

Research on the Integration Development of Advanced Manufacturing Industry and Modern Service Industry in Shaanxi

Yacui Zhang

Weinan Normal University, ASEAN DPU Institute of Finance and Economics, Shaanxi Weinan, 714099

Keywords: Integration Development, Advanced Manufacturing Industry, Modern Service Industry, Shaanxi

Abstract: With the development of productivity, the advanced manufacturing industry and the modern service industry depend on each other for common development. However, the modern service industry in China is still at a low level. Therefore, only by vigorously developing the modern service industry, can the overall enhancement of Chinese industrialization and industrialization be improved. Based on the conclusion of previous studies, this paper finds out the main shortcomings of modern service industry and puts forward corresponding optimization suggestions for several key industries.

1. Introduction

With economic development, Chinese manufacturing industry has made great achievements, but it has not been able to completely shake off low-tech, low value-added products, the low-end of the value chain and other issues. Under such circumstances, the innovation and upgrading of manufacturing industry depend not only on itself, but also on the innovation and development of related industries. With the high degree of specialization and knowledge-intensive modern service industry, the contribution of economic growth is getting higher and higher, which has a very strong radiation effect on technological innovation and structural transformation of manufacturing industry. Modern service industry can play the role of "thruster" by integrating and interacting with the manufacturing industry through key links in the value chain such as R & D, production, sales and consulting. It studies the interaction and fusion between advanced manufacturing and modern service. First, it analyzes the manifestation and current situation of the interaction between the two and points out that "collaborative innovation" is an effective way to promote the interaction between advanced manufacturing and modern service. The "collaborative innovation" of service industry and manufacturing industry provides new perspectives and tools for the study of the interaction between the two. Based on this, it puts forward suggestions and measures to promote their integration and development.

2. Advanced Manufacturing and Modern Service Industry Interactive Fusion Manifestations

Advanced manufacturing refers to the manufacturing industry that can constantly absorb domestic and foreign high-tech achievements and apply advanced manufacturing technologies, manufacturing modes and management methods to the entire process of R & D, design, manufacture, inspection and service. Modern service industry refers to the service industry that is based on modern information technology and modern management experience and has relatively intensive information, knowledge and skills, especially the most active producer service in the service industry. The advanced manufacturing industry and the modern service industry rely on each other and promote each other. Manufacturing industry is the basis and support for the development of producer services and creates the demand space for the development of producer services. In modern services, especially for producer services, a considerable proportion of its output is spent in the middle of the manufacturing sector. The demand is a strong support for the manufacturing industry to enhance its core competitiveness and achieve sound development. With the increase of intermediate services in the manufacturing industry, the relationship between service

industries and manufacturing industries has become increasingly closer. In the traditional sense, the boundary between the two has become more and more vague and the phenomenon of "convergence" has emerged. This kind of inter-industry integration makes the allocation of resources more reasonable and the industrial structure is becoming increasingly sophisticated. At present, the integration of advanced manufacturing industry and modern service industry mainly presents two kinds of integration frameworks: manufacturing service and service industry.

Manufacturing service is a new pattern of manufacturing development in developed countries in the late 1980s and early 1990s. For example, GE's finance company business, IBM consulting business and XEROX's document management business all belong to this category. Vandermerwe and Rada (1988) first came up with the word service, which they believe is a shift from a mere supply of goods or goods to an "item-service package." The complete "package" includes items, services, support, self-service and knowledge, and service dominates the entire package, which is the main source of added value. With the development of information technology and the deepening of enterprises' understanding of the importance of "customer satisfaction", the externalization of service in manufacturing enterprises is becoming more and more obvious. More and more manufacturing enterprises in the world increase the value of their core products by providing services, manufacturing enterprises by providing goods to provide service changes. Enterprises in the manufacturing sector extend their businesses around the main business to high-end service links in the value chain or are transformed into service enterprises through outsourced manufacturing processes, namely, "service-oriented manufacturing industry". This model of industrial development is characterized by a spontaneous evolution of service operations within the manufacturing industry and has gradually become an important source of value for the business. As the processing and manufacturing of the value chain are easy to be imitated, the service links, especially research and development, design, marketing and after-sales service cannot easily be imitated and can gain differentiated competitive advantages over a long period of time. Therefore, the value chain of manufacturing enterprises is manufactured through processing as a starting point, R & D, marketing and other service areas extend, resulting in the emergence of service-oriented phenomenon. All in all, the service-oriented manufacturing industry is the manufacturing enterprise in order to obtain a competitive advantage, the value chain from manufacturing to service-centric change. Products are always easy to homogenize, services are easier to differentiate. Manufacturing services can help to help traditional manufacturing to find their own differences in order to implement differentiated competition. Therefore, the service of manufacturing industry has become an important means for manufacturing enterprises to enhance and maintain their core competitiveness in essence.

The second manifestation of the interactive integration of manufacturing and service industries is the service industry. The industrialization of service industry refers to the service industry being operated as an industry and adhering to the road of industrialization management. It is not simply a complete market-oriented operation but under the guidance of the government's macroeconomic regulation and control, all kinds of service agencies (provide public goods service agencies and service agencies that provide personal goods) to achieve the social benefits of service social reproduction in accordance with the principle of input-output, to obtain the elements of industrial development from the market and to realize the social supply of services in the process of expanding market supply demand. Industrialization is a dynamic process, from the sporadic production of a household to the formation of industrial groups that are linked by division of labor and cooperation. Service sector companies use their R & D capabilities or marketing network to the manufacturing sector to extend the industrial chain, the formation of an independent service industry, and promote the agglomeration of productive service industries and manufacturing industry cluster development. Industrialization of service industry is an important channel for the development of service industry. As the economy continues to evolve, the externalization of corporate products and services has become more and more commonplace. During the development of the service industry, it is bound to experience the process of increasing the number, expanding its scale and dividing the division of labor. It has also set up an industrial system framework and

formed a complete service supporting system so as to form an industrial scale. From a broader perspective, only industrialization can create strong vitality, provide a large number of service needs for manufacturing enterprises, and provide sufficient service support for economic and social development so as to meet the increasingly diversified and specialized development needs of the society and economy.

3. Manufacturing and Modern Service Industry Integration Model

At present, China has entered a new phase of restructuring and upgrading and should speed up the development of related service industries for industrial production. It insists on strengthening independent innovation and technological progress as a key link in its transformation and upgrading. It also insists on promoting the "two cultures" as an important aspect of transformation and upgrading support. The development of Chinese manufacturing cluster mainly concentrates on traditional industries, mostly at the low end of the global value chain. Breaking the inequality in the balance between supply and demand between service industries and manufacturing industries, speeding up the cultivation and development of modern service industries, especially high-tech service industries, rebuilding and upgrading traditional manufacturing industries with advanced technologies and accelerating the development of advanced manufacturing and innovative industrial clusters are the key measures to realize the industrial structure of our country. The necessary conditions for upgrading. In recent years, remarkable achievements have been made in industrial restructuring and upgrading in our country. However, the transformation and upgrading of manufacturing industries in some regions failed to bring along the rapid development of modern service industry at the same time. The degree of integration between advanced manufacturing and modern service industries remains low. We think that in order to realize the integration and development of the advanced manufacturing industry and the modern service industry, we must realize the co-innovation between the two. The development of service industry in our country needs to explore new ideas and new methods of integration and development with manufacturing industry.

Collaborative innovation refers to the innovative synergetic process of "four in one" consisting of independent technological innovation, institutional innovation, industrial innovation and organizational innovation based on independent innovation. To achieve synergetic innovation, we need to create a new system and mechanism. At present, on the one hand, Chinese independent technological innovation, institutional innovation, industrial innovation and organizational innovation overall lack of innovation, innovative conditions do not have. On the other hand, these four subsystems operate independently and are in a "closed" state for a long time. Therefore, there is no complete chain formed by technological innovation, institutional innovation, industrial innovation and organizational innovation, which plays a chemical role and leads to a weak innovation capability in our country. To strengthen collaborative innovation is the way and method to solve this dilemma. The first is the synergy of independent innovation. Independent innovation synergy is divided into three stages: knowledge innovation, research and design innovation and product market innovation. These three stages are both simultaneous and progressive. To have innovative knowledge, to stimulate innovative thinking, and then through the legal protection of property rights and other systems, research and development design and development, the most important thing is to push the development of products into the market, into productive forces, through the market test, product market innovation. Second is the synergy of independent innovation mechanisms. Thirdly, industrial innovation, institutional innovation and organizational innovation are the same as independent innovation. Independent innovation is not a specific category of innovation, but emphasizes the autonomous characteristics of innovation, which can be reflected in the innovation in different types and fields. When formulating its development strategy, the government has long pursued the erroneous notion that "building a ship is better than buying a ship and buying a ship, rather than chartering a ship." This attitude is very unfavorable both for the manufacturing industry and for the independent innovation in the service industry. Eventually, it will inevitably affect the optimization and upgrading of the industrial structure and ultimately affect

Chinese international competitiveness. The key to collaborative innovation lies in that synergy between industry, innovation and independent innovation lies in the formation of autonomous technical paradigms and technological routes. The synergy between institutional innovation and independent innovation lies in the formation of institutional norms with unique incentive and restraint mechanisms. Organizational innovation and autonomy the synergy between innovations lies in forming an organizational structure conducive to innovation activities.

Producer services such as science and technology services, information services, financial services, logistics services and business services are the important foundations and cores of technological innovation. Building an enterprise independent innovation system is the key link in the development of producer services and manufacturing upgrading. In accordance with the requirements of taking a new road to industrialization, adhere to the market-oriented and enterprise-centered approach, and enhance the capability of independent innovation as the central component. Continue to give play to the competitive advantages of the labor-intensive industries and optimize the product structure, enterprise organizational structure and industrial layout to enhance the overall Technical level and comprehensive competitiveness, promote the industry from big to strong. China has entered a new phase in which it can rely more on independent innovation to promote economic development. Independent innovation has become an important strategy for enhancing its national competitive advantage and a driving force for the upgrading of its manufacturing industry. To speed up the construction of Chinese independent innovation system for industrial enterprises is an important support for improving Chinese economic competitiveness and anti-risk ability. At present, the key link between Chinese manufacturing upgrading and the development of producer services is to speed up the establishment of an enterprise independent innovation system.

4. Conclusions

Reducing transaction costs is the key to the city's agglomeration in developing its producer services. Most of the modern service industries in China, especially the producer service industries, are subject to restrictions on the access to controlled and monopolized industries such as finance, telecommunications, rail transport and information industries. At the same time, there are barriers to entry Also inhibited the market competition in the industry, resulting in the degree of specialization within the service industry is not high. In the new round of structural reforms, we should focus on the reform of producer services, give full play to the functions of government planning and other relevant policy measures, and guide the productive service industry to achieve a concentrated development so as to better serve the needs of manufacturing Development to provide quality and efficient service support. Establish and improve the industry organization of modern service industry, formulate and perfect the industry standard and relevant standards of service industry, and improve the management level of the industry, so as to provide the corresponding system guarantee and organization platform for the standardized, orderly and healthy development of the producer service industry.

References

- [1] Liu Jiguo, Li Jiangfan. Overview of Research on Manufacturing Services [J]. *Economist*, 2007 (3). 112.
- [2] Li Wenxiu, Xia Jiechang. Independent innovation to promote the growth of the service industry: the mechanism, effect and realization of the path [J]. *Financial and trade economy*, 2010 (12). 159.
- [3] Xu Lixing, Gao Weikai. Synergetic Innovation of Producer Services and Manufacturing Industry [J]. *Modern Economy*, 2008 (12). 48.
- [4] Liu Ying, Chen Jixiang. Self-organizing mechanism analysis of collaborative innovation of producer services and manufacturing [J]. *Science & Technology Progress and Policy*, 2009 (8). 45.
- [5] Zhang Shixian. An Empirical Study on the Change of Industrial Investment Efficiency and Industrial Structure - A Discussion with Dr. Guo Keshu [J]. *Management World*, 2000, (9): 1-8.