Research on the Influence of Trade System on Wuhan Manufacturing Innovation Mode and Countermeasures

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Abstract: The trade system has an important impact on the development of manufacturing industry, especially the development of foreign-invested manufacturing industry. The system construction affects the development of manufacturing industry, and Wuhan manufacturing industry has also made great progress in open innovation. This paper analyzes the current research situation at home and abroad and combs the literature, analyzes the research value and significance of this paper, summarizes the research, and puts forward relevant suggestions, which is conducive to the relevant departments to formulate a reasonable trade system to promote the open innovation development of manufacturing enterprises.

1. Review and Literature Review of Research Status at Home and Abroad

As an important manufacturing industry development area in the central region of China, Wuhan has withstood major tests. The manufacturing industry is gradually recovering, and the pace of foreign trade development is also accelerating. Wuhan's manufacturing industry economy will also usher in a new development opportunity period. The epidemic has had a major impact on economic development. This huge external event has strongly impacted all industries, especially the manufacturing industry. The national trade system and policies have an important impact on the development of the manufacturing industry [1]. There are many studies on trade system and manufacturing investment in foreign countries. As for the impact of trade system on manufacturing and industrial economic performance, foreign trade system innovation is also a kind of productivity. An effective trade system can reduce the transaction cost of manufacturing technological progress and transformation of technological achievements, thus promoting the development of productivity [2].

In the field of international industrial transfer theory, new economic geography mainly studies industrial transfer from the perspective of industrial location, industrial agglomeration and industrial diffusion. Klimenko (2016) believes that the high price of non-tradable goods, rising land price, environmental pollution and other crowding costs in the agglomeration area will cause the centrifugal force of industrial diffusion. There are also studies on the innovation mode of manufacturing industry in foreign countries. The open innovation theory was not put forward in a hurry, but was gradually put forward in accordance with the economic development and technological progress; Robert Kirschbaum (2017) proposed that the activities of open innovation should be endogenous to a company through in-depth research on DSM company, so as to produce the results of open innovation activities; Liehtenthaler (2018) adopted a questionnaire survey. The main respondents were 154 large and medium-sized European enterprises, and analyzed the open innovation of enterprises from a systematic perspective; Sungjoo (2020) and others found that enterprise networks can effectively promote the open innovation of small and medium-sized enterprises. Compared with large-scale enterprises, which mainly promote R & D, small and medium-sized enterprises pay more attention to the commercialization of open innovation.

In the research field of the impact of trade system on the innovation mode of manufacturing industry, many scholars have also conducted research in China. Chen Yantai et al. (2015) analyzed

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the relationship between the cultural support, market orientation and innovation performance of enterprises' organizational open innovation; You Daming and Sun Jie (2016) open integrated innovation is a realistic way to improve the innovation ability of Chinese enterprises at the present stage, and the evaluation system of enterprise open integrated innovation ability is constructed by using ANP Method; Sun Hai et al. (2017) also believe that open innovation and independent innovation are closely related. Open innovation can transform external technology into enterprise's own ability through independent innovation; Tao Feng, Yang Yuqing, Qiu Yangdong and others (2019) believe that formal system is a factor that affects the uncertainty of international market and trade costs. Taking the complexity of products introduced by transnational migrants as an example, they studied the mechanism by which the quality of bilateral systems affects international trade. The quality of bilateral systems has a significant role in promoting the export expansion of the immigrant home countries; Li Honglin and Chen Wenhui (2020) proposed that under the background of the significant impact of the COVID-19 epidemic on the manufacturing industry, we should seize the important opportunity of the reconstruction and transformation of the global manufacturing supply chain, further deepen international cooperation, realize key technological innovation and self-control as soon as possible, and accelerate the cultivation and internationalization of advanced manufacturing clusters [3]. We will deepen the reform of market factor allocation, optimize the business environment, absorb advanced links in the global manufacturing supply chain, and enhance the competitiveness of China's manufacturing industry in the global supply chain.

2. The Value and Significance of this Study

Under the special background of the post epidemic era, international trade is also affected greatly. Whether the trade system is designed reasonably will have an important impact on the manufacturing industry. Specifically, whether a country's foreign trade system is sound and perfect has an important and far-reaching impact on the open innovation mode of its manufacturing industry and the development of its manufacturing industry. Under the background of the post epidemic era, this topic focuses on the study of the impact of the trade system on the innovation mode of Wuhan's manufacturing industry and the countermeasures. It can promote and promote the cross integration development of multi-disciplinary knowledge such as international trade, new institutional economics and management engineering. These theories are the cornerstone of this topic and play an important guiding role, which is conducive to the top-level design of the foreign trade system and the formation of the innovation mode of the manufacturing industry, and they promote the leapfrog development of Wuhan's real manufacturing economy. We can make full use of the strategic opportunities brought by the "the Belt and Road" initiative to enhance the position of Wuhan manufacturing industry in the global value chain, and we provide new market opportunities for physical manufacturing industries such as mechanical equipment, power generation equipment and transportation equipment, and they facilitate the structural adjustment and investment transfer of Wuhan manufacturing industry. Through the reform and improvement of the foreign trade system and mechanism, they promote the construction of an open creation mode in the manufacturing industry of Wuhan, and they provide theoretical support for the rapid development of the manufacturing industry. This is the theoretical significance of the research in this field. In the future, how to seize the opportunities, calmly respond to the challenges, actively promote the opening-up and implement the internationalization strategy of the manufacturing industry, and make greater progress and development is an important topic that needs to be studied in depth [4].

In the post epidemic era, Wuhan manufacturing enterprises will promote intelligent manufacturing more conscientiously. Manufacturing enterprises will pay more attention to intelligent manufacturing, promote fewer people and flexible production, and employ more highly skilled and multi skilled workers, so as to better cope with the fluctuations of labor force. It can be predicted that manufacturing enterprises will put forward urgent demands for remote collaborative task management, project management, workflow management and other software. The deep-seated application of digital technology can help enterprises improve the cooperation efficiency of

employees, improve the transparency of production and operation, help enterprises more effectively respond to the fluctuations of market demand, shorten the launch cycle of new products, innovate business models, and shift from selling products to selling products and services. The most fundamental value of digital transformation is that it can help leaders at all levels of manufacturing enterprises to truly understand the data from all aspects and see the correct trend from the data. After this epidemic, manufacturing enterprises will pay more attention to the practical application of Bi, big data analysis, AI and other technologies, and put forward urgent demands for data analysts. Wuhan manufacturing enterprises will actively promote remote intelligent services based on industrial Internet. In case of virus epidemic, earthquake, typhoon and other unexpected events, the maintenance service personnel of manufacturing enterprises often cannot arrive at the scene in time. Therefore, the promotion of remote intelligent services based on industrial Internet, remote guidance through augmented reality and other technologies, and fault warning based on the monitoring of equipment operation status will gradually transform these intelligent services from ideas to reality [5]. After the epidemic, Wuhan's manufacturing service and industrial Internet platform application will have a clearer direction.

In the post epidemic era, important changes have taken place in Wuhan's manufacturing industry. With the steady development of the manufacturing industry and the in-depth promotion of foreign trade, the trade system has also been continuously improved. Under the environment of absorbing foreign investment and meeting the transfer of external manufacturing industry, the study of trade system and theory is conducive to attracting foreign investment and promoting the innovation of the open mode of Wuhan's physical manufacturing industry. The design and formulation of trade system has important practical significance for the revitalization and development of the manufacturing industry. Wuhan is actively building a strong city with an innovative economy. The manufacturing industry is the key. To enhance the independent innovation ability, the manufacturing industry should take the lead. It is necessary for manufacturing enterprises to use the open innovation mode to improve their innovation ability. If manufacturing enterprises want to continuously obtain a large number of external innovation sources, they need to carry out open innovation and have an open concept of independent innovation.

Therefore, under the background of post epidemic era, it has important theoretical significance and practical value to deeply study the impact of trade system on Wuhan manufacturing innovation mode and put forward corresponding countermeasures and suggestions.

3. The Main Contents and Conclusions of this Paper

3.1. Main Contents of this Paper

This paper analyzes the impact of the trade system on the innovation mode of Wuhan manufacturing industry under the new background, introduces the research background, relevant theoretical significance and practical significance of this paper, analyzes the impact of the post epidemic era on Wuhan's investment system and business environment, and then analyzes the impact and causes of the trade system environment, and discusses the important role of attracting foreign investment in Wuhan's economic development.

The specific implementation path analysis of Wuhan manufacturing industry development; Then it analyzes the importance of foreign investment and trade system construction in Wuhan to the development of manufacturing industry; Through the collection of relevant data to build a mathematical model and empirical analysis, the trade system construction and manufacturing industry can develop in harmony.

Put forward specific suggestions for Wuhan to optimize the foreign investment and trade system and promote the development of manufacturing innovation mode, promote the optimization of Wuhan investment and trade system environment and the leapfrog development of manufacturing industry, so as to better promote the economic growth of Wuhan.

3.2. Research Conclusion

Further promote the intersection and integration of international trade, new institutional economics, management engineering and open innovation theory. Within the analysis framework of the above theories, this paper studies the impact of trade system on the open innovation mode of manufacturing industry, reveals its internal relations and promotes its integrated development.

Through the integration of empirical analysis and theoretical research to build a mathematical model, establish a scientific, reasonable and excellent trade system, and achieve the goal of optimizing the foreign trade system and policies. In the empirical analysis, the relevant data of the statistical yearbook are collected. Through the establishment of the grey absolute correlation degree model, the grey relative correlation degree model and the grey comprehensive correlation degree model, the impact of the trade system on the innovation mode of the manufacturing industry and the relationship between them are empirically analyzed, so as to optimize the trade system, carry out the innovation and reform of the trade system, attract foreign investment, and establish a reasonable open innovation mode of the manufacturing industry.

Under the background of the post epidemic era, through optimizing the trade system, we can build an efficient, reasonable and diversified open innovation mode of manufacturing industry to achieve the goal of promoting the upgrading of Wuhan's manufacturing industry structure. The impact of the trade system on the open innovation mode of the manufacturing industry will be studied to make the connection between the construction of the trade system, foreign investment and the innovation mode of the manufacturing industry more coordinated, so as to optimize the trade system, attract foreign investment and build an efficient open innovation mode of the manufacturing industry to promote the upgrading of the industrial structure of the manufacturing industry in Wuhan and promote the more healthy and stable development of the industrial economy of the manufacturing industry in Wuhan.

4. Relevant Suggestions

At present, China is vigorously developing the physical manufacturing industry, actively implementing the smart city construction around the "made in China 2025 platform for action", fully grasping the manufacturing projects, enhancing the stamina of the manufacturing industry, initiating the implementation of technological transformation and upgrading projects, and improving the level of enterprise technology, equipment and efficiency. Wuhan needs to actively promote the construction of integrated circuit storage base and high-end new display industry base, and promote a number of major projects and high-end manufacturing industries to invest and produce in Wuhan. Wuhan's manufacturing enterprises need to actively seize the strategic opportunity period, focus on promoting supply side structural reform, actively implement the open innovation mode of the manufacturing industry, strive to build an advanced manufacturing core area and an intelligent manufacturing development highland, and strive to build Wuhan into a strong manufacturing city.

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