

Research on the Influence of Foreign Trade System on Wuhan Manufacturing Innovation Mode

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Abstract: With the increasingly frequent international exchanges and the global flow of international capital and investment, Chinese foreign trade system has an important impact on Wuhan's manufacturing industry and the innovation and development of the national industrial economy. This paper studies the influence of foreign trade system on Wuhan manufacturing innovation mode, and puts forward corresponding policy suggestions, which has important practical significance and practical value for Wuhan manufacturing innovation mode.

1. Introduction

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. As an important city in Central China, Wuhan is also an important area for the development of manufacturing industry. Especially with the victory of the military games, Wuhan's foreign trade development will usher in a new historical opportunity period. Under the background of global integration and Sino US trade friction, this topic focuses on the impact and integration of foreign trade system on Wuhan's manufacturing innovation mode, which can promote the cross integration and 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, It is conducive to the top-level design of the foreign trade system and the formation of the manufacturing innovation mode, and promotes the leapfrog development of Wuhan's real manufacturing economy. Through the reform and improvement of the foreign trade system and mechanism, we will build an open creation mode in the field of Wuhan's physical manufacturing industry, and provide theoretical support for Wuhan to embark on the road of becoming a strong industrial city. 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.

With the steady development of Wuhan's manufacturing industry and the in-depth promotion of foreign trade, the foreign trade system is also constantly improving. The relatively good institutional environment and investment prospects attract foreign capital and manufacturing industries to enter the Wuhan industrial market, which makes the manufacturing industry and economic scale of Wuhan grow rapidly and steadily, and become a hot spot for international external capital investment, It is becoming more and more important to build a brand-new open innovation mode of manufacturing industry. 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 Wuhan's manufacturing industry. Creating a good trade system environment is of great practical significance for Wuhan to further expand foreign economic exchanges, guide the reasonable flow and transfer of international manufacturing industry to the central region, and promote the prosperity of Wuhan's manufacturing

industry. Wuhan physical manufacturing enterprises are regarded as a dissipative system that exchanges energy and materials with the outside world. Each enterprise is not closed, but needs to constantly exchange resources, energy and information with the outside world. As the basic industry of national economy and national defense construction, manufacturing industry is the main symbol of national strength and international competitiveness, and has extremely important strategic and practical significance. Revitalizing Wuhan's physical manufacturing industry is a strategic measure to improve the realization of comprehensive, coordinated and sustainable economic development. To build 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.

2. Related Literature Review

From the perspective of foreign research literature, there is some research on the relationship between trade system and manufacturing investment. In terms of the impact of trade system on manufacturing and industrial economic performance, foreign trade system innovation is also a kind of productivity^[1]. An effective trade system can reduce the transaction cost of manufacturing technology progress and technological achievements transformation, thus promoting the development of productivity. The quantification of institutional performance can be carried out through case analysis. When other factors are excluded, the performance of a certain institutional change or institutional innovation can be quantified, and the economic performance of institutional variables can also be analyzed by using modern economic analysis models^[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. Dunning (2018) pointed out that when multinational companies choose investment target countries, they tend to enter countries with relatively perfect national legal systems, and also countries that can effectively protect intellectual property rights and have rich labor resources and high quality, which plays an important role in promoting the development of local manufacturing industry. 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 in line with the economic development and technological progress. Schumpeter proposed "analyzing economic problems from the perspective of evolution", which gradually evolved through the research of later scholars. The concept of open innovation has a certain theoretical basis. Open innovation is the trend of enterprise technology innovation in the era of knowledge economy. The concept of "open innovation" was put forward by Henry w. Chesbrough, a professor of Harvard Business School, in May 2003. Mildred a. hastbacka (2012) believes that the practice mode of open innovation includes four parts: strategy, resources, process and organization, which together build a pyramid model; Robert Kirschbaum (2013) 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; Gassmann (2018) believes that different innovation models play an important role in promoting industrial innovation; Liehtenthaler (2020) adopts a questionnaire survey, mainly focusing on 154 large and medium-sized European enterprises, to analyze the open innovation of enterprises from a systematic perspective.

In terms of domestic research status, in the field of research on the impact of foreign trade system on the innovation mode of manufacturing industry, Chen Yufen and Wang Ju (2015) believe that in the process of open innovation, the possession of intellectual property in manufacturing industry is particularly important. In the process of open innovation, enterprises break the original independent mode of intellectual property and seek the combination of intellectual property in innovation; Chen Yantai et al. (2015) analyzed the relationship between organizational open innovation culture support and innovation performance of enterprises and different innovation

levels; 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; Yang Yanhong and Lu Xianxiang (2018) studied the changes of China's opening up and foreign trade system, and believed that from selective institutional opening to comprehensive institutional opening, the foreign trade system would also be improved following the practice of opening up; 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; Sun churen, Wang Song and Chen Jin (2019) studied how trade had an important impact on economic growth through institutional channels, constructed an index of urban export institution intensity to study the institutional demand of the world market on national cities, and used multiple regression and intermediary effect models to verify the impact of export institution intensity on the economic growth of a city's manufacturing industry.

3. Main Points of this Paper

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 foreign trade system on the innovation mode of Wuhan 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 foreign trade system, and achieve the goal of optimizing the foreign trade system and policies. In the empirical analysis, collect the relevant data measured in the statistical yearbook, establish the grey absolute correlation degree model, the grey relative correlation degree model and the grey comprehensive correlation degree model, and empirically analyze the impact of foreign trade system indicators on the open innovation mode of Wuhan manufacturing industry and the relationship between them, so as to optimize the foreign trade system, carry out trade system innovation and reform, absorb international industrial transfer, And establish a reasonable manufacturing innovation mode to promote Wuhan to move towards the goal of strengthening the manufacturing industry.

By optimizing the foreign trade system, we can build an efficient, reasonable and diversified innovation mode of Wuhan's manufacturing industry, and achieve the expected goal of promoting the upgrading of Wuhan's manufacturing industry structure ^[3]. The impact of the foreign trade system on the innovation mode of Wuhan's 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 foreign trade system, attract foreign investment, build an efficient innovation mode of the manufacturing industry, promote the upgrading of the industrial structure of Wuhan's manufacturing industry, and promote the more healthy and stable development of the industrial economy of Wuhan's manufacturing industry.

4. Theoretical Innovation Degree and Research Conclusion of this Paper

4.1. The Degree of Theoretical Innovation of this Paper

For the selection and specific quantification of trade system factors, seven commonly used indicators such as tariff level, exchange rate stability, intellectual property, customs policy, bilateral

investment agreement, cultural system, total urban GDP and inter regional distance are selected to establish a mathematical equation model. For the convenience of empirical analysis and calculation, the nonlinear model is taken as logarithm and converted into a linear logarithm model expression, So we can better study the impact of foreign trade system on Wuhan manufacturing innovation mode.

Build a model of the impact of trade system indicators on the innovation mode of Wuhan manufacturing industry, select and define the endogenous variables of SVAR model according to Blanchard & Perotti (2002), and obtain the relevant trend smoothing factors and according to Marcet & ravn (2003), and finally get the endogenous economic variable vector. Adjust the relevant factors and trend items, and decompose the logarithm of the variables with HP filter to facilitate empirical analysis.

Combined with GH model proposed by Grossman and Helpman, a new model, which is improved and innovated on the basis of this model, enables better integration between theoretical research and data model, trade system factors and Wuhan manufacturing innovation model^[4].

4.2. Conclusion of this Paper

Through the research of this paper, we can obtain better application value, provide suggestions and policy references for foreign trade enterprises and government functional departments, optimize China's trade system, strive to formulate new trade rules on the world trade stage, and obtain more foreign exchange income. In addition, Wuhan can better attract foreign international capital to enter the local regional market, and promote the upgrading of regional and Chinese industrial structure and economic development ^[5]. With the rapid development of China's trade economy and the increasing prosperity of attracting FDI, China's relevant systems and trade system construction are constantly improving. The relatively good institutional environment and investment prospects attract foreign capital and related industries to enter the Chinese market, which enables China's economic scale to continue to grow rapidly and steadily. China has grown into the world's second largest economy and has become a hot spot for international external capital investment. Under the environment of absorbing foreign investment and optimizing the innovation mode of manufacturing industry, it is increasingly important to study the impact of China's foreign trade system on Wuhan's open innovation mode of manufacturing industry. Through the reform and improvement of the foreign trade system and mechanism, we will build an open innovation mode in the field of Wuhan's physical manufacturing industry, providing guidance and decision-making basis for Wuhan to embark on the road of becoming a strong industrial city. Wuhan has made greater progress and development by actively promoting the opening up to the outside world and implementing the manufacturing internationalization strategy. we can optimize the construction of the trade system, attract foreign direct investment to a greater extent, guide the reasonable flow and transfer of international industries to the central region of China, introduce foreign advanced technology and management experience, and then participate in international competition, expand our foreign exchange income, and promote the prosperity of Chinese foreign trade.

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