

Research on the Linkage Development of Manufacturing and Logistics Industry from the Perspective of Industrial Convergence

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Abstract: Manufacturing and logistics industry are independent industrial sectors in the development of social economy, they are also the material production sectors that produce and provide specific products and services in the process of national economic development. They are closely related to each other in terms of service object, production factor and promotion. At present, industrial convergence can greatly promote the development of different independent industrial sectors by breaking the independence of industries under the traditional economic model and strengthening the close connection among industries. It is undeniable that industrial integration has become a new form of economic development, an inevitable trend of social and economic development. In this case, the joint development of manufacturing and logistics industry is an inevitable trend of industry convergence, which not only improves the value of each industry, but also promotes the development of national economy. This paper expounds the connotation and significance of the linkage development between manufacturing industry and logistics industry, this paper analyzes the problems existing in the linkage development of manufacturing and logistics industry in northeast China based on the perspective of industrial integration, such as the low overall level, the low degree of outsourcing, the lack of credit mechanism, and the difficulty of reconciling the contradiction between supply and demand, and proposed the pertinent countermeasure.

1. The Connotation and Significance of the Interconnected Development of Manufacturing Industry and Logistics Industry

Logistics industry, as the engine of manufacturing upgrading and development, runs through the whole process of production and operation. It can not only reduce resource consumption, improve product quality, but also reduce product stagnation time and smooth product circulation. As an important source of logistics demand and profits, manufacturing industry is the main body of providing necessary facilities and technologies for the development of logistics industry.

On the basis of giving full play to the respective industrial advantages of the manufacturing industry and the logistics industry, enterprises in different industrial sectors in the industrial chain can be engaged in cooperation and linkage activities, thus forming the linkage development of the logistics industry and the manufacturing industry, the linkage between the logistics industry and the manufacturing industry, not only reflects in the macro-industrial linkage, but also in the micro-different regions of the linkage of their respective enterprises. This linkage development is based on the principle of complementarity and mutual benefit, based on their respective core interests, and constantly seeking symbiotic development of high-level industrial interaction. In the interactive development of the manufacturing and logistics industries, on the one hand, we should give full play to the positive role of government industrial and economic policies in breaking up industrial and regional divisions, improving communication between industries and regions, and improving the environment for inter-connected development. On the other hand, it is necessary to effectively coordinate the complex interests among the government, the industrial sector and the enterprises that hinder the joint development of the logistics and manufacturing industries[1].

Under the background of global financial crisis, facing the convergence of products and

technologies, the high pressure of production cost and service quality, the shortage of energy and the lack of independent intellectual property rights; There are some problems in the logistics industry, such as lack of integration of resources, insufficient input of information technology and backward logistics infrastructure, and the linkage of logistics and manufacturing industries to realize the innovation of supply chain is the inevitable trend of their development, from the strategic point of view, the joint development of logistics and manufacturing industry has the following important positive significance:

First, it is conducive to improve the international competitiveness of manufacturing and logistics. At present, China is actively realizing the globalization and scale of logistics development, the modernization of manufacturing industry and the socialization of logistics demand, so as to gradually approach and participate in the international market. However, it faces a series of obstacles. Without the respective upgrading of the logistics industry and the manufacturing industry, neither side can develop. Therefore, it is necessary to realize the joint development of the two sides, by realizing the mutual extension and matching of the needs of both sides, actively foster the core competitive ability of both sides to participate in the international market.

Second, it is conducive to the realization of the optimal allocation of resources. The development of the logistics industry and the manufacturing industry can not be separated from the support of resources, especially the superior resources. However, with the fierce global market competition, the core resources needed for the development of the two industries can not be rationally allocated, therefore, it hinders the development of the core business such as the Logistics Business, the R & D, production and processing of the products of the manufacturing enterprises, and causes the loss of the comparative advantage. Through the joint development of the two industries, not only the capital of logistics infrastructure investment is sufficient, but also the optimal allocation of resources across industries can be realized[2].

Third, it is conducive to the realization of low-cost of manufacturing enterprises and specialization of logistics enterprises. Facing the rise of logistics cost, the scarcity of logistics resources and the narrow scope of self-run logistics operation, manufacturing enterprises have high cost, which affects the realization of product value. Faced with the lack of logistics socialization and logistics service specialization level in manufacturing industry, logistics enterprises are faced with the fact that it is difficult to reconcile the factors hindering the development of specialization. Therefore, through the linkage development of the two industries and the integration of resources and business, the logistics enterprises can realize the networking, scale and intensive, but also realize the logistics socialization of manufacturing enterprises.

2. Problems Existing in the Linkage Development of Manufacturing and Logistics Industry in Northeast China

2.1 The Overall Level of Logistics Industry Development is Relatively Low.

The northeast China is an important industrial base, the level of the logistics industry development can not meet the needs of the development of the manufacturing industry. Take Liaoning Province as an example. In 2019, the value added of the logistics industry in Liaoning Province was about 10%, which was about 5% lower than the value added of the manufacturing industry. In 2019, the manufacturing industry in Liaoning Province created 463.2 billion yuan of fixed assets, more than 300,000 people employed in the logistics industry have created only 78.9 billion yuan of fixed assets. Obviously, the contribution rate of the manufacturing industry to the GDP of Liaoning Province is much higher than that of the logistics industry to the GDP[3].

2.2 The Level of Logistics Outsourcing for Manufacturing Enterprises Is Not High.

The low level of logistics outsourcing of manufacturing enterprises in northeast China is mainly manifested in the following aspects: First, the manufacturing enterprises adopt the logistics management mode of manufacturing department, purchasing department, parts service department and sales department, as a result, the communication is not timely and the efficiency is not high.

Secondly, the traditional manufacturing industry, which is characterized by small but all-in-one and large but all-in-one, is keen on the development of self-managed logistics. Thirdly, the manufacturing enterprises lack the risk control mechanism of logistics outsourcing and the effective entry mechanism of the third-party logistics enterprises. Fourth, the Manufacturing Enterprise Logistics Operation Infrastructure assets due to the lack of an effective exit mechanism and utilization is not high.

2.3 Lack of Credit Mechanism in Logistics Market.

Market economy is credit economy, credit is the basic criterion of market economy, and credit relationship maintains complicated market relationship. There are some common phenomena in the northeast logistics market, such as lack of standardization, disordered competition, low service quality and single price. The main sticking point of these problems is that the logistics industry has not yet established a good credit supervision mechanism, it creates opportunities for logistics enterprises with strong opportunism and credit crisis, such as breach of contract, tax evasion, bad competition and default of debt, etc. .

2.4 The Contradiction between the Supply and Demand of the Logistics Industry and the Manufacturing Industry is Difficult To Reconcile.

Nowadays, the market economy is a consumer-oriented buyer's market economy, so it is necessary to understand each other's demand. At present, the logistics and manufacturing industries in northeast China can not accurately grasp the real demand of each other's enterprises, resulting in supply and demand constraints. The logistics demand of manufacturing enterprises is difficult to form socialized demand, which leads to the problems of cost, efficiency and service, which makes the ultimate goal of logistics industry difficult to achieve.

2.5 The Standards of the Logistics Industry are Confused.

The northeast region has not yet reached a higher level due to the level of economic development, therefore, the standardization of industry standards, operation standards and technical standards, which are essential for the development of the logistics industry, has been affected, and a situation of confusion of standards has emerged, which is mainly manifested in: first, the lack of effective information communication and transmission mechanisms; The disunity of information standards makes it impossible for both sides to obtain valuable demand information. Secondly, due to the long-standing fragmentation of northeast China, logistics System, tax management standards and regional market barriers have seriously restricted the joint development of manufacturing and logistics industry[4-6].

3. Measures to Promote the Linkage Development of Manufacturing and Logistics Industry in Northeast China

3.1 Construction of Logistics System Based on Manufacturing Industry Cluster.

The logistics demand in northeast China is increasing with the rapid development of manufacturing industry cluster, therefore, it is necessary to integrate the logistics resources to form the logistics supply agglomeration which is suitable for the manufacturing industry agglomeration. The northeast has now formed industrial clusters of equipment manufacturing, processing of spare parts, production of metallurgical complete sets of equipment, production of ships and other manufacturing clusters, it is urgent for Modern Logistics Industry to provide service for Agile Manufacturing and lean production in order to improve the core competitiveness of manufacturing industry. On the one hand, we should realize the alliance and integration of logistics enterprises, and set up the regional logistics center with High-grade Service Level and service consciousness. On the other hand, we should realize the sharing and sharing of logistics information and facilities in the region, actively develop the logistics outsourcing and the logistics trusteeship mechanism, and plan the main body of regional logistics service.

3.2 Constructing the Information Sharing Mechanism between the Logistics Industry and the Manufacturing Industry.

The linkage development of the logistics industry and the manufacturing industry in northeast China requires effective and timely information communication, it is necessary to establish an information, integrated and standardized logistics management system that fully utilizes artificial intelligence technology, network information technology, Bar Code Technology and EDI technology. Of course, realizing the standardization of manufacturing logistics in northeast China is not an overnight process. It requires not only the government departments to formulate logistics standards and indicators in line with international standards, but also the active cooperation of relevant economic bodies, establish a mechanism for information sharing. In fact, information sharing is an important guarantee for the joint development of manufacturing and logistics industry, especially for the realization of logistics outsourcing. On the one hand, we should formulate standardized standards for logistics information in manufacturing industry, on the other hand, it is necessary to realize the standardization and refinement of logistics management process in manufacturing enterprises.

3.3 Promoting the Development and Cultivation of Logistics Human Capital.

The development and cultivation of logistics human capital is a framework of personnel training related to the government, educational departments such as colleges and universities at all levels, social training institutions and educational institutions, the relevant stakeholders should form a functional collective which is complementary and integrated with each other. One is to optimize the personnel training structure based on the logistics of manufacturing enterprises, focusing on training logistics professionals with the ability of micro-production management and supply chain environment transformation. The other is based on the practical operation of the logistics industry, strengthening the cooperation between manufacturing enterprises and universities and giving full play to the advantages of "production, study and research" can not only strengthen the mutual penetration of enterprise culture and campus culture, moreover, it can scientifically set up logistics professional courses close to social reality and economic development, so as to realize the sustainability of the training of logistics talents, flexible forms of non-academic education.

3.4 Establishing a Normative Credit Mechanism for the Manufacturing and Logistics Industries.

Mutual trust is not only a necessary prerequisite for the success of the joint development of the enterprises affiliated to the manufacturing and logistics industries, it is also the key element to maintain the core value and create the common value. One is to raise the cost of opportunism, so that manufacturing and logistics enterprises can not easily give up the cooperative community relationship of linkage development, reduce the loss of credit assets and human capital assets; Second, through the establishment of effective contracts and regulations to restrain the relevant subjects of opportunism speculative behavior; third, through the formation of intangible asset, improve the joint development of the two sides to bring benefits[7, 8].

3.5 Give Full Play to the Macroeconomic Regulation and Control Role of the Government.

The government should play a leading role in the transformation of the mode of economic growth, the coordinated development of regions and urban and rural areas, the reasonable adjustment of the income distribution gap, the reform of the political system, the construction of the legal and economic system, the formation of advanced culture, the establishment of correct value orientation, the investment of environmental protection. In the process of the linkage development of the manufacturing industry and the logistics industry in northeast China, the government should play an active coordinating and promoting role by playing a leading role Second, the supply and demand of manufacturing and logistics should be effectively connected, and third, the favorable environment of linkage development should be created through taxation policy.

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