (02): 48-55.
- [6] Lu Xiaobin, Li Wei. Research on the types and evaluation models of foreign think tanks [J]. *Information Theory and Practice*, 2018, 41 (08): 17-21.
- [7] Xu Zengwen. The main theory of the development of western think tanks and its enlightenment to China [J]. *Social Sciences*, 2018, 33(11): 58-61.
- [8] Antonio Missiroli and Isabelle Ioannides. *European think tank and the European Union* [R]. European Policy Advisory Agency (BEPA), 2012
- [9] Zhang Jun. The development of European think tanks: new trends and new features [J]. *Journal of Yunnan Administration College*, 2018, 20 (05): 148-155.
- [10] Ding Huang. American think tank and its role in government decision-making [J]. *International Institute of Technical Economics*, 1997 (03): 31-37.
- [11] Wang Houquan. *Think tank evolution theory* [D]. CPC Central Party School, 2016.
- [12] McGann, James G. 2018 Global Think Tank Index Report (2019) [R]. TTCSPP Global Participation Think Tank Index Report. https://repository.upenn.edu/think_tanks/16
- [13] Cao Yuzhong, Liang Yali, Song Yawen, et al. International comparison of think tank construction models and its enlightenment [J]. *Information Theory and Practice*, 2018, 41 (05): 97-103.
- [14] Li Jie, Chen Chaomei. *CiteSpace:Text mining and visualization in scientific literature*(2nd ed) [M]. Beijing: Capital University of Economics & Business Press, 2017.
- [15] Zhao Rongying, Yu Bo. Comparative Research on the Evolution Venues and Hot Topics of Think Tanks in Recent Five Years in China and Abroad [J]. *Information Science*,2018,36(11):3-9+16.
- [16] Hong Bo, Yang Liu.Analysis of China's Ideological Knowledge Mapping Based on CiteSpace[J]. *Marxism Research*,2018(01):110-118.
- [17] Yu Jin. The origin and development characteristics of American think tanks [EB/OL]. *Guangming.com*,http://www.gmw.cn/xueshu/2019-01/10/content_32332837.htm,2019,01,10
- [18] Tang Liwei. The historical evolution of American think tanks participating in public decision-making [N]. *Chinese Social Sciences*, 2017-08-24 (002).
- [19] Li Da. The experience of American think tank development is of reference to the construction of a new type of think tank with Chinese characteristics [J]. *Frontline*, 2017 (12): 73-75.
- [20] Zhang Jun. The development of European think tanks: new trends and new features [J]. *Journal of Yunnan Administration College*, 2018, 20 (05): 148-155.
- [21] Li Wenliang. The characteristics and enlightenment of EU think tank development [J]. *People's Forum*, 2013 (35): 15-17.
- [22] Dai Hui. The advantages of British think tanks and the reasons for their concern [N]. *China Economic Times*, 2014-01-17 (005).
- [23] Wang Yongzhi. British party building think tank and its operating mechanism [J]. *Theoretical perspective*, 2016 (12): 38-41.
- [24] Liu Xiaoxiao. The operating mechanism of German think tanks and its enlightenment [J]. *Chinese Social Science Evaluation*, 2017 (02): 111-124,128.
- [25] Zhou Ying, Liu Yue. An overview of Japanese think tanks and its implications for the construction of Chinese think tanks [J]. *New Century Library*, 2017 (11): 74-77.