

# Research On Reconstructing Strategies Of Chinese Manufacturing Global Value Chain From The Perspective Of Digital Economy

Zhenhui Liu

Shanghai Sanda University, Shanghai, 200000, China

**Keywords:** Digital Economy; Manufacturing; Value Chain; Low-end Locking; Reconstructing Strategies

**Abstract:** Chinese manufacturing industry is the main body of the national economy, but due to the influence of various factors, Chinese manufacturing industry has been in the low-end of the global value chain for a long time, and it is difficult to achieve value chain improvement in the short term. However, in the context of the rapid development of the digital economy, Chinese manufacturing enterprises will have huge space for innovation and development, and rational use of cutting-edge information technologies will also enable the qualitative development and improvement of Chinese manufacturing industry, and greatly enhance the position of manufacturing industry in the global value chain.

This article aims to briefly explain the main reasons for the low-end locking of Chinese manufacturing value chain, analyze the current status of the digital economy market, fully demonstrate the huge role of the digital economy in the present, and finally combine the digital economy to propose the corresponding strategies for reconstructing Chinese manufacturing industry in the global value chain.

## 1. Analysis Of The Main Reasons For The Low-End Locking In The Global Value Chain Of Chinese Manufacturing Industry

### (1) The core innovation capability of Chinese manufacturing industry is weak

Chinese manufacturing industry is large but not strong, and it is still in the process of making Chinese manufacturing to Chinese intelligent manufacturing. The fundamental reason why Chinese manufacturing industry is at the low-end for a long time lies in the weak core creativity of China's manufacturing industry.

Macroscopically, this is closely related to the continuous development of China's manufacturing industry in the extensive economic model for long-term, and the biggest drawback of the extensive development model is that it seriously restricts the independent innovation capability of industry.

Microscopically, it is directly reflected in the enterprise. In some fields, it is difficult for China's manufacturing enterprises to obtain cutting-edge core technology and practical experience, which has led China's manufacturing enterprises to be fixed at the low end of the value chain with low technology content and little added value. Chinese manufacturing enterprises are mainly engaged in the manufacture and assembly of some simple components, but it is difficult to set foot in the high-end and high-innovation value chain of brand design, research and development, and services. The business model of enterprises is still dominated by imitation and replication, and continues to hover at the low end. It is hard to enter the high-tech field. Most enterprises use price wars as weapons, but price wars have not fundamentally affected the independent innovation capabilities of enterprises, and more is to aggravate the vicious circle of enterprises in the low-end lock.

### (2) China's manufacturing industry relies too much on its comparative advantages

China has a relatively large comparative advantage in terms of original production factors, especially labor, land, natural resources and other factor resources. This naturally makes Chinese manufacturing industry adapt to the low-end links in the value chain, and thus engages in many labor-intensive production activities with low barriers, low technology, and low added value for a long time, such as simple manufacturing and processing[1]. However, the long-term manufacturing

development model has gradually weakened the comparative advantage of relying on natural resource factors, and finally made China's industrial structure is difficult to upgrade in the short term with the original production factor as the core manufacturing model. Relying on its own comparative advantages is a huge obstacle for the manufacturing industry to move towards an intelligent road, thus making Chinese manufacturing industry locked in the low end of global value chain.

## 2. The Current Status Of Digital Economy Development ----- Market Concentration Analysis

At present, whether it is massive data flowing across borders or many Internet platforms, the digital economy's global attributes and a series of new features such as dataization, intelligence, platformization, and ecology are reconstructing the world economic pattern. On the other hand, the multi-digital technologies with massive data as the core will bring new innovations to China's manufacturing enterprises and help Chinese manufacturing industry to break the deadlock in the low-end locking in the global value chain.

Therefore, further analysis of the current status of the digital economy market, conforming to the development trend of the digital economy, will have an extraordinary significance for China's manufacturing industry to improve its own intelligence and achieve the reconstruction of the value chain.

Market concentration shows the distribution of market shares held by enterprises in a market, and refers to the economic dominance of certain large-scale enterprises in an industry.

The data in Figure 1 shows that the digital economy market depicts a trend of high concentration. In the search engine market, Google has more than 90% market share in almost all years, it successfully achieved a market share of 92.53% in 2019; In the social media market, Facebook has an absolute dominant position with a market share of 86.16% in 2016; In the browser market, Chrome's market share was only 3.23% in 2009, but it has reached 62.84% in 2019; In the operating system market, in 2009, Windows is close to monopoly, with a market share of 93.79%, and now the market share of Windows and Android is similar, and the combined market share of them is more than 70%. This situation is inseparable from the digital market's economies of scale and the monopoly of data [2].

	Social Media	Browser	Search Engine	Operating System	
	Facebook	Chrome	Google	Windows	Android
2009	48.14	3.23	90.28	93.79	0.02
2010	59.58	9.95	90.91	90.27	0.26
2011	65.83	19.79	91.07	85.98	1.22
2012	65.33	29.3	91.85	79.18	3.32
2013	66.35	34.67	90.24	71.99	7.66
2014	73.28	38.94	89.81	59.83	16.24
2015	83.5	44.87	90.61	52.25	24.27
2016	86.16	49.08	92.01	43.82	31.76
2017	83.6	53.96	92.09	37.07	38.97
2018	68.61	59.12	91.4	36.45	39.63
2019	69.67	62.84	92.53	36.47	38.19

**Figure 1.** Concentration Of Major Digital Economy Markets In The World(Unit:%; Source: Statcounter Database)

## 3. The Reconstruction Strategies For Global Value Chain Of Chinese Manufacturing

In the face of the high concentration of the digital economy and many dividends, even if China's manufacturing industry is temporarily in the low-end link of the value chain, as long as multiple parties are fully integrating into the digital economy environment, using the digital technologies reasonably, combining with the current status of social development in China, improving the production and operation links of enterprises and social governance models, which will fundamentally make the manufacturing industry intelligent and technological and enable China's

manufacturing industry to redefine its position in the value chain. Many new strategies under the digital economy will eventually help China's manufacturing industry value chain reconstruction process.

#### (1) Optimize industrial structure

China can improve the manufacturing model of enterprises to promote the optimization of industrial structure[3]. In the early stage of product development, enterprises can rely on advanced computer information analysis technologies to quickly and accurately conduct scientific collection, analysis and research on market information, and through using the machine learning, artificial intelligence and other related cutting-edge technologies to develop and design a series of highly intelligent tools and equipment which can efficiently carry out the cooperative development and design of products [4].

In production, enterprises can use intelligent equipment, chip technology and precise big data to form intelligent production lines and smart workshops which can continuously improve the technological level of products, reduce manual intervention, and produce high-quality products efficiently.

In addition, enterprises can also carry out remote communication and cooperation at various levels via cloud platform information technologies and gradually connect digital technology to all aspects of the enterprise, such as: enterprise internal control management, human resources, finance, production, warehousing, transportation, Logistics management, etc., finally, enterprises can work together to derive a new type of digital production division of labor, collaboration, and management mode.

#### (2) Promote the transformation and upgrading of enterprises

First of all, manufacturing companies can fully rely on advanced digital technologies to absorb existing results of big data, machinery, information technology, new energy materials and artificial intelligence by using advanced analytical tools and equipment to achieve efficient access to a large amount of knowledge and technology to build the own scientific production system: intelligent workshops, production lines, warehousing, management and control system, traceability system and ERP system, etc.[5].

In addition, enterprises can also actively carry out intelligent transformation according to own conditions and regional development characteristics, adapt to local conditions, and produce green, high-quality, high-value-added products. Based on existing digital technology, foreign advanced technologies can be forged to be unique technologies which are fitting enterprises needs and environment to accelerate the transformation and upgrading of enterprises [6].

#### (3) Optimize the business environment of digital enterprises

Firstly, the government can alleviate the innovation burden of enterprises by means of gradient tax cuts and fee reductions. At the same time, it can also effectively solve the financing difficulties of manufacturing enterprises by setting up project subsidies and incentive funds.

Secondly, the government can increase investment in scientific research to connect green innovation development projects and provide related funds, technology, resources, and policy support for manufacturing enterprises that meet the comprehensive standards of digital intelligent manufacturing [7].

Finally, the Chinese government can also actively control the trend of the integrated development of the digital economy and various industries, build a digital economy industrial ecosystem, guide and help the cooperation between universities, scientific research units, manufacturing enterprises and other important market players in a rational and orderly manner, support the breakthrough of new frontier technologies with the mode of industry-university cooperation, and encourage regional leading enterprises to build a cross-border industrial chain system firstly [8].

#### (4) Accelerate the training of digital talents

In the future, China can gradually establish a digital talent cultivation mechanism, in-depth integration of talent training resources of various colleges and universities in China, division of labor to train all kinds of special and compound talents, using school-enterprise cooperation and

industry-education integration as a bridge to connect the digital talent education chain with the gap between industrial chains [9].

In addition, it can also improve the talent introduction mechanism and provide multi-faceted high-quality guarantee conditions for international innovative talents such as salary, housing, child employment, social insurance, and old-age welfare under the background of adapting to local regional industrial advantages and innovation environment, and create a good social environment for digital talents to inject continuous vitality into the reconstruction of the value chain [10].

## References

- [1] Ren Shoubao, Liu Zhibiao, Ren Eugenics. Endogenous Reasons and Mechanism of Low-end Locking of Global value chain -- From the perspective of Enterprise Chain Choice Mechanism [J]. World Economic and Political Forum, 2016(05):1-23.
- [2] Li Xiangyang. Research on the Influence of Industrial concentration degree of digital Economy on consumer welfare [J]. Social Science, 2019(12):42-50.
- [3] liu jun, chang huihong, zhang sanfeng. Influence of intelligentization on structure optimization of China's manufacturing industry [J]. Journal of hohai university (philosophy and social sciences edition), 2019, 21(04):35-41+106.
- [4] Liu Yang, li jun, zuo yue. Research on the development trend and critical path of digital economy [J]. China management informatization, 2019, 22(15):112-114.
- [5] sun wenjing. Opportunities and challenges in digital economy 2.0 era [J]. Rural economy and science and technology, 2019, 30(17):299-300.
- [6] Yao Yuan, PANG Ming. Research on Development Countermeasures of China's Manufacturing Industry under the Digital Economy System [J]. Liaoning Economy, 2019(06):20-21.
- [7] Shen Hengchao. Difficulties and Countermeasures in the Digital Transformation of manufacturing Industry [J]. Policy Outlook, 2019(07):47-49.
- [8] Zhang Hua. Opportunities and Challenges of Enterprise Development under digital Economy [J]. Research on Business Economy, 2018(24):101-104.
- [9] Cao Zhengyong. Research on new Manufacturing Mode to Promote high-quality Industrial Development in China under the background of digital Economy [J]. Theoretical Discussion, 2018(02):99-104.
- [10] Xiao Suyang. Research on the Transformation and Upgrading of "China's Manufacturing Industry" in the Context of digital Economy [J]. Guangxi Quality Supervision & Guidance, 2019(06):188-189.