

Discussion on the Integration of Manufacturing Service and Information Technology

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Abstract: The integration and interactive development of productive service industry and manufacturing industry is an inevitable result of "service-oriented manufacturing" and "service industry industrialization", and it is also the only way for China to develop high-end manufacturing and modern service industry. This article provides an in-depth explanation of the trend and mechanism of the integration and interaction between the productive service industry and manufacturing industry in China and selects typical cases to analyze the problems in the current integration and development of the productive service industry and manufacturing industry. It also proposes countermeasures and suggestions on how to better promote the interaction and integration of the productive service industry and manufacturing industry.

Keywords: Manufacturing Service; Information Technology

1. INTRODUCTION

Due to the interconnected and interdependent nature of various industries in China, no industry can develop independently. The closest connection with the manufacturing industry should be the productive service industry. To truly develop the manufacturing industry, it is necessary to simultaneously carry out the productive service industry, so that the development level of the manufacturing industry and the productive service industry is similar. Any industry with a high or low development level will affect and restrict the development of another industry. Currently, under the goal of achieving a major industrial province, efforts are being made to develop the manufacturing industry to obtain more development space.

With the development of industrialization, the proportion of pure manufacturing in the added value composition of industrial products is becoming lower and higher, while the proportion of service industry, especially modern service industry, is becoming higher and higher. Modern service industry has become the basic content of new industrialization. Without the full development of modern service industry, there can be no new industrialization. The manufacturing industry is the industrial support point for industrialization, which shows that the development of modern service industry and manufacturing industry is closely related.

The mechanism of interaction and development between the two is not mature enough. China is a traditional manufacturing country, and in the initial process of developing the manufacturing industry, there was no supporting service industry for its development. Most of them were mainly government services, and the development time of targeted service industries in the market was relatively short, especially in the financial service industry. The phenomenon of homogenization among productive service enterprises in China is severe, and the competition between them is no longer about the strength and innovation ability of enterprises, but rather the exploration of business capabilities, which seriously restricts the development of the productive service industry towards a high-level direction. In addition, the insufficient driving force of manufacturing on the service industry and the lack of high-end manufacturing have resulted in low added value, which cannot provide strong impetus for the development of the service industry.

With the service-oriented and industrialized manufacturing industries, the boundary between productive services and manufacturing is becoming increasingly blurred. The extension, infiltration, and restructuring of productive services towards manufacturing research, design, logistics, and service processes have formed an integrated functional system of productive services on the manufacturing industry chain. The two gradually merge into one, achieving a state of integration and interaction, and ultimately forming a new industrial system. This section will elaborate on the mechanism of integration and interaction between the two from three perspectives: division of labor, value chain, and industrial upgrading. The current level of development of productive service industry is relatively low compared to other developed provinces. Although the manufacturing industry in this province is relatively advanced, the level of productive service industry has hindered it, leading to difficulties in the development of the manufacturing industry, which cannot continue to develop well, or even stagnate.

2. THE PROPOSED METHODOLOGY

2.1 Manufacturing service-oriented and information channels

The development level of productive service industry is relatively backward compared to other provinces, making it difficult for the manufacturing industry to obtain the necessary professional talents and match talents with technology, greatly limiting the sustainable development of the manufacturing industry. If we want the manufacturing industry to continue to develop healthily, we must increase efforts to develop corresponding productive service industries, so that the development level of productive service industries is generally consistent with the development level of the manufacturing industry. By allowing the talents provided by productive service industries to adapt to the progress level of the manufacturing industry, the manufacturing industry can develop efficiently, and the integration of productive service industries and manufacturing industry will be easier. At present, our province is facing a golden period of relying on manufacturing as the foundation, accelerating the development of productive information service industry, and promoting the integration of modern service industry and manufacturing industry. To better transform the economic development mode and improve industrial synergy, the

specific implementation should follow the following ideas: one center, two directions, and three permits. The service industry can take advantage of this opportunity to further improve itself, while the manufacturing industry can achieve faster transformation and development driven by better service industries.

The relationship between productive services and manufacturing is complementary, as the former can provide necessary market services according to changes in market and industry development in the process of serving the latter; In the process of development, the manufacturing industry can further expand market demand and drive the development of the entire industrial chain, while the productive service industry is precisely the bridge and link connecting the manufacturing industry chain. At the same time, manufacturing enterprises, based on transaction cost considerations, will continue to divest their internal R&D, design, logistics, accounting and other service functional departments, and reuse market mechanisms to organize division of labor. With the diversification of demand and the pursuit of core competitiveness, specialization has become a strategic choice for enterprises to participate in competition, but also to reduce transaction costs, more and more manufacturing enterprises are turning from merely providing goods or goods and value-added services to providing more abundant and complete goods - service systems, and manufacturing enterprises have been specialized in productive services and incorporated into their own business departments, thus forming a re integration on the basis of re division of labor

To better develop the manufacturing industry, it is necessary to ensure that the progress of the manufacturing industry and the productive service industry is relatively small. Because the development level of the productive service industry is relatively backward compared to other provinces, the government should make every effort to adopt corresponding assistance and development policies and punish the continuous progress of the productive service industry. The government should provide corresponding preferential policies for talent recruitment, to attract talent to join, expand the scale of the productive service industry, and then cultivate higher-level professional talents. Continuous training should be provided to enable professional talents to achieve the goal of keeping up with the times, to meet the demand for technical talents in high-tech enterprises. Manufacturing informatization extends services to the frontend and backend and back end of the business chain through Internet, communication, computer and other informatization means, expanding the service group, expanding the scope of services, and narrowing the distance between enterprises and customers by quickly obtaining customer feedback. Moreover, more and more manufacturing enterprises are no longer simply selling goods, but extending to the function or service of selling goods to enhance the value of products.

2.2 Integration Technology of Manufacturing Service and Information Technology

The informatization of the manufacturing industry will show a clear trend of development from the inside out, and the characteristics of outsourcing are becoming increasingly evident, which provides a rare market opportunity for the development of modern service industries. The development of service industries can promote the transformation and upgrading of the manufacturing industry, and at the same time,

the progress of the manufacturing industry will also drive the improvement of the service industry. The transformation of the manufacturing industry will bring more high-value engineering projects with higher technological content. To provide basic service capabilities in this regard, the service industry needs to improve its own capabilities and service levels. From this perspective, the growth of demand in the manufacturing industry has stimulated the development potential of the service industry, which will help improve service standards and levels. Substitution, that is, the productive service industry and the manufacturing industry use the decomposition and reorganization of the original manufacturing value chain to integrate into a new value chain, forming new integrated products. In this case, enterprises can either Product bundling manufacturing products and service products or sell them separately, which is different from symbiotic products.

For example, some large mechanical equipment manufacturers also operate periodic maintenance or repair of equipment in addition to equipment sales, which not only solves customers' worries but also achieves greater utility than selling both separately. It is necessary for the government's supervision and management system to constrain and regulate it, to prevent various problems in the industry during the integration process from being solved without corresponding systems, resulting in a decrease in the credibility of the government. This is very harmful to the integration of the industry. To better promote industry integration, the government should gradually improve the relevant regulatory system for industry integration, so that industry integration can be carried out in an orderly manner in the market. Over time, more and more enterprises will be attracted to promote the true integration of manufacturing and productive service industries.

The important trend in the development of modern manufacturing industry is the collaborative development of industrial clusters based on the industrial chain. In the context of modern industry, it is necessary to rely on advanced information technology and network technology to develop a virtual industrial cluster model, maximize the scale and agglomeration advantages of regional characteristic industrial chains and clusters, break through the geographical and functional limitations of traditional industrial clusters, and achieve collaborative manufacturing and online services of products, through real-time information feedback, enterprises can adjust their strategies in time, optimize the cooperation mode, improve the quality of cooperation, and ultimately enhance their market adaptability.

From the above analysis, it can be found that there is a mutually promoting relationship between the manufacturing industry and the service industry. Therefore, to promote the integration and development of the two in future development, it is necessary to improve the service level of the service industry, improve the establishment of standard systems, and promote the transformation and development of the manufacturing industry to achieve true integration of the two. At the same time, in response to the development of the service industry, we should encourage service innovation, business upgrading, and achieve deep matching with the manufacturing industry. As a result, there is an increasing demand for investment in intermediate services in the production process, which reflects the increasing interaction and integration between the two. It can be said that the transformation and upgrading process of the manufacturing industry is essentially a process of increasing the role of

productive services. On the other hand, in the process of interacting with the manufacturing industry, the productive service industry has also achieved significant development.

3. CONCLUSION

From the above analysis, we can clearly see that for Henan Province to achieve true development, it is necessary to link the productive service industry and manufacturing industry together, so that the two can achieve true integration. Subsequently, we introduced the current problems in the promotion of the interaction and integration of manufacturing and productive service industries. It is not only necessary to establish a comprehensive platform for government information, manufacturing and productive service industry information, but also to establish a platform for supply and demand information, cooperation information, and coordination between the two, in order to achieve timely communication and grasp of the supply and demand situation, service requirements, and enhancement of productive service industry functions in the manufacturing service sector. At the same time, in the process of building an information platform, the government should fully provide support in various aspects such as policies, funds, and the establishment of information platform infrastructure.

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