Building Industrial Think Tank Alliances under Collaborative Innovation: Safeguard Measures and Strategies (Postprint)

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Abstract

[Purpose/Significance] Aimed at addressing the current issue of relatively homogeneous constituent entities in industry think tank alliances, insufficient comprehensiveness in service types and implemented functions, and existing supply-demand imbalances, this study seeks to construct and refine industry think tank alliances from a multi-stakeholder perspective grounded in the collaborative innovation concept, thereby better actualizing their value.

[Method/Process] Grounded in supply-side, demand-side, and integrated perspectives, and integrating theories of system integration and collaborative innovation, this paper examines the construction of industry think tank alliances through a bottom-up approach, and explores the safeguarding strategies required for building industry think tank alliances under the collaborative innovation concept across five dimensions: policy and institutional frameworks, funding, talent and technology, public opinion, and services.

[Results/Conclusion] The study constructs an industry think tank alliance encompassing the element layer, organizational structure layer, operational layer, service layer, and objective layer, which better promotes the development of the industry through interactions among objective coordination, organizational collaborative innovation, operational collaborative innovation, and service collaborative innovation.

Full Text

Preamble

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Research on the Construction of Industrial Think Tank Alliance and Its Safeguard Measures Based on the Concept of Collaborative Innovation

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Abstract

[**Purpose/Significance**] Current industrial think tank alliances suffer from relatively homogeneous composition, incomplete service offerings and functions, and supply-demand imbalances. This study aims to construct and improve industrial think tank alliances from the perspective of collaborative innovation and multiple stakeholders to better realize their value. [**Method/Process**] Based on supply-side, demand-side, and integrated perspectives, and combining theories of system integration and collaborative innovation, this paper explores the construction of industrial think tank alliances using a from-local-to-global approach. It then examines safeguard measures for building such alliances under the collaborative innovation concept from five dimensions: policy and institutional frameworks, funding, talent and technology, public opinion, and services. [**Result/Conclusion**] The study constructs a five-layer industrial think tank alliance comprising the element layer, organizational layer, operational layer, service layer, and target layer. Through the interaction of target synergy, organizational collaborative innovation, operational collaborative innovation, and service collaborative innovation, the alliance can better promote industrial development.

Keywords: collaborative innovation; industrial think tank alliance; safeguard measures

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Think tanks, also known as brain trusts, are decision-oriented organizations that provide policy research and consulting services [1]. Among existing think tank alliances, most are regional or thematic in nature, typically comprising several think tanks, while industry-specific think tank alliances remain relatively rare. The *Opinions on Strengthening the Construction of New-Type Think Tanks with Chinese Characteristics* proposes building a new pattern for the development of characteristic new-type think tanks [2], and the national 13th Five-Year Plan also advocates "promoting the establishment of think tank alliances" [3], providing a favorable environment for their development. However, current industrial think tank alliances feature relatively homogeneous composition, resulting in incomplete service offerings and functions that cannot fully meet actual demands, creating supply-demand imbalances. In response to this situation, this study applies the collaborative innovation concept to reconstruct industrial think tank

alliances and explore their implementation safeguards.

1. Necessity and Feasibility of Constructing Industrial Think Tank Alliances Under the Collaborative Innovation Concept

1.1 Industrial Think Tank Alliance and Collaborative Innovation

An industrial think tank alliance refers to an organic service entity established through joint or cooperative efforts among relevant stakeholders such as service institutions and think tank organizations related to entire industry information services. It represents a social organization that maximizes the aggregation of distributed industry intelligence and embodies collective industry intelligence. Characterized by intelligence aggregation, authority, and personalization, such alliances provide paid and unpaid services including industrial policy formulation, development decision-making, various intelligence support, other information services, talent cultivation, and science popularization support for industries, enterprises within industries, governments, units, and the general public. These services reduce information barriers within industries, promote healthy competition among enterprises, enhance overall industry standards, help governments and organizations grasp industrial development trends, and increase public awareness of industrial think tank alliances. Furthermore, by leveraging the extended value of related products and services, they indirectly drive the development of other related industries, fostering a healthy and benign ecosystem among industries.

The concept of synergy was first proposed by Russian scholar Ansoff in 1965, defining it as value creation through the mutual growth of relatively independent components based on resource sharing [4]. In 1971, German scholar Haken introduced synergy theory, explaining that the synergy effect occurs when various innovation subjects achieve 1+1>2 holistic effects through collaborative innovation. From a systems perspective, he argued that synergy exists among components within a system, between components and the system, and between the system and its environment [5]. Regarding the concept of collaborative innovation, American scholar Glueck believes it represents mutual promotion among subjects driven by shared vision and goals [6]; Hu Enhua and Liu Hong propose that collaborative innovation is a process where subjects achieve holistic effects through complex nonlinear interactions [7]; Chen Jin defines it as the large-span integration of multiple subjects engaged in knowledge creation and technological innovation around innovation, forming an organic whole that achieves complementary advantages and improved innovation efficiency through resource integration, in-depth cooperation, and system optimization [8]; Li Shanshan, Zhao Naizao, and Feng Jun emphasize that collaborative innovation aims to break through barriers in talent, capital, information, and technology among innovation subjects, achieving deep cooperation while fully mobilizing each other's innovation elements [9]. Synthesizing these perspectives, collaborative innova-

tion involves cooperative parties achieving 1+1>2 holistic synergy effects and improved innovation efficiency through resource sharing, mutual promotion, and external adaptation driven by common goals. For industrial think tank alliances, constructing and improving their models based on collaborative innovation concepts can enhance their flexibility, efficiency, and innovativeness. The constituent elements of industrial think tank alliances feature cross-boundary characteristics, completing operations and service delivery through large-span integration and collaborative innovation around shared goals, with specific institutional members constantly updating and changing. Therefore, this study constructs industrial think tank alliances from a multi-stakeholder perspective using the collaborative innovation concept.

1.2 Necessity Analysis for Constructing Industrial Think Tank Alliances Under Collaborative Innovation

This section examines the necessity from both supply-side and demand-side perspectives. From the demand-side perspective, the demand-side subjects in industrial think tank alliances include industries, enterprises within industries, governments, units, and the general public. Industries face demands for addressing resource asymmetry, cross-boundary transformation in the big data era, and innovative development. Enterprises within industries, weaker in ideological capacity than think tank alliances, encounter decision-making problems that cannot be solved with existing capabilities and require effective third-party assistance. They also seek to acquire more resources and communicate with other enterprises and authoritative organizations within the industry. Governments and units need to grasp industrial development trends. The general public has relatively low understanding of think tanks and think tank alliances and may have misconceptions, creating educational demands.

From the supply-side perspective, the supply-side subject is the industrial think tank alliance itself. The resource support provided by industrial think tank alliances can satisfy enterprises' demands for more resources to overcome development constraints. By providing high-quality, reliable communication platforms, these alliances can meet enterprises' communication needs, facilitating interaction among enterprises and between enterprises and alliance members. The personalized services offered by industrial think tank alliances can provide paid, tailored solutions when enterprises face decision-making problems beyond their capabilities. The industry dynamic information output by alliances in the form of projects and research results can satisfy governments' and units' demands for understanding industrial development trends. The training services, publications, and other educational and opinion guidance provided by industrial think tank alliances can meet the public's educational demands. Ultimately, supply-demand balance is achieved through mutual promotion between the supply-side subject and demand-side subjects including industries, enterprises, governments, and the public.

Investigation of existing typical industrial think tank alliances reveals that their

homogeneous composition leads to incomplete service offerings and functions that cannot meet actual demands from industries, enterprises, governments, and the public, resulting in supply-demand asynchrony and imbalance. Therefore, it is necessary to establish industrial think tank alliances under the collaborative innovation concept in a demand-oriented manner, which also responds to the national "supply-side" reform policy [10]. Figure 1 [Figure 1: see original paper] illustrates the necessity of constructing industrial think tank alliances under the collaborative innovation concept.

1.3 Feasibility Analysis for Constructing Industrial Think Tank Alliances Under Collaborative Innovation

The construction of domestic think tank alliances has become a hotspot in think tank construction and development, with numerous alliances in different fields and at different levels being established continuously and relevant research 成果 emerging. Du Huanzheng, Wang Yan, Zheng Bokang, et al. explored the construction of renewable resource industry think tank alliances from the necessity of combining theoretical and practical approaches, emphasizing that the theoretical aspect involves scientific decision-making based on analysis of research problems and understanding of trends, while the practical aspect involves implementing decisions, specific operations, and handling actual problems [11]. Zhou Wendi, based on social network theory, collaborative innovation theory, and systems theory, divided smart city think tank alliance organizational operation modes into star, spider web, and federation types, as well as offline, online, and hybrid models according to organizational management models and information technology application methods, and discussed the online operation mode of smart city think tank alliances, analyzing operation principles, architecture, functions, and mechanisms [12]. Zhang Jing and Chu Jiewang attempted to construct a characteristic new-type think tank knowledge alliance with think tank knowledge alliance systems as the core from four aspects: internal and external knowledge sources, knowledge acquisition, knowledge organization and analysis, and knowledge services, and analyzed that personnel and management mechanisms must constrain the system to ensure its smooth operation [13].

Regarding industrial think tank alliances, typical examples include the foreign Consortium for Policy Research in Education (CPRE) and the domestic New-Type Think Tank Alliance for the Press and Publishing Industry. CPRE was jointly established by seven top U.S. universities, with subsequent members mainly being universities and research institutions, aiming to educate the public and enhance the capabilities of decision-makers, practitioners, and research groups in the education field [14]. The New-Type Think Tank Alliance for the Press and Publishing Industry was voluntarily initiated by 18 domestic publishing media groups, publishing institutions, Internet information service platforms, and press and publishing technology companies engaged in the press and publishing industry, aiming to promote cross-boundary cooperation and collaborative innovation development among government, industry, academia,

research, and various fields within the press and publishing industry, providing intellectual support for this industry and the broader innovative society [15].

The feasibility of constructing industrial think tank alliances under the collaborative innovation concept is also reflected in their objective internal and external driving forces, which include external policy promotion forces and internal development demand promotion forces. Policy promotion forces encompass both the nation's soft power enhancement and governance modernization, as well as government policies related to industries, think tanks, and think tank alliances. Development demand promotion forces include the development needs of service objects such as industries, enterprises, governments, units, and the general public, as well as the internal development needs of alliance members themselves. Figure 2 [Figure 2: see original paper] illustrates the dynamic mechanism for constructing industrial think tank alliances under the collaborative innovation concept.

2. Construction of Industrial Think Tank Alliances Under the Collaborative Innovation Concept

Collaborative innovation involves in-depth cooperation through resource sharing and mutual promotion among multiple subjects driven by common goals, thereby producing research outcomes that integrate multi-stakeholder wisdom and achieving 1+1>2 holistic synergy effects and improved innovation efficiency. The purpose of constructing industrial think tank alliances is not simply to establish a think tank 联合体 but to maximize think tank output through innovative cooperation among multiple stakeholders. Therefore, the collaborative innovation concept serves as the core guiding ideology, with the ultimate goal being to realize alliance value through the integration and collaboration of all constructing subjects.

This study primarily employs supply-side, demand-side, and integrated perspectives, combining system integration and collaborative innovation theories to form a model framework through a from-local-to-global approach. First, starting from the local perspective and based on necessity analysis, meeting the demands of demand-side subjects (industries, enterprises, governments, units, and the public) requires support in policy, talent, technology, dissemination, product transformation, capital, and other aspects, as well as integration, coordination, and supervision units and pilot programs for feedback. These constitute the essential elements for alliance construction. Second, corresponding units for these elements must be identified or constructed. Since the relationship between required elements and constructing subjects is many-to-many rather than one-to-one—meaning certain elements may correspond to multiple subjects and certain subjects may correspond to multiple elements—this study considers representing the units corresponding to required elements as virtual organizational forms rather than as constructing subjects themselves. By integrating subjects providing the same elements into corresponding organizations, the required elements for alliance construction can be manifested. In these virtual organizations, pol-

icy corresponds to a policy group, talent and technology to a wisdom group, product transformation to a media group, pilot programs for feedback to a leading enterprise group, capital to a foundation, and integration, coordination, and supervision to a management committee. When identifying potential constructing subjects for these virtual organizations, to make the alliance's functions and service content more comprehensive, this study expands the constructing subjects beyond existing industrial think tank alliances (which typically include only industry leading enterprises and specialized industry think tanks) to also include industry think tanks, industry associations, university think tanks, library and information service institutions, and industry media think tanks. Finally, using system integration and collaborative innovation theories, these subjects are structurally combined, innovatively establishing associations among subjects through virtual organizational forms for various types of support. Driven by common goals, the industrial think tank alliance is constructed through resource sharing, mutual promotion, and external adaptation among virtual organizations, leveraging 1+1>2 advantages [16] to achieve holistic synergy effects and improved innovation efficiency.

3. Construction of Industrial Think Tank Alliances Under the Collaborative Innovation Concept

In the model construction of industrial think tank alliances under the collaborative innovation concept, seven main subjects are included: industry think tanks, industry associations, specialized think tanks, industry media think tanks, industry leading enterprises, library and information service institutions, and university think tanks.

3.1 Industry Think Tanks

The primary constituent subject of industrial think tank alliances is the industry think tank, which provides policy advice and decision-making references for the development, reform, and innovation of an industry. Starting from a macroscopic, industry-wide perspective, it primarily offers policy recommendations and strategic decision-making references centered on the entire industry [17]. Industry think tanks possess advantages in policy aspects and talent/technology (mainly at the macro level). Their researchers focus on macro-level industry studies, observing the overall industry landscape from a higher vantage point. As a communication bridge between governments and industrial think tank alliances, they can quickly capture industry-related policies, convey and interpret them to the alliance in a timely manner, and propose policy recommendations to the government. Due to their policy advantages in tracking industry development trends and proposing development, reform, and innovation suggestions from a holistic perspective, industry think tanks play a dominant role in the alliance. Their talent and technology advantages, oriented toward macro strategy, can be adjusted through collaboration with micro-level entities to better grasp industry development trends.

3.2 Industry Associations

Industry associations include well-known associations in the industrial sector, typically composed of outstanding enterprises and institutions within the industry. They also possess industry-related talent and technology advantages and can promote industry policy formulation and implementation to some extent. Industrial think tank alliances are jointly initiated by industry associations and industry think tanks, but due to the think tank nature of the alliance, industry think tanks play the primary role while industry associations play a supporting role. With their macro-level talent and technology advantages, industry associations can adjust policies through practical participation in alliance construction to better understand industry development trends.

3.3 Specialized Think Tanks

Specialized think tanks refer to specialized think tanks within the industry and related industries, including those focusing on specific subfields within an industry or related subfields across industries. They possess strong capabilities and irreplaceability in their focused areas, including research institutions affiliated with various government commissions and social think tanks. Within specialized think tanks, classification can be based on research diversity into single-field and diversified specialized think tanks, or based on strength into strong and weak specialized think tanks. Their greatest characteristic is micro-level talent and technology advantages, making them crucial for solving specific problems in industry subfields. By participating in alliance construction, they can enhance the strategic relevance of their talent and technology.

3.4 Industry Media Think Tanks

Industry media think tanks possess two major advantages: dissemination and product transformation. Their dissemination advantage lies in using various media tools, especially new media tools aligned with contemporary trends, to build information sharing and interactive platforms among enterprises across industry sectors and between enterprises and the industrial think tank alliance. Their product transformation advantage lies in reprocessing the intellectual outcomes formed by the wisdom group during product and service formation, using media methods and approaches to transform complex intellectual 成果 into more accessible and applicable products [18]. With their talent and technology advantages oriented toward the media field, participating in alliance construction can enhance their think tank capabilities.

3.5 Industry Leading Enterprises

Industry leading enterprises are outstanding enterprises within various industry sectors and related industries, categorized as intra-industry and inter-industry leaders. They serve as pilot support entities in industrial think tank alliances. Within the alliance, the wisdom group and media group initially form products

and services, which are then tested by leading enterprises as pilot programs that generate feedback. Through continuous improvement and refinement, these products and services can subsequently be provided to enterprises within the industry. Leading enterprises have a special dual identity: they serve as both supply-side pilot supporters alongside the alliance and as demand-side first beneficiaries. Their participation in alliance construction can also enhance the wisdom level of their corporate decision-making.

3.6 Library and Information Service Institutions

Library and information service institutions include those related to industrial research and intelligence services, possessing talent advantages that provide human resources support for industry-related intelligence services. Additionally, they provide relevant resource support. Both think tanks and library and information service institutions aim to provide decision-making support services, with the latter offering more mass-oriented decision intelligence services and the former providing more strategic intelligence services. Since industrial think tank alliance functions and services are closely related to intelligence, this study considers including relevant library and information service institutions as constructing subjects.

Integrating library and information service institutions into industrial think tank alliances represents a win-win 重组整合. For the macro-level alliance, these institutions can enrich functions and service content, increase output diversity and relevance, and make alliance functions more comprehensive. Meanwhile, traditional library and information service institutions are exploring transformation into new-type think tanks, and joining industrial think tank alliances provides them with opportunities to learn from relevant think tanks. Through cooperation and exchange with industry think tanks, specialized think tanks, industry media think tanks, and university think tanks in the alliance, they can 借鉴智库化转型经验. With their talent, technology, and resource advantages oriented toward library and information fields, collaborative cooperation with other alliance members can expand their service varieties and improve intelligence service quality, making their overall service level more intelligent. For other alliance members, cooperation with library and information service institutions can also enhance their own capabilities.

3.7 University Think Tanks

University think tanks refer to university-affiliated think tanks related to industries, primarily research organizations engaged in characteristic disciplinary fields related to a particular industry, mainly existing as industry-related research centers within universities. These include research centers related to specific industrial fields in well-known universities such as “985,” “211,” and “Double First-Class” institutions, as well as research centers in specialized colleges, with members mostly being authoritative scholars in industry-related characteristic disciplines [19]. University think tanks (industry-related) wield unshakable

influence in relevant academic circles and play particularly prominent roles in educational functions, making them essential constructing subjects. Compared with other think tanks, most university think tank members engage not only in research but also in teaching. Their natural educational advantages can lead the way in cultivating specialized talent, educating the public, and providing social services for industrial think tank alliances. Their participation can also enhance the practical relevance of their talent and technology.

4. Model Framework of Industrial Think Tank Alliances Under the Collaborative Innovation Concept

The construction model of industrial think tank alliances under the collaborative innovation concept consists of five layers: the element layer, organizational layer, operational layer, service layer, and target layer.

The **element layer** comprises the constructing subjects—the essential elements for building the alliance—including seven main subjects: industry think tanks, industry associations, specialized think tanks, library and information service institutions, university think tanks, industry media think tanks, and industry leading enterprises.

The **organizational layer** consists of virtual organizational units formed by these elements to create various alliance organizations. Industry think tanks, industry associations, specialized think tanks, university think tanks, and library and information service institutions constitute the alliance's wisdom group; industry media think tanks collectively form the media group; industry think tanks and industry associations compose the policy group; traditional industry leading enterprises and other related industry leaders form the leading enterprise group; additionally, an Industrial Think Tank Alliance Foundation and an Industrial Think Tank Alliance Management Committee are established. The organizational layer can be divided into national, regional, and provincial levels, achieving collaborative innovation through top-down driving and bottom-up feedback across these levels.

In the **operational layer**, the policy group serves as the alliance initiator, providing policy support; the wisdom group serves as the primary subject, providing talent and technology support; the media group serves as the secondary subject, providing product transformation support; the foundation serves as the funding source, providing financial support; the leading enterprise group serves as the testing pilot, providing experimental environment support; and the management committee serves as the coordinator, providing integration and supervision support. Each organization fulfills its supportive role in alliance construction through collaborative innovation.

In the **service layer**, the industrial think tank alliance serves four types of clients: the industry and its enterprises, alliance members, governments, and the general public. Through online channels (official websites, information sharing platforms, WeChat public accounts, Weibo, Apps, WeChat groups, QQ groups)

and offline channels (forums, annual conferences, seminars, report meetings, lectures, academic exchange activities), the alliance provides seven categories of services: problem-solving, information services, project research, talent cultivation, science popularization, working materials, and development forecasting.

The **target layer** represents the alliance's objectives, including core, subsidiary, and peripheral goals. The core objective is to enhance the overall level of decision-making support for enterprises within the industry and the industry itself, while strengthening alliance members' capabilities and cohesion. Subsidiary objectives include educating and guiding public opinion, building brand recognition and reputation through self-promotion, and enhancing domestic and international visibility and influence. Peripheral objectives involve local adjustments and improvements based on service provision and feedback to achieve supply-demand correspondence and balance, as well as driving the development of related industries and society as a whole. The target layer runs through the entire alliance construction process, with each preceding layer built through collaborative innovation based on the target layer. Specific collaborative innovation manifests in target synergy, organizational collaborative innovation, operational collaborative innovation, and service collaborative innovation, with target synergy determining the other three forms, organizational collaborative innovation promoting operational collaborative innovation, operational collaborative innovation providing feedback to organizational collaborative innovation, operational collaborative innovation promoting service collaborative innovation, and service collaborative innovation providing feedback to operational collaborative innovation, thereby achieving target layer objectives.

Innovative features manifest in both construction and service provision. Construction innovation includes innovations in constructing elements and organizational structures. Compared with existing alliances, the collaborative innovation-based alliance features more diverse and comprehensive constructing subjects, including industry think tanks, industry associations, specialized think tanks, library and information service institutions, university think tanks, industry media think tanks, and industry leading enterprises. These subjects are reorganized to form the wisdom group, media group, policy group, leading enterprise group, foundation, and management committee. Service innovation features derive from member diversity and differences, making it easier to demonstrate innovation in service content compared with existing think tank alliances. The specific model framework is shown in Figure 3 [Figure 3: see original paper].

5. Safeguard Measures for Implementing Industrial Think Tank Alliances Under the Collaborative Innovation Concept

Constructing and improving industrial think tank alliance models based on collaborative innovation concepts can enhance flexibility, efficiency, and innova-

tiveness, but obstacles exist in the implementation process. Few existing industrial think tank alliances can serve as references; high information resource barriers and scattered, disorganized resource distribution among cross-boundary constructing subjects create information silos that interfere with large-span integration and collaborative innovation; specific institutional members remain in constant flux; and relevant policies and standards remain incomplete. Therefore, alliance construction and implementation require environmental and strategic support. This study proposes safeguard measures from five aspects: policy and institutional frameworks, funding, talent and technology, public opinion, and services.

5.1 Strengthening Policy and Institutional Safeguards

Policy constitutes the foundation supporting alliance survival and development. In policy formulation, the government plays a key role while the alliance plays a supporting role. The government must attach great importance, continue strengthening policy issuance related to industries and think tank alliances, promptly identify problems in traditional industries and provide regulation, vigorously promote traditional industry reform in line with development trends, encourage cross-boundary integration with the industry as the leader, and clarify alliance development directions with strong guidance. It should actively promote national and local industrial think tank alliance construction and development. Alliance members should also actively respond to government policies, formulate internal charters based on actual conditions to regulate development, and achieve supply-demand balance through mutual promotion between supply-side and demand-side subjects.

5.2 Enhancing Funding Safeguards

Industrial think tank alliance development requires funding support. Two key considerations exist: first, the funds must be predictable with high stability to ensure supply over a certain period without sudden disruptions that could paralyze the alliance; second, diversified funding sources can enhance stability—broadening funding channels and increasing fundraising can avoid over-reliance on single sources. The government should increase financial investment in industries to provide adequate funding guarantees for transformation, while also increasing investment in think tank alliance construction to ensure survival and development. This investment can target alliance output products; for example, the government can establish special funds for alliance research projects to encourage research and enhance alliance research capabilities. Beyond direct government investment, the government should mobilize social forces for financial support, broadening sources and increasing stability to avoid channel singularization. The government should also guide society to pay greater attention to industrial think tank alliances and mobilize social forces for financial support.

Social funding sources are multifaceted, primarily including corporate sponsor-

ship and individual donations. For corporate sponsorship, the government can encourage enterprises benefiting from the alliance to provide financial sponsorship as a return on benefits received. For individual donations, the government can encourage wealthy individuals to sponsor the alliance as a means of self-actualization. Simultaneously, the alliance must strengthen its own financial output guarantees through enhanced self-promotion to attract social funding. Multiple promotional methods can be employed: online, offline, and hybrid approaches. Online, the Internet should be fully utilized to build network platforms offering paid consulting and personalized services; offline, high-quality publications should be issued regularly, serving both as a funding source and for social promotion. Online and offline training can be combined to create dual-channel services. Alliance charters should also include corresponding funding regulations (such as funding sources and implementation details), with the foundation strictly executing these regulations and the management committee conducting appropriate supervision. By strengthening fund management and monitoring specific implementation links, funds can be fully utilized and efficiency enhanced.

5.3 Enhancing Talent and Technology Safeguards

The core element in think tanks is people, and the same applies to think tank alliances. Industrial think tank alliances can only enhance effective supply by improving their capabilities, particularly talent advantages. For exceptionally outstanding industry talents, vigorous introduction policies should be implemented. Excellent talents include top graduates from domestic elite universities, overseas talents with international backgrounds and study abroad experience, high-end professionals, interdisciplinary 复合型人才, renowned experts and scholars, business elites, and former government officials. By increasing talent diversity, innovation capacity and efficiency can be enhanced. Additionally, talent cultivation efforts should be intensified. Alliance members, particularly library and information service institutions, can leverage their talent and resource advantages to participate in and organize domestic and international exchange activities and cooperative projects, sparking innovation through collisions of different cultural ideas and enhancing capabilities and international competitiveness through exchange and cooperation. The government should increase educational investment to cultivate potential talent. Regular learning activities can be organized within the alliance. The government should establish corresponding norms to optimize talent teams, improve talent compensation, welfare guarantees, and competitive assessment incentives. Simultaneously, strengthening technical learning and exchange to keep pace with the times is crucial. Industry-related talents should actively learn new technologies to continuously equip themselves for industry development, actively track cutting-edge technologies, and strengthen international technical exchanges to enable talents to truly function as think tanks within the alliance.

5.4 Enhancing Public Opinion Safeguards

Beyond increased government guidance on public opinion, the industry media think tank within the alliance can fully leverage its dissemination advantages through multiple online and offline methods. Online, a dedicated official website should be built with special popular science sections or columns for the public, using accessible language and diverse, timely product forms to popularize the alliance's 内涵 in a relaxed and pleasant atmosphere, strengthening the alliance's impression among the public. Library and information service institutions can utilize their extensive external contact and public interaction advantages to conduct opinion dissemination through social media such as WeChat public accounts, and regularly hold forums and discussions offline. Additionally, actively guiding and encouraging social investment in think tank alliances, popularizing the 有偿性 of think tank 成果, and cultivating a think tank donation culture are equally important.

5.5 Enhancing Service Safeguards

Enhancing service safeguards primarily means ensuring the effectiveness of alliance output products and services. By producing recognized products that are well-utilized, the alliance can 反过来促进和提高其产出动力和能力, forming a virtuous cycle. The alliance should assign specific responsibilities based on each member's strengths and weaknesses, preferably documented in writing, to clarify duties and aggregate advantages for maximum benefit. The policy group should formulate suitable development policies based on actual conditions; the wisdom group should leverage its unique ideological advantages to form high-level perspectives; the media group should transform high-level perspectives into timely, diverse products; the leading enterprise group should fulfill its pilot role, conscientiously complete testing, and provide timely feedback for better support; the foundation should ensure funding sources and adequate supply; and the management committee should coordinate member relationships and promptly resolve conflicts. Simultaneously, establishing corresponding evaluation mechanisms (such as user feedback, social evaluation, and internal self-assessment supervision) can better safeguard alliance services. User feedback comes from external demand-side clients such as governments, enterprises, and the public. Social evaluation primarily involves regular assessments of alliance influence by third-party authoritative evaluation institutions. Internal self-assessment mainly involves the management committee evaluating work progress and outcomes among members during collaborative innovation to continuously improve and adjust alliance operations.

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Author Contributions:
Zheng Rong: Proposed the overall research 思路 and framework;
Sun Yun: Wrote the paper.

Note: This journal welcomes research academic achievements with innovation in theory, methods, technology, and practice, particularly those supported by national social science funds, national natural science funds, and Ministry of Education projects. Recent topic guidelines for national social science funds and this journal remain valuable and instructive.

Keywords: collaborative innovation; industrial think tank alliance; safeguard measures

The Construction and Safeguard Countermeasure of Industrial Think Tank Alliance Based on the Concept of Synergistic Innovation

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Abstract: [Purpose/significance] The development of industrial think tank alliance faces many problems, including unitary subject, incomplete service type and function, unbalanced supply and demand. So, we try to build and improve industrial think tank alliance from the concept of synergistic innovation and the perspective of multiple subjects and to better realize its value. [Method/process] From the perspective of supply side, demand side and integration, this paper explored the construction of industrial think tank alliance from the local to the whole by using the theory of system integration and synergistic innovation. Then, it explained the safeguard countermeasure of industrial think tank alliance from the aspects of policy and system, capital, talent and technology, public opinion and service. [Result/conclusion] This paper constructs industrial think tank alliance including elements layer, organization layer, operation layer, service layer and target layer. In addition, it promotes the development of industry through the interaction of target synergy, organization synergistic innovation, operation synergistic innovation and service synergistic innovation.

Keywords: synergistic innovation; industrial think tank alliance; safeguard countermeasure

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Library and Information Service 2018 Topic Guidelines
1. Mission and responsibility of libraries in building a culturally strong country
2. Reconstruction of library and information science knowledge system in the

big data era
3. Research on relevant laws, regulations, and systems in library and information field
4. Research on balanced and full development strategy of library and information cause
5. Libraries' capability and strategy in supporting "Double First-Class" construction
6. Construction of library metadata system in big data environment
7. Research on information user behavior and user profiling
8. Think tank research and think tank services
9. Resource discovery and new models of library resource construction
10. Digital literature and data management and long-term preservation
11. Library personalized and precise services
12. Digital humanities, digital heritage and related technologies
13. Semantic technology, linked data and knowledge organization
14. Artificial intelligence technology and its application in libraries
15. Development trend of intelligent everything and library service innovation
16. Library reading promotion theory and practice
17. Open data and information security policy
18. Library space reconstruction theory and practice
19. Libraries and digital publishing (library publishing)
20. Construction of library and information science theoretical system in the new era

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Note: Figure translations are in progress. See original paper for figures.