

High-Quality Manufacturing Development as a Driver of Modernisation

Zimeng Hui^a, Kaiwen Zhao^{b,*}

School of Business, Xi'an International Studies University, Xi'an, Shaanxi, China

^a180913957482163.com, ^b1799366039@qq.com

**Corresponding author*

Keywords: Modernisation, economic development, quality development, manufacturing industry

Abstract: As the pillar industry of the national economy, it is crucial for manufacturing enterprises to achieve high-quality development. As the foundation and prerequisite for modernisation, the manufacturing sector provides a solid material foundation, technical support and spiritual impetus. From the perspective of China's economic development, as the foundation of economic development and people's affluence, the manufacturing industry needs to accelerate its transformation, upgrading and efficiency, which is not only a strategic choice to promote the deep integration of industrialisation and Informa ionisation, but also an important way to accelerate the construction of good manufacturing and economic progress. This paper provides an in-depth analysis of the mechanism of high-quality development of the manufacturing industry to promote modernisation from three dimensions: scientific and technological innovation, green development and regional coordination, and puts forward relevant policy recommendations for high-quality development of the manufacturing industry under the modernisation process. While promoting economic development, it also affects the steady improvement of the modernisation process in the world.

1. Introduction

With the economic progress and development around the world, in the exploration and improvement of the relevant system, high-quality development has become the theme of China's new era, with distinctive development characteristics. Manufacturing enterprises as the pillar industry of the economy, is an important micro body of economic development, whether to achieve high-quality development is crucial, independent innovation as to enhance the core competitiveness of enterprises, how to promote the manufacturing industry to accelerate the development of digital, networked, intelligent, improve the stability of the industrial chain supply chain and modernisation, is the key to the development of the manufacturing economy. In the era when Industry 4.0 has arrived, empowering enterprises with cutting-edge technology and digital economy for high-quality development has become the way to go.

The high-quality development of enterprises, as a connotative development model, needs to focus on the unity of economic, social and ecological benefits. As an important part of the economic system,

the high-quality development of the manufacturing industry can accelerate technological innovation and industrial structure upgrading, providing a solid material and technological foundation for economic construction. At the same time, it can also promote high-quality and multi-level employment and provide support and guarantee for the realisation of common prosperity. In addition, the high-quality development of the manufacturing industry can also help promote the intensive use of resources, providing the possibility of exploring a new path for the harmonious coexistence of man and nature. More importantly, it can also empower global economic and trade cooperation and industrial chain supply chain stability, paving the way for building mutually beneficial and win-win international relations^[1]. In the process of economic development, focus on the coordinated development of material civilisation and spiritual civilisation. Industrialisation is an important prerequisite, driving force and core content for modernisation^[2], in which the gradual increase in the proportion of manufacturing industry and the continuous upgrading of its structure are the most important changes in the process of industrialisation^[3]. As the foundation and premise of modernisation, the manufacturing industry provides a solid material foundation, technical support and spiritual power.

Among them, China's modernisation has the common features of modernisation of all countries and unique Chinese characteristics^[4]. Since the reform and opening up, China's manufacturing industry has made rapid development, established a comprehensive and independent industrial system, and the long-term practice of economic development has created two miracles of rapid economic development and long-term social stability, laying the foundation for China's economy^[5]. As the cornerstone of economic development and people's affluence, the manufacturing industry is in urgent need of accelerated transformation and upgrading as well as improved efficiency. This is a strategic choice to promote the deep integration of industrialisation and informatisation and an important way to realise China's economy. Through innovative technology, optimised management and market expansion, the manufacturing industry can continuously improve its competitiveness and adaptability, and promote sustainable economic development and social prosperity. Only by constantly adapting to the changes of the times and constantly innovating and developing, the manufacturing industry can be invincible in the global competition and make greater contributions to the prosperity of the country and the happiness and well-being of the people^[6].

2. High-Quality Manufacturing Empowers Modernisation

High-quality development is an important strategic direction and path of economic transformation in the new era. Existing research mainly focuses on discussing high-quality development at a more macro level. At present, there are various perspectives on the connotation of high quality of enterprises, but it is generally believed that high-quality development of enterprises is a new development model aimed at the pursuit of quality and efficiency, and 'innovation, coordination, green, openness, and sharing' is the core guiding concept, specifically, the coordination of the internal and external resource allocation, the improvement of the internal management mechanism, the greening of production and operation methods, the quality of products and services, and the strong ability of independent innovation in science and technology are all features of the realisation of high-quality development of enterprises. Specifically, the coordination of internal and external resource allocation, perfect internal management mechanism, green production and operation mode, excellent product and service quality, and strong scientific and technological innovation ability are the components of achieving high-quality development of enterprises^{[7][8]}.

2.1. Science and Technology Innovation Enabling the Transformation and Upgrading of the Real Economy

Due to the existence of information asymmetry, enterprises are unable to obtain complete information in the market, with the help of big data, artificial intelligence, machine learning and other modern technologies, enterprises can accurately and efficiently collect huge amounts of supply and demand data, explore the customer's consumption ability and consumption demand, and develop high-quality products to obtain sustainable development^[9]. In addition, the user profile established by digital technology can achieve more accurate personalised push and customised services. Through the first time perception of the market, enterprises can obtain timely business information for decision-making and strategic adjustment. Currently, the trend of integration of advanced manufacturing and modern service industries is strengthening. Digital transformation has the advantage of bridging the traditional business divide. For example, the business ecosystem of digital travelling, intelligent medical care and sharing economy spawned by 'mobile payment' is gradually maturing, breaking industrial boundaries and creating a broad market. Enterprises use digital technology to connect resources, elements, production capacity and markets, and then integrate and configure resources and elements to achieve business model transformation and business integration and reconstruction, and ultimately form a deep fusion of business development and value co-creation, and realise the digital transformation and upgrading of the real economy. Enterprises need to grasp the development opportunities of science and technology innovation, through the integration of new products, new business models, new models, to fully achieve the requirements of high-quality development, and to promote the realization of the organic convergence of modernisation^[10].

2.2. Green Development to Achieve Harmony between Human Beings and Nature

In various fields, green development has achieved remarkable results, and green development is an important symbol of China's shift from a speed economy to high-quality development^[11]. In Xi'an, Shaanxi Province, for example, the government is advocating and implementing energy-saving technologies to promote the goal of energy conservation and emission reduction. By applying digital technologies, the government has improved its ability to manage energy conservation and consumption reduction, successfully reduced energy consumption per unit of product, and significantly improved energy efficiency in industries such as thermal power and cement. These achievements have verified that the concept of high-quality development of enterprises should be centred on green, low-carbon and environmental protection, and have provided strong support for enterprises to move towards sustainable development. However, despite the fact that the manufacturing industry has established a relatively well-developed industrial system, its major reliance on traditional manufacturing has led to a relatively low input-output ratio and still high resource and energy consumption. This may imply that there is still room for improvement in the development and utilisation of resources by enterprises, and that the competitiveness of their products and services in the market needs to be improved. Efficient resource utilisation and high-quality products and services will be the key to the future development of enterprises, and the realisation of the greening of the whole process is also a pressing issue for manufacturing enterprises. Therefore, in order to improve competitiveness and achieve sustainable development, manufacturing enterprises not only need to further optimise the use of resources and improve the quality of products and services, but also need to integrate the green concept into the whole process. Further promoting green development, focusing on resource conservation and environmental protection in the process of economic development, and promoting technological innovation and industrial upgrading, so as to realise the sustainable development of enterprises is an inevitable path to promote high-quality economic development. Manufacturing enterprises actively introduce green innovation technology,

adhere to resource regeneration and recycling, reduce pollution emissions, strengthen the protection and repair of the ecosystem, achieve green development of enterprises, and help achieve the modernisation process of harmonious coexistence between human beings and nature^[6].

2.3. Coordinated Regional Development for the Common Prosperity of the People

In China, for example, the essential requirement of modernisation is the realisation of common prosperity for all people. The overall strategy of regional development in four major sectors, namely, the development of the west, the revitalisation of the northeast, the rise of central China and the development of the east, has been formulated and implemented to promote the coordinated development of the regional economy^[11]. There are differences in the development conditions of the regions, different levels of development is a normal phenomenon. Currently, the imbalance in the development of manufacturing industry between regions is still relatively prominent, but whether it is the difference between the north and south regions, or the degree of development of the east and west, with the rapid advance of industrialisation and urbanisation, the rapid development of the manufacturing industry, the economic boundaries of the regions are gradually fading. The development strategies of each region should be formulated in accordance with its own development conditions, positioning and advantages, so as to promote the high-quality development of each region through inter-regional and inter-industry linkages, and to achieve coordinated inter-regional development. This will help build a brand-new pattern of complementary advantages, mutual benefits and win-win situation, and collaborative innovation in each region, provide strong support for the coordinated operation of the modern industrial system, and at the same time inject a strong endogenous impetus for the realisation of high-quality development.

3. Practical Path of High Quality Development of Manufacturing Industry under Modernisation

In the face of the new requirements and needs put forward by the current modernisation, the manufacturing industry not only needs to improve the independent innovation capability of enterprises and promote the micro-path of green development of enterprises, but also needs to coordinate the regional layout and promote the macro-path of regional collaboration.

3.1 Strengthening Technological Innovation Capacity

Facing the new journey of modernisation, the manufacturing industry should focus on improving its capability of independent innovation, and enterprises need to start from many aspects, continuously optimising the innovation environment, strengthening the cultivation and introduction of talents, and increasing investment in research and development and the protection of intellectual property rights. Enterprises can establish a technological innovation incentive mechanism to reward employees who have made outstanding contributions in technological research and development, stimulate the enthusiasm of employees for innovation, and create a good innovation culture that encourages innovation and tolerates failure. Under the new development pattern, promoting the deep integration of the digital economy and the real economy will help optimise the allocation of innovation resources, accelerate the transformation of scientific and technological achievements, promote the digital transformation and upgrading of traditional industries, improve production efficiency and product quality, pay close attention to the changes in market demand, adjust the product structure and technological direction in accordance with the market demand, improve the market competitiveness of products, achieve sustainable development of the real economy, and promote the process of modernisation.

3.2 Promoting Green Transformation and Upgrading

Enterprises can carry out green technological innovation to carry out environmental governance, and promoting green transformation and development is an important guarantee for high-quality development of enterprises^[12]. Green development helps enterprises and stakeholders to build a more robust cooperative relationship, more access to the resources needed for technological innovation, and promotes enterprises to carry out green technological innovation activities^[13] which affects the enterprise resource allocation as well as financing and investment activities. Based on the core objective of enterprise profit maximisation, enterprise green technology innovation has a natural advantage, enterprises in the profit maximisation of the core value of the driving force to carry out green innovation activities, so as to reduce the cost of enterprise environmental management, improve the utilization rate of resources, and at the same time, the green technology innovation activities reflect the enterprise's awareness of environmental protection, and externally demonstrates the responsibility for the environment, pay attention to the sustainable development of the corporate culture, so as to establish a good corporate image, and in the long run will be a good corporate image, and in the long run will be a good corporate image. corporate image, in the long run will further enhance the profits obtained by the enterprise, prompting the enterprise to have a greater incentive to improve the internal products and production processes, the formation of a virtuous cycle^[14], to promote the green and sustainable development of enterprises, to achieve the improvement of the ecological environment, and help the development of modernisation.

3.3 Promoting Regional Coordinated Development

Enterprises should strengthen industrial chain cooperation, form an upstream and downstream linkage, collaborative and complementary industrial development model, improve the competitiveness of the entire industrial chain, thereby optimising the industrial layout, and form a distinctive and competitive manufacturing industry development pattern according to each region's resource endowment, industrial base and market demand. In China, due to the differences between the northern and southern regions and the different degrees of development between the east and west, it is necessary to promote industrial transfer and upgrading, and strengthen the guidance of industrial transfer, such as promoting the orderly transfer of manufacturing industries from the eastern region to the central and western regions, so as to realise the industrial upgrading and balanced development of the region. In addition, it is also necessary for the government to strengthen government services and optimise the business environment, which can further reduce the operating costs of enterprises, attract more high-quality manufacturing enterprises, promote the interaction and exchange of manufacturing enterprises between different regions, achieve resource sharing, complement each other's strengths, and synergistic development, and establish a mechanism for coordinated development, so as to realise the progress of the economy.

4. Conclusions

Today, not only has China started a new journey of comprehensively promoting Chinese-style modernisation, the importance of high-quality development has become more and more prominent, and it has become the top priority of every modernising country in the world. High-quality development of the manufacturing industry can provide a solid material foundation, technical support and spiritual impetus for modernisation. The manufacturing industry needs to strengthen its technological innovation capacity, promote green transformation, foster coordinated regional development, advance structural reform and deeply integrate industrialisation and informatisation, so as to empower the transformation and upgrading of the real economy, realise the harmonious

coexistence of human beings and nature, and promote the people's common prosperity.

References

- [1] Xu Jianwei, Han Xiao, Zhao Yanghua. *Requirements of the times, practical foundation and strategic choice for promoting high-quality development of manufacturing industry*[J]. *Reform*,2023(11):55-66.
- [2] Huang Qunhui. *Promoting Chinese modernisation with new industrialisation*[J]. *Wisdom of China*,2023(05):28-31.
- [3] Chen Jiagui, Huang Qunhui, Zhong Hongwu. *Comprehensive Evaluation and Characteristic Analysis of China's Regional Industrialisation Process*[J]. *Economic Research*,2006,(06):4-15.
- [4] Mao Tingting. *An Analysis of the Path of Achieving Common Wealth under the Threshold of Chinese Modernisation*[J]. *Observation and Reflection*,2022(08):60-69.
- [5] Yao Shujie, Wang Feng. *High-quality development, high-quality life and Chinese-style modernisation: theoretical logic and realisation path*[J]. *Reform*,2023(07):11-20.
- [6] ZHANG Fan, LIU Jiawei. *Orientation and path of high-quality development of manufacturing industry under the perspective of Chinese-style modernisation*[J]. *Journal of Jianghai*,2023(02):109-116+255-256.
- [7] Zhang Tao. *Research on Theoretical Interpretation and Measurement Methods of High Quality Development*[J]. *Research on Quantitative Economics and Technical Economics*,2020,37(05):23-43.
- [8] Zhang Changjiang, Zhang Sihan, Hou Mengxiao. *High-quality development of enterprises: connotation, measurement and path selection*[J]. *Finance and Accounting Monthly*,2022,(13):137-144.
- [9] Wang Hongming, Sun Pengbo, Guo Huifang. *How does digital finance empower corporate digital transformation? - Empirical Evidence from Listed Companies in China*[J]. *Finance and Economics*, 2022,(10):3-13.9
- [10] Liu Zhenghui, Xiao Yanxiang. *Digital Economy Enabling Chinese Modernisation: Logical Mechanisms, Realistic Opportunities and Power Mechanisms*[J]. *China Business Journal*, 2023(15):21-25.
- [11] Bian Jing. *Importance, Problems and Suggestions of Promoting the Coordinated Development of North-South Regions in the Context of Common Wealth*[J]. *China Economic and Trade Journal*, 2023(10): 42-45.
- [12] Liu JK, Xiao YY. *Environmental protection tax and green innovation in China: leverage or crowding out effect?* [J]. *Economic Research*,2022,57(01):72-88.
- [13] Wang Yandong, Wang Yaqi. *Corporate ESG performance, risk taking and green technology innovation*[J]. *Friends of Accounting*, 2023,(10):94-102.
- [14] Wuli Chao, Chen Weiheng, Lin Lan, et al. *Research on the impact of innovation and green technology innovation on enterprise total factor productivity* [J]. *Mathematical Statistics and Management*, 2021, 40(02): 319-333.