

On Strengthening the Construction of New-Type Professional Think Tanks for Cybersecurity and Informatization with Chinese Characteristics (Postprint)

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Abstract

The Notice on the Opinions on Strengthening the Construction of New-Type Think Tanks with Chinese Characteristics puts forward 26 guiding opinions on strengthening the construction of new-type think tanks with Chinese characteristics and building a new pattern for their development. The construction of new-type think tanks with Chinese characteristics is welcoming a spring of development and is considered to have entered the “Era of Think Tanks” [1]. Strengthening the construction of professional think tanks for cybersecurity and informatization with Chinese characteristics is precisely an important proposition for strengthening the new pattern of development of new-type think tanks with Chinese characteristics.

Full Text

Preamble

Strengthening the Construction of New-Type Network Security and Informatization Professional Think Tanks with Chinese Characteristics

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Abstract:

[Purpose/significance] This paper discusses strengthening the construction of

new-type network security and informatization professional think tanks with Chinese characteristics. [Method/process] It analyzes the background of the topic by elaborating the new philosophy, new positioning, new system, and new mechanism of this new model. [Result/conclusion] In terms of the “new philosophy,” this paper discusses the built-in Chinese characteristics and the new-type think tank; as to the “new positioning,” it proposes three orientations: for the vision of building a cyber power, for the five development spaces of land, sea, air, space, and cyberspace, and for the synergy and integration of international and domestic governance systems and modernization of management capabilities; as for the “new system,” based on analysis of the current situation of professional think tanks, it advocates a multi-level, multi-type, and multi-theme think tank system; the “new mechanisms” concern international exchanges and cooperation, independence and contention in research, data-driven research, talent pipeline development, and collaborative innovation.

Keywords: think tank; network security; informatization; professional think tank; Chinese characteristics

1. Problem Statement

Against the backdrop of breakthroughs and convergences in the technological revolution and industrial transformation, network security and informatization face an entirely new development environment. The economy and society are forming new patterns characterized by interconnected cluster platforms and integrated industrial upgrading and transformation. New-generation information technologies such as big data, cloud computing, the Internet of Things, mobile internet, geographic information integration, and intelligent manufacturing are creating a new information space of universal connectivity, driving the continuous deepening and expansion of social informatization, and bringing people new ways and forms of work and life characterized by interconnected and mobile information dissemination, data-based and cluster-based information processing, and intelligent and convenient information services. The “Internet Plus” development strategy further reinforces this trend. Network security and informatization have become major strategic issues and comprehensive challenges in contemporary China’ s development.

From a global perspective, world multipolarization, economic globalization, cultural diversity, social informatization, and democratization of international relations continue to advance and deepen. As an important field of non-traditional security, network security has increasingly become a key focus among new challenges facing the world, a new arena for great power competition, and a new proposition for international relations democratization and global governance. In the environment of universal connectivity and intelligent mobility under big data and cloud computing, network security has also developed many intertwined characteristics, with the complexity and unpredictability of security risks

increasing. In the process of comprehensively deepening reforms, China's network security and informatization are also at a critical stage of climbing steep slopes and overcoming obstacles, with unprecedented difficulty and complexity in the strategic decision-making of building a cyber power.

Network security and informatization professional think tanks are indispensable components of the new-type think tank system with Chinese characteristics. Faced with complex changes in domestic and international situations, further strengthening the construction of network security and informatization professional think tanks, improving the national network information security decision-support system, and supporting the scientific development of a cyber power through forward-looking, targeted, and reserve policy research constitute the objective need for China to realize its dream of becoming a cyber power. The "Opinions on Strengthening the Construction of New-Type Think Tanks with Chinese Characteristics" points out that we should actively promote the classified reform of different types and natures of think tanks, scientifically define the functional positioning of various think tanks, strengthen top-level design, coordinate overall planning and classified guidance, highlight advantages and characteristics, adjust and optimize think tank layout, and promote the orderly development of various think tanks. This puts forward specific requirements for the development of network security and informatization professional think tanks. Therefore, further strengthening the construction of network security and informatization professional think tanks must uphold new concepts and positioning, and must innovate new systems and mechanisms.

2. New Philosophy for Strengthening Network Security and Informatization Professional Think Tank Construction

The "Opinions on Strengthening the Construction of New-Type Think Tanks with Chinese Characteristics" contains two important keywords: one is "Chinese characteristics" and the other is "new-type think tank." To strengthen the construction of network security and informatization professional think tanks, we must take "Chinese characteristics" and "new-type think tank" as the new development philosophy.

2.1 On Chinese Characteristics

The "Chinese characteristics" of network security and informatization professional think tanks should focus on the following aspects:

First, these think tanks should become important supports for the scientific, democratic, and law-based decision-making of the Party and government. As one of the main bodies conducting multi-level, multi-channel, and multi-form extensive democratic consultation in China's process toward becoming a cyber power, professional think tanks should undertake important historical missions

and responsibilities, playing a significant advisory role in major decision-making consultations such as the formulation of the cyber power roadmap and the national cybersecurity law. Through research reports, special briefings, domestic and international industry trends, consultation meetings, and symposiums, they should refine and summarize different perspectives on various issues, discarding the dross and selecting the essential, eliminating the false and retaining the true, proceeding from the one to the other and from the outside to the inside, and making efforts in specialized and professional sorting. By organizing and summarizing opinions from all sides, increasing academic rationality and operability, professional think tanks can play their proper role in democratic consultation.

Second, they should play a role in advancing the modernization of the national governance system and governance capabilities. Responding to global challenges in network security and informatization and solving unprecedentedly complex and arduous problems are important contents of national governance system and governance capability modernization. As a global comprehensive challenge, network security and informatization are closely related to economy, politics, society, culture, military affairs, and diplomacy, urgently requiring strengthened global governance and promotion of global governance system reform. Reforms in network information security and global governance systems are now at a historical turning point. While better playing the role of the United Nations, we should strengthen the international community's ability to respond to global challenges such as network information security. Network security and informatization professional think tanks should play an indispensable and irreplaceable role in solving and handling issues such as cooperation between China and the United States—two major cyber powers—in network security, and in global network security and informatization crisis governance and problem resolution. China's new-type professional think tanks can make contributions in these areas.

Third, they should play a role in enhancing national soft power. In April 2013, General Secretary Xi Jinping made important instructions on strengthening the construction of new-type think tanks with Chinese characteristics: "Think tanks are an important component of national soft power. With the development of the situation, the role of think tanks will become increasingly important. We must attach great importance to and actively explore the organizational and management forms of new-type think tanks with Chinese characteristics" [3]. How to build new-type professional think tanks with Chinese characteristics has become an important content. In July 2013, when inspecting the work of the Chinese Academy of Sciences, General Secretary Xi Jinping required it to take the lead in building a national high-level science and technology think tank. This actually proposed the proposition of building professional think tanks. The construction of high-end think tanks must reflect professionalism and high quality [4]. Network security and informatization professional think tanks, adhering to the concept of specialization and giving priority to the development of specialized think tanks, will give full play to their expertise and advantages, provide more professional, authoritative, and high-end decision-making consultation ser-

VICES for the Party and the country, and contribute to enhancing national soft power [5].

Fourth, these think tanks should be infused with Chinese elements and Chinese culture. New-type network security and informatization professional think tanks with Chinese characteristics need to be based on China's national conditions, fully reflect Chinese characteristics, style, and demeanor on the basis of drawing on Western think tank models and experiences, and propose influential and shocking think tank topics or solutions. At the current stage, the ability of China's professional think tanks to independently propose topics and solutions is still relatively weak, often limited to interpreting existing policies and viewpoints, and lacking independent, far-sighted, and operable viewpoints that can influence decision-making. Meanwhile, China's professional think tanks also need to work on language characteristics and individual expression. These deficiencies need to be overcome and changed in strengthening new-type professional think tanks with Chinese characteristics. Building new-type network security and informatization professional think tanks with Chinese characteristics should also pay attention to the inheritance and development of traditional Chinese culture to reflect the national spirit and spirit of the times of professional think tanks. For example, China formed a memorial system in ancient times, and the memorial texts formed therein are very similar to modern think tank special briefing products and can be used for reference. The "Wen Xin Diao Long • Memorial" chapter states: "In ancient times, ministers of Tang and Yu presented their opinions through memorials; assistants in Qin and Han called them memorials when submitting documents to the emperor. Presenting political affairs, offering ceremonial protocols, reporting urgent changes, and impeaching wrongdoings are collectively called memorials. Memorial means to advance—to spread words from below and convey sentiments upward." It is evident that memorial content includes stating political changes, providing suggestions for institutional reforms, reporting emergencies, and impeaching guilty persons. At the same time, memorials have specific requirements for style and content: "As a form of writing, memorials should be based on clarity, fairness, sincerity, and honesty, with analysis and clarification as the priority. Strong will is sufficient to accomplish tasks, broad vision is sufficient to exhaust principles, drawing on the past to control the present, and managing complexity to grasp essentials—this is the style." Memorial texts require seeking truth from facts, thorough analysis, broad vision and exhaustive reasoning, drawing on past and present experiences, and being concise and to the point. These provide useful insights for how professional think tanks today can improve the quality of their research reports and special briefings.

2.2 On New-Type Think Tanks

The "new-type think tank" in network security and informatization should focus on the following aspects:

First, establish the guiding ideology of serving Party and government decision-

making as its purpose and focusing on policy research and consultation as its main direction. As network security and informatization become global challenges, it should become the mission and responsibility of China's network security and informatization professional think tanks to actively voice China's position on the international stage of network security and informatization, actively propose China's solutions in global network security governance, promote the democratization and legalization of global cyberspace governance rules, build a peaceful, secure, open, and cooperative cyberspace, and establish a multilateral, democratic, and transparent international internet governance system. The development of network security and informatization changes with each passing day, exceeding people's imagination, with new situations and problems emerging unpredictably. Currently, China's emergency response to domestic and international events is often lagging, passive, and reactive. Therefore, the construction of network security and informatization professional think tanks must conduct forward-looking predictions, proactive suggestions, and reserve research to calmly respond to various emergencies, enabling the government to transform from a passive and reactive state to proactive layout and even "preemptive" management in network security and informatization.

Second, establish the construction goal of a high-end new-type think tank. The new development of the global governance pattern calls for high-end new-type think tanks. As of 2015, there were about 6,800 intergovernmental international organizations worldwide, growing at an average rate of about 1,200 per year. In 1945, the United Nations had 51 member states, which has now grown to 193. This growth has brought new changes to the global governance pattern. In the process of globalization, China's external environment has changed dramatically, and other countries in the world are more concerned about and even suspicious of China's network security policies and intentions. Against the backdrop of increasing Chinese netizens and rapid development of the network economy, China's role in cyberspace is constantly strengthening, and China has been pushed to the forefront of international cyberspace governance. Therefore, it is necessary to actively consider how China can assume more international responsibilities and make greater international contributions in the process of democratizing international relations, reflecting a balance between rights and obligations. This poses higher and more urgent new requirements for China's professional think tanks. Faced with this new situation, network security and informatization professional think tanks need to strive to build new-type high-end professional think tanks focusing on strategic issues and public policy, and actively respond with high-quality products [6].

At the current stage, China's network and information security think tanks are still unable to adapt to the rapid development of informatization and cyberspace. There are very few network security and informatization professional think tanks, let alone those with international reputation and policy influence. Existing professional think tank construction lacks top-level design and overall planning, with fragmented and scattered research, few intensive and high-quality research results, and difficulty in demonstrating the integrated and col-

laborative benefits of professional think tanks across systems, industries, and inside/outside the system. Therefore, it is necessary to take the construction of new-type professional think tanks for network security and informatization with Chinese characteristics as an important component of building a cyber power, continuously advance toward new-type high-end think tanks through the establishment of new concepts and positioning and the construction of new systems and mechanisms.

3. New Positioning for Strengthening Network Security and Informatization Professional Think Tank Construction

Compared with international first-class think tanks, China's think tanks still have many deficiencies in their overall current situation, including the lack of clear think tank positioning. The author believes that to build internationally first-class new-type high-end network security and informatization professional think tanks with Chinese characteristics, the new positioning should establish three orientations: facing the new vision of building a cyber power; facing the five new development spaces of land, sea, air, space, and cyberspace; and facing the new goal of coordinating the modernization of international and domestic governance systems and governance capabilities.

3.1 Facing the New Vision of Building a Cyber Power

In February 2014, when presiding over the first meeting of the Central Leading Group for Cybersecurity and Informatization, Xi Jinping emphasized that network security and informatization are major strategic issues concerning national security and development and the work and life of the broad masses of the people. We must proceed from the overall international and domestic situation, make overall arrangements, coordinate all parties, innovate and develop, and strive to build China into a cyber power [7]. This new development vision is precisely the content of the consultation opinions proposed by Chinese think tanks to the Party and the country in 2013.

An important function of think tanks is to plan major strategies for the Party and government's future development, propose development ideas, visions, and goals, and put forward corresponding new ideas, new concepts, and new terms. Contemporary global innovation concepts have risen from traditional creation of new products and new technologies to creating new fields worldwide, new lifestyles, new business models, and new names. This transformation of innovation highlights the innovation of ideas and concepts. Network security and informatization professional think tanks should focus on the development vision of building a cyber power, concentrate on producing ideas, offer clever strategies for development, provide practical measures for innovation and transformation, and devise ingenious solutions in discourse and concepts. They should produce more research results that have innovative leading roles for building the Chinese

dream of a cyber power and innovative ideas for the global governance system of network security and informatization, and plan specific roadmaps and timetables to promote China's transformation from a major cyber country to a cyber power, forming a new mechanism and new form of national network security and informatization management that is strategically clear, technologically advanced, industrially leading, and capable of both offense and defense.

Network security and informatization are forming trends of large-scale interconnection, large-scale cloud information concentration, large-scale ubiquitous real-time mobility, large-scale cross-domain penetration, and large-scale cross-disciplinary convergence. A slight move in one part may affect the whole situation, with some aspects predictable but others increasingly unpredictable or difficult to forecast. This requires professional think tanks to plan and prepare various contingency plans, conduct detailed analysis and judgment on various possible developments, and strengthen reserve research, so that the country's network security and informatization management can remain calm amidst complex and changing environments, respond effectively to various complex situations and emergencies, and be prepared for any eventuality.

3.2 Facing the Five New Development Spaces of Land, Sea, Air, Space, and Cyberspace

Since entering the 21st century, particularly its second decade, the world has gradually formed five new development spaces of land, sea, air, space, and cyberspace. World powers have been scrambling to seize the initiative in these five new development spaces. For example, in 2011, the U.S. government successively released the "National Strategy for Trusted Identities in Cyberspace," "International Strategy for Cyberspace," and "Strategy for Operating in Cyberspace," explicitly listing cyberspace alongside land, sea, air, and space as the five major development and operational spaces. Cyberspace in the five spaces is forming a pattern of mutual integration and penetration with the other four spaces. On July 1, 2015, the newly promulgated "National Security Law of the People's Republic of China" Article 32 proposed: "The state adheres to the peaceful exploration and utilization of outer space, international seabed areas, and polar regions, enhances the ability to safely enter, conduct scientific investigations, and develop and utilize these areas, strengthens international cooperation, and safeguards the security of China's activities, assets, and other interests in outer space, international seabed areas, and polar regions" [8]. This is precisely the new layout facing the five spaces. How to change from passive to active in global information security, network security, and cyberspace security; how to orderly advance in the global governance system of network security and China's law-based governance; how to clean up cyberspace under the guidance of a comprehensive security concept; how to safeguard national information sovereignty, security, and development interests in cyberspace; how to embed a "slow switch" for network security in the rapid advancement of the "Internet Plus" action plan—these and other major strategic issues are precisely what professional think

tanks need to deeply consider and advise on. From the perspective of serving decision-making, they need to select topics and position themselves, propose specific roadmaps and timetables in their research, provide policy design solutions, response measures, and implementation methods, all of which require active planning and suggestions from professional think tanks to play the functions of high-end professional think tanks relied upon by the state.

3.3 Facing the New Goal of Coordinating International and Domestic Governance System and Governance Capability Modernization

In the big data and cloud environment, as global data resources show trends of real-time generation, centralized storage, intelligent development, extensive interaction, rapid iteration, cross-border flow, and remote operation and maintenance, competition and game-playing in network security and informatization among countries, regions, enterprises, and individuals are unfolding on a global scale. The risk mechanism of network security is evolving, management boundaries are being reconstructed, and network security and informatization have become important influencing factors that affect the whole situation by a single move in many fields of world patterns and a country, becoming an important global challenge that requires joint response with the concept of a community with a shared future for mankind and the formation of new mechanisms and new rules. Therefore, the important role of network security and informatization professional think tanks is increasingly prominent, requiring them to strengthen research and provide new paths, new measures, and new methods for coordinating the modernization of international and domestic governance systems and governance capabilities, including establishing systems, improving literacy, cultivating talent, interpreting policies, dispelling doubts, and assisting diplomacy.

On October 12, 2015, the Political Bureau of the CPC Central Committee conducted collective study on the global governance pattern and global governance system. General Secretary Xi Jinping pointed out in presiding over the study: “The reform of the global governance system is at a historical turning point. World affairs increasingly require consultation among all countries. Establishing international mechanisms, abiding by international rules, and pursuing international justice have become the consensus of most countries. With the increase of global challenges, strengthening global governance and promoting the reform of the global governance system has become an irresistible trend” [9]. How to promote the reform of unjust and unreasonable arrangements in the global cyberspace governance system, transform and improve the global cyberspace governance system, establish a new type of international relations with win-win cooperation as the core in cyberspace, uphold the correct view of justice and interests, and build a community with a shared future for mankind—these propositions of global cyberspace governance are precisely the missions of professional think tanks.

The development of network security and informatization requires improving the

information literacy of the entire population, that is, elevating from the original single information awareness or information literacy limited to information technology to a comprehensive and integrated information literacy, scientific quality, and ethical morality including information awareness, network skills, data literacy, security prevention, and information ethics. This requires professional think tanks to play the function of enlightening public wisdom in keeping with the times.

An important function of think tank development is to produce ideas, produce results, and produce talent. By strengthening the construction of professional think tanks, we can cultivate a professional team for network security and informatization public policy and decision-making consultation that possesses both political integrity and professional competence and an innovative spirit. This includes promoting the orderly flow of talent between Party and government organs such as the Publicity Department, Cyberspace Administration, and Ministry of Industry and Information Technology and professional think tanks in universities, academies of social sciences, and the Chinese Academy of Sciences. This “revolving door” talent reserve and cultivation method has been proven effective by think tank development experience worldwide.

Research on network security and informatization-related policies, interpretation of relevant laws, and evaluation of relevant measures all require professional think tanks to assume corresponding responsibilities. For example, strengthening research and publicity on General Secretary Xi Jinping’s series of important speeches on network security and informatization, strengthening research and interpretation of the theoretical system of network security and informatization with Chinese characteristics, strengthening interpretation of the background and provisions of the “National Security Law of the People’s Republic of China” and the under-review “Cybersecurity Law of the People’s Republic of China (Draft),” and interpreting new highlights of cybersecurity cooperation during Xi Jinping’s visit to the United States—all these research, publicity, and policy interpretations require long-term and in-depth tracking research based on major ideological and theoretical issues, major practical issues, and major practical experiences in network security and informatization. Only interpretations based on such research can have greater depth and persuasiveness, giving play to the function of professional think tanks in interpreting policies and building consensus.

The development of network security and informatization has brought many new situations, new problems, and new challenges. For example: cyber games among world powers, U.S. surveillance of countries worldwide, endless online hacker attacks, massive personal privacy leaks, information security risks in online payments, how to protect personal and institutional information security in network security-related laws, and how to promote government information disclosure—all these various issues in development require professional think tanks to provide scientific and authoritative explanations, thereby establishing an elite public opinion influence mechanism centered on professional think tanks,

continuously gaining social trust, and gradually forming international influence.

A major function of new-type think tanks with Chinese characteristics is public diplomacy. Network security is becoming a major global challenge, and platforms and channels for global governance of network security and informatization are constantly increasing. Chinese professional think tanks are also continuously strengthening collaborative research between China and foreign countries and adopting new methods of “bringing in and going out.” Professional think tanks can make contributions in promoting public diplomacy, playing an irreplaceable role as a non-governmental “second track” in public diplomacy, cultural exchange, and coordinating intergovernmental relations. China’s successfully held first and second World Internet Conferences and various international information security forums can become effective carriers of public diplomacy to enhance the comprehensive judgment and strategic planning capabilities of professional think tanks, improve China’s ability to exchange and dialogue with the international industry, and promote China’s network and information security concepts, policies, and measures to the world and increase international influence and discourse power.

4. Constructing a New System for Network Security and Informatization Professional Think Tanks

The “Opinions on Strengthening the Construction of New-Type Think Tanks with Chinese Characteristics” divides think tanks into seven categories: Party and government departments, academies of social sciences, Party schools and administrative colleges, universities, military, scientific research institutes and enterprises, and social think tanks, basically covering all types of think tanks. At the current stage, network security and informatization professional think tanks are reflected in these seven categories, but a new system needs to be constructed according to the new philosophy and positioning.

4.1 Current Situation Analysis of Network Security and Informatization Professional Think Tanks

With the advent of the Internet in China in the 1990s, various types and levels of network security and informatization professional think tanks also emerged. In the initial stage, some of these think tanks belonged to national government departments, some were affiliated with enterprise groups, and some were research institutions in academies of social sciences and universities, performing think tank functions while fulfilling management and research functions. For example, the China Information Security Evaluation Center, established in 1997, is an authoritative government department specializing in information security vulnerability analysis and risk assessment in China, undertaking and participating in many national projects. The center compiles the annual think tank product “National Information Security Situation Assessment” and publishes the profes-

sional journal “China Information Security.” Another example is the National Computer Network Emergency Response Technical Team/Coordination Center of China, established in 1999 and affiliated with the Ministry of Industry and Information Technology. Its main responsibilities include coordinating the handling of security emergencies on the national public Internet, while providing management and consultation functions for national network security monitoring, early warning, emergency response, and prevention, as well as collecting, verifying, summarizing, and releasing relevant information. In 2012, the China Electronics Technology Group Corporation Information Technology Research Institute Co., Ltd. established an “Information Security Research Institute” specializing in information security research and consultation. This institution has successively applied for and undertaken national projects such as “Industrial Support Capacity Building of National Information Security Guarantee System” and “Key Technology Research and Development and Industrialization of Information Security Systems,” and participated in the drafting of information security and information technology-related documents of national ministries and commissions, directly or indirectly participating in government decision-making. In 1999, Fang Xingdong initiated the establishment of the first professional Internet research and consulting institution in China—“Internet Laboratory”—which actively explored civil professional think tanks and produced many research results on the Internet and network security, participating in relevant activities of the State Internet Information Office. At the same time, some large private network enterprises also have Internet or information security research institutions. However, from the perspective of global network security and informatization governance, non-governmental department think tanks lack understanding of actual diplomatic activities and find it difficult to keep up with decision-making needs. Emerging civil think tanks have strong financial resources but insufficient topic relevance, and their channels for making suggestions are also relatively narrow.

In September 2010, the Institute of Information Studies of the Shanghai Academy of Social Sciences proposed the new development goal of building a first-class social science academic information think tank nationwide [10], and in 2012, it specially established an Information Security Research Center. In 2013, it won the bid for the major project of the National Social Science Fund, “National Information Security Management Paradigm and Policy Path Selection under Big Data and Cloud Environment.” In 2014, the Shanghai Municipal People’s Government Decision-Making Consultation Research Base Studio (research direction: “Network Security Management and Information Industry Development”) was established in the institute. In 2015, it published the national cyberspace security blue book “China Cyberspace Security Development Report 2015,” becoming a professional think tank for network security and informatization in the academy system. In July 2015, the unveiling ceremony of the China National Security Issues Research Center was held at the National Defense University. The center’s main tasks are to focus on major practical security issues facing China, conduct relevant topic research, strategic

assessment, policy consultation, talent training, and international exchange, forming a large-scale strategic think tank for national security decision-making consultation, a platform for academic exchange and cooperation both inside and outside the military, and a high-level professional talent training base, making contributions to national security field construction [11]. In addition, think tanks engaged in international relations research, such as the “Internet Governance and Law Research Center” of the International School of Beijing University of Posts and Telecommunications, China Institutes of Contemporary International Relations, School of International Relations of Renmin University of China, Shanghai Institutes for International Studies, and Institute of International Studies of Fudan University, have also made network security and informatization the focus of academic research and decision-making consultation.

From the above current situation analysis, it can be found that in the construction of the network security and informatization professional think tank system, there is still a lack of high-end professional think tanks relied upon by the state and with international influence, and few weighty think tank products. Most existing network security and informatization professional think tanks are affiliated with international relations, comprehensive national security, and information society research institutions, with insufficient professionalism and specificity, and existing think tanks have not formed integrated and collaborative synergy. Obviously, the current situation of network security and informatization professional think tanks cannot adapt to the corresponding decision-making consultation needs in the process of the country’s march toward becoming a cyber power. How to build a network security and informatization professional think tank with moderate scale and reasonable layout on the existing basis to form a new system of professional think tanks has become an urgent task in strengthening the construction of new-type professional think tanks with Chinese characteristics.

4.2 Forming a Multi-Level, Multi-Type, Multi-Theme Professional Think Tank System

We should actively promote the construction of network security and informatization professional think tanks of different systems, types, and levels with a spirit of reform and innovation. Under the guidance and overall coordination of the Office of the Central Leading Group for Cybersecurity and Informatization and the State Internet Information Office, we should strengthen top-level design, form corresponding professional think tank advantages and characteristics, integrate the network security and informatization research forces in existing Party and government departments, academies of social sciences, Party schools and administrative colleges, universities, military, scientific research institutes and enterprises, and social think tanks, build collaborative innovation platforms, carriers, and channels, form synergy among professional think tanks, promote the scientific and orderly development of professional think tanks, and form a

multi-level professional think tank system consisting of national teams, local teams, and civil institutions, achieving deep integration of natural sciences and social sciences in professional think tanks.

Professional think tanks should have a certain quantity but, more importantly, pursue quality, forming a new pattern of collaborative development and mutual supplementation among large, medium, and small think tanks, and a new pattern of mutual supplementation and common development between think tanks within and outside the system. The new background of “Internet Plus,” collaborative innovation among government, industry, academia, and research, and the rapid development of social informatization and networking provides the possibility for the rapid development and growth of the network security and informatization professional think tank system in a relatively short period.

Compared with countries and regions worldwide, China’s network security and informatization issues are more focused, with more problems to solve, and the demand for network security and informatization development is more extensive and urgent, which also provides greater growth space for professional think tanks.

4.2.1 Taking the Lead in Building Several High-End Think Tanks with Great Influence and International Reputation

Through top-level design and relying on existing foundations, we should build several high-end professional think tanks for network security and informatization with great influence and international reputation at the national level, strengthen overall resource integration, build several thematic databases, laboratories, and soft science research bases, launch influential think tank research reports, and give full play to the intellectual support and civil exchange roles of professional think tanks in platforms such as China-U.S. cybersecurity dialogue and the World Internet Conference.

High-end professional think tanks should focus on producing results and cultivating talent, forming distinctive and long-term research fields and research results on network security and informatization decision-making consultation, and on this basis, forming influential professional representative figures and full-time researchers, creating multi-level academic exchange platforms and achievement transformation channels, building a data-rich information collection and analysis research sharing intelligent system, and giving full play to the important role of professional think tanks in implementing scientific, democratic, and law-based decision-making, in implementing the cyber power development strategy, and in achieving integrated development. The national team of the first-built high-end network security and informatization professional think tanks should always play the role of the country’s highest consulting institution.

4.2.2 Focusing on Building a Batch of Specialized High-Level Research Centers

According to the development requirements for building high-end think tanks that are urgently needed by the state, distinctive, clearly positioned,

institutionally innovative, development-leading, moderately scaled, and reasonably laid out, we should conduct overall coordination and classified guidance at the national level, combine with the “13th Five-Year Plan” development plan, and focus on building a batch of corresponding specialized high-level research centers around major issues such as network security and informatization strategy, relevant laws, relevant technologies, industry development, international governance, integration with economic and social development, integration with military and diplomatic development, and China’s construction of a cyber power, to meet the increasingly enhanced needs of national network security and informatization for scientific development and scientific decision-making.

4.2.3 Giving Full Play to the Unique Role of Enterprise and Civil Society Professional Think Tanks Building a new pattern for the development of new-type think tanks with Chinese characteristics includes the requirements of building high-level enterprise think tanks and guiding the healthy development of social think tanks. Enterprise think tanks and social think tanks have unique advantages for developing new-type professional think tanks with close integration of government, industry, academia, and research, and their research independence is also relatively strong. Enterprise and civil society professional think tanks will form a complementary diversified and multi-level pattern with professional think tanks of Party and government departments, academies of social sciences, Chinese Academy of Sciences, universities, military, and scientific research institutes, and can also provide multi-dimensional professional, constructive, and practical policy suggestions for Party and government decision-making.

In the process of forming a multi-level, multi-type, multi-theme professional think tank system, we must strengthen overall coordination, do a good job in overall planning, optimize resource allocation, form a new pattern of large, medium, and small think tanks developing side by side according to the principle of seeking truth from facts, avoid redundant construction, and prevent rash and disorderly development.

5. New Mechanisms for Network Security and Informatization Professional Think Tanks

Strengthening the construction of new-type network security and informatization professional think tanks with Chinese characteristics must form new mechanisms and adopt new methods. There are many such new mechanisms and methods. For network security and informatization professional think tanks, we should focus on forming the following five major new mechanisms.

5.1 Forming a New Mechanism for International Exchange and Cooperation

Research on global hotspot issues in network security and informatization must have international communication capabilities and the ability to perform strategic dialogue in a global perspective. This requires actively enhancing the activity of professional think tanks in international exchanges and cooperation on the existing basis. We should overcome the shortcomings of relevant think tanks working behind closed doors, passively responding, and having irregular procedures through collaborative research by “bringing in”; we should also remedy the shortcomings of remaining silent, missing the point, and working in isolation in international exchanges through collaborative cooperation by “going out.” We should comprehensively integrate public diplomacy resources and elements of government competent departments and publicity departments, military and intelligence departments’ external communication, strengthen public diplomacy and external communication, focus on key audiences such as internationally renowned think tanks, academic leaders, news media, and important government officials, and improve the effectiveness of public diplomacy. In enhancing the activity of professional think tanks in international exchanges and cooperation, we should actively create platforms for dialogue with world-class think tanks, enhance mechanisms for international exchanges and cooperation, conduct international cooperative project research, jointly establish research groups with foreign relevant think tanks, jointly research issues such as network security and informatization public policy, global governance, and bilateral cooperation, carry out multilateral think tank activities, and gather wisdom from around the world to solve the common problem of network security facing mankind.

In international exchanges and cooperation, we should also attach importance to cultivating foreign language talent for professional think tanks, translating and publishing think tank achievements, establishing multilingual foreign language websites, and creating bilingual or multilingual research environments. Issues involved in network security and informatization are relatively sensitive. In international exchanges and cooperation, we should not only focus on extracting Chinese discourse that reflects the Chinese path of network security and informatization but also on communicating and integrating Chinese discourse with world industry discourse to reduce mutual misunderstanding, prejudice, and misjudgment. We should actively align with the global development pattern of network security and informatization, actively set core topics in contexts of understanding, methods of recognition, and conventional procedures, reflect Chinese strength and Chinese spirit beyond inherent topic systems, and use Chinese cultural soft power to enhance China’ s influence and discourse power in global network security and informatization governance. As Long Yongtu pointed out: we should use logic and language that the international community can understand to voice China’ s position, not only clarify issues but also express positions clearly, thereby avoiding misunderstanding, facilitating smooth communication, and attracting due attention and importance from countries

worldwide.

5.2 Forming a New Mechanism for Independent and Contentious Research

The field of network security and informatization is an evolving organism, with many problems and phenomena difficult to predict. On the basis of strengthening problem consciousness and practice orientation, conducting targeted research on long-standing and puzzling problems in domestic and international network security and informatization, and ultimately providing logical and convincing answers requires professional think tanks to form a new mechanism for independent and contentious research. We should advocate academic contention and discussion, uphold the spirit of independent research and equal research, provide a broader vision for decision-making consultation from different dimensions, and reflect the independent and objective character of professional think tank research results and consultation suggestions. Independence is often confused with neutrality. Think tank experts and their policy suggestion reports generally need to propose or support certain tendentious viewpoints, which are influenced by the experts' disciplinary backgrounds, research methods, and information sources. This should not negate their independence. What needs to be guarded against is think tanks becoming spokespersons for certain individuals or institutions or attaching themselves to certain interest groups under non-academic drivers, which would cause the so-called independence of think tanks to be lost, their credibility to disappear, and the policy suggestions proposed by such think tanks to lose significance and value.

It should be pointed out that the independence of think tanks does not mean being anti-government or singing counterpoints to decision-makers. Think tanks cannot be separated from the government. Think tank research is largely to serve the government and support decision-making, and depends on government procurement of services, so it is not completely economically independent. However, as long as they have their own research positions, respect facts, maintain objectivity, and their research processes, personnel allocation, and conclusion analysis are not subject to government intervention, this is a form of independence. Defending the government without providing beneficial suggestions or criticizing the government without constructive opinions are both undesirable [13].

In addition, we should increase the dissemination of relevant information about China's network security and informatization professional think tanks. James McGann, head of the Think Tanks and Civil Societies Program at the University of Pennsylvania, once mentioned: "Indeed, scholars have told me that China now has about 2,500 think tanks. However, there has never been a database allowing me to obtain information about these think tanks, nor have I ever seen them in some formal global rankings. I have repeatedly asked where this list is and what its data sources are, but have not received this information. What troubles me is that many Chinese think tanks do not have their own websites

or update them too slowly, and bilingual Chinese-English websites are even rarer. Many websites do not have personal profiles of think tank experts, nor do they even provide effective contact information” [6]. This is criticism of the insufficient information dissemination capacity of Chinese think tanks and an aspect that needs improvement in the process of building new-type think tanks with Chinese characteristics.

5.3 Forming a New Mechanism for Data-Driven Research

Big data is becoming a new engine for network security and informatization research. The total amount of global data continues to grow at a rate of doubling every two years. Big data is changing scientific development and is also changing think tank research methods. Big data technology has brought a new paradigm of data-intensive scientific research to think tank research, bringing innovation in research methodology. The continuously growing massive big data integrates many characteristics such as complexity, comprehensiveness, globality, and cloud integration, realizing the transformation from single discipline to multi-disciplinary and interdisciplinary direction, realizing the deep integration of natural sciences and social sciences, realizing the transformation from individual research and single-institution research to government-industry-academia-research and international cooperative research, and establishing a global think tank collaborative network. More data, more participants, and more sharing—this is the new form of data-driven think tank research. Professional think tank experts can solve network security and informatization problems through real-time, dynamic monitoring and analysis based on big data. The data-driven think tank research method is already imminent.

To adapt to the new development of data-driven think tank research, we need to plan and build a national network security and informatization policy research database. If China’s Internet model in the past was more about learning from or copying the models and methods of world powers, then with the innovative development of China’s Internet, China’s new Internet models and forms have ranked among the world’s first echelon and increasingly demonstrate their own uniqueness and creativity. Creating relevant databases on this basis will provide a research foundation for China’s transformation from learning and copying to innovation and leadership, and will surely enhance China’s soft power in its march toward becoming a cyber power.

Data-driven think tank research requires engaging in new types of survey reports through digital and open methods. The systematic accumulation of survey object data should become the research foundation for network and information security professional think tanks, forming the basis and advantages of research through data mining, data processing, and data visualization. Through the model of “website + social media + in-depth interviews,” we can obtain three-dimensional, diverse, and accurate data information, and can even rely on the power of crowdsourcing to obtain richer data information, thereby forming comprehensive and thematic annual reports with detailed information, intelligence

mining, in-depth analysis, and independent research. On the basis of comprehensive assessment and strategic planning, to provide professional, constructive, and practical policy suggestions for the Party and government, we must further implement the government information disclosure system. On the basis of improving the government information disclosure confidentiality review system, in accordance with the provisions of the government information disclosure regulations, we should form new mechanisms and new paths that facilitate professional think tanks' timely access to relevant government information and various data.

With the advent of the big data era, data-driven approaches have become not only the focus of the global economy but also the development path for professional think tanks in network security and informatization. Data collection and integration, ordering and analysis, research and mining, doubt removal and redundancy elimination, discovery and extraction, and open transmission, especially the comprehensive research and value discovery of deep data mining to reflect the "wisdom" of professional think tanks, should all become important functions of professional think tanks.

5.4 Forming a New Mechanism for Cultivating Leading Talent

Excellent talent is crucial for think tank construction. Talent for network security and informatization professional think tanks needs to have backgrounds in two or more of the following: first, work experience in relevant government departments; second, disciplinary background or theoretical research foundation in information technology and intelligence research; third, management or technical background in information security enterprises and institutions; fourth, knowledge accumulation and foreign language communication ability in international relations research; fifth, top-level research level or development potential in law, information science, culture, and other disciplines and fields.

Problems faced by network security and informatization mostly have practical, applied, operational, frontier, and comprehensive characteristics. We should avoid excessive academicization and scholasticization of professional think tank teams and should widely recruit elites from political and industrial circles to adapt to the applied characteristics of professional think tanks. This can be achieved through elites from political and industrial circles taking part-time positions or directly holding management positions in professional think tanks, or through think tank talent taking part-time positions in government or enterprise departments, breaking down the barrier between academic research and decision-making consultation and cultivating, reserving, and delivering professional talent for the Party and the country.

Network security and informatization professional think tanks also have international characteristics and need to cultivate a group of think tank leading talent with international influence. To form such a talent highland, we can provide opportunities and channels for Chinese think tank scholars to go out and attract outstanding talents from around the world through international vis-

its, China-foreign co-hosted international forums, Chinese and foreign experts jointly serving as chief experts of research projects, international scholarship systems, and overseas student exchange programs. At the same time, we can leverage the network advantages formed by international exchanges to enhance the global influence and visibility of professional think tanks.

Network security and informatization professional think tanks have special requirements for talent. Professional think tank scholars should have good ideals, beliefs, and quality cultivation, form solid professional foundations, rigorous and focused academic styles, and broad international perspectives, and firmly establish national security awareness, information security awareness, and confidentiality discipline awareness. The field of network security and informatization often experiences emergencies, which requires professional think tank scholars to have the ability to react quickly at the first moment and produce practical and useful decision-making suggestions for the “100-meter sprint” while conducting long-term tracking and accumulation of “10,000-meter long-distance running” research. When the country and society urgently need new insights, think tank experts can confidently and calmly deliver think tank achievements with profound academic research accumulation to decision-makers.

5.5 Building a Collaborative Innovation Mechanism

Research in network security and informatization professional think tanks often involves issues related to the country’s overall security and strategic commanding heights of informatization, with large spans in time and scope. It is difficult for a single think tank or a few think tanks to have the ability to design comprehensive solutions covering politics, military, culture, economy, and diplomacy. Therefore, we must build a collaborative promotion and collaborative innovation mechanism among professional think tanks and various types of think tanks to deepen and refine relevant research with a pragmatic spirit. We should overcome the limitations of departmentalization, localization, and hierarchy, break through the barriers of departmental ownership and various restrictions on transnational cooperative research, and build a think tank collaborative innovation mechanism. The Jiangsu Zijin Media Think Tank, declared established at Nanjing University in July 2015, was created by Nanjing University joining hands with Jiangsu Province’s four major cultural enterprises and media groups, integrating disciplinary forces from Nanjing University’s School of Social and Behavioral Sciences, School of Journalism and Communication, School of Information Management, School of Government Management, etc. This is precisely a new case of the think tank collaborative innovation mechanism [14].

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