

Literature Review on Civil-Military Integration in China

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Abstract: As a key national strategy, civil-military integration is the significant way to achieve the unity of rich country and strong army. At present, there are more and more studies on the subject of civil-military integration. This paper summarizes the relevant literature on civil-military integration from three aspects: the connotation of civil-military integration, the theory and demonstration of the construction system of civil-military integration, and the demonstration zone of civil-military integration. It summarizes the current research status and finds the shortcomings of the existing research results.

1. Introduction

Civil-military integration integrates the modernization of national defense and the army with the economic and social development system, and comprehensively promotes the development of economy, science and technology and other fields. In recent years, many domestic scholars have paid attention to the subject of civil-military integration, and more and more literature studies have been conducted. However, the development of civil-military integration in China is still far from that in developed countries such as the United States. This paper will sort out and summarize the literature of civil-military integration from three aspects: the connotation of civil-military integration, the construction system and calculation of civil-military integration, and the demonstration area of civil-military integration, with a view to contributing to the follow-up scholars' research.

2. Connotation of Civil-Military Integration

At present, there is no unified definition of the concept of civil-military integration in China. The representative viewpoint holds that the development of civil-military integration with Chinese characteristics is to combine the modernization of national defense and army with economic and social development in a wider scope, higher level and deeper degree, and to provide rich resources and sustained development for the modernization of national defense and army. Economic construction should obtain stronger security and technical support from the modernization of national defense and the army, and promote the coordinated development and benign interaction between economic construction and national defense construction [1].

Wang Shunian [2] proposed that the understanding of "army" and "people" in civil-military integration should proceed from a systematic point of view, and understand the essence of civil-military integration from the overall rather than partial. "Army" refers to the concept of national defense and army construction rather than the narrow sense of military and army, and "people" refers to economic and social development rather than the concept of people.

Du Renhuai [3] believes that civil-military integration means to break the closed system of "military" and "civilian" independence, to promote the flow of material and information resources between "military" and "civilian" systems, and to realize the optimal allocation of social resources. The concept of civil-military integration can be understood from five aspects: the development goal, development foundation, development measures, development mode and development basis of civil-military integration.

3. Theory and Empirical Research on the Construction System of Civil-Military Integration

The military-civilian integration includes the military and civilian systems, involving many participants. The goal is how to integrate the general industrial enterprises and non-military industrial enterprises organically, promote the progress of military science and technology, and at the same time, promote economic growth. Therefore, the construction of civil-military integration innovation system is not a simple sense of military to civilian, civilian to military, but a complex system engineering.

Li Daguang [4] pointed out that the civil-military integration innovation system is a system in which governments, enterprises, universities, scientific research institutions and intermediaries seek a series of common social and economic goals and interact, and take innovation as the key driving force for change and development. It is not difficult to see that the construction of civil-military integration innovation system includes five main bodies: enterprises (military enterprises and non-military enterprises), universities and scientific research institutions, intermediaries, financial institutions and government. Generally speaking, enterprises (military and non-military) are the core elements of the system. Research institutions and universities provide talents and technical support for enterprises. Intermediaries play the role of bridges and lubricants, promote the interaction of all parties and improve the mobility of resources. Good innovation environment plays a positive role in promoting the implementation of civil-military integration innovation. Innovation environment should also be considered from many aspects, including policies and regulations, technological environment, talent market and market environment.

Xu Hui and Xu Song [5] constructed an innovative system for the deep development of civil-military integration from the perspective of synergy. They propose that collaborative innovation requires all parties to innovate together on the same innovation platform, not just the transfer of technology. The premise of civil-military integration and collaborative innovation is to clarify their respective boundaries and the functional orientation of national defense research institutions. Based on this, the construction of civil-military integration collaborative innovation system requires adherence to the government-led, demand-driven; give full play to the role of market mechanism; break down the civil-military standard barriers, strengthen the general policy, and improve the national defense scientific research achievements transformation and application policy.

Many scholars from the empirical point of view, calculate the internal index weight of civil-military integration system, and evaluate the level of civil-military integration in the region. Du Renhuai [6] constructed the evaluation index system of civil-military integration level of national defense industry, and used the analytic hierarchy process and Delphi analysis method to determine the index weight and calculate the corresponding evaluation index value.

Feng Jing [7] and others constructed the evaluation index system of civil-military integration innovation from three aspects: innovation input, innovation output and the impact of innovation on economy. By using G1 subjective empowerment and entropy method objective empowerment, grey correlation degree was used to construct evaluation model, and Qingdao civil-military integration innovation demonstration area was taken as an example for empirical analysis.

Meng Binbin [8] and others used the macro-structure measurement analysis framework to describe the degree of free flow of factors by the output difference of factors in different departments, so as to calculate the degree of civil-military integration. The degree of civil-military integration in China from 1952 to 2015 was calculated by structural measurement. According to the research, the degree of civil-military integration in China is increasing, and its rising rate shows a law of marginal decline. In 2015, the degree of civil-military integration in China reached 90%.

4. Demonstration Zone of Civil-Military Integration

The National Demonstration Zone of Civil-Military Integration Innovation is a "test field" to promote the deep development of civil-military integration. At present, there are 24 demonstration zones of civil-military integration in China, which promote the development of civil-military integration.

Li Qiang [9] investigation and research found that Chengdu's civil-military integration industrial zone has developed rapidly and now has 52 enterprises and institutions of aerospace industry; Xi'an High-tech Zone in Shanxi Province has continuously promoted the technological innovation of civil-military integration industry and gradually integrated into the civil-military integration science and technology industry; Qingdao Guzhenkou military-civil integration science and technology innovation demonstration zone's high-grade numerical control machine tools, industrial intelligent robots, no electricity cutting pen and other products have become national key new products.

Feng Jing [6] and others took Qingdao Military-Civil Integration Innovation Demonstration Zone as a sample to analyze its innovation capability. After empirical analysis, it is found that the innovation capability of Qingdao Military-Civil Integration Innovation Demonstration Zone keeps accelerating, and innovation investment keeps increasing; the impact of innovation on the economy begins to rise after the decline in 2016.

The innovative demonstration park zone of civil-military integration not only promotes the in-depth development of civil-military integration, but also makes great contributions to the balanced and coordinated development of national defense and economic construction. However, at present, the civil-military integration demonstration park in China is still at the initial stage of exploration, and there are still many problems. For example, the lack of top-level design and overall planning at the national level, the corresponding laws, regulations and policies are imperfect, and the public service system and platform construction are imperfect.

To sum up, the connotation of civil-military integration, the construction of civil-military integration system and evaluation of indicators, and the construction of civil-military integration demonstration zone can roughly summarize the characteristics of civil-military integration and the current situation of research on civil-military integration in China. Through combing the relevant literature, it is found that most of the current domestic research focuses on the qualitative analysis of the concept, system or status quo, but quantitative analysis, such as giving the subjective weight to the index of civil-military integration system, the measurement of civil-military integration degree and so on, needs to be improved. In addition, case studies need to be strengthened for demonstration zones of civil-military integration that have achieved remarkable results in China.

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