



JOURNAL OF TECHNOLOGY AND OPERATIONS MANAGEMENT

<http://e-journal.uum.edu.my/index.php/jtom>

How to cite this article:

Yujie, Z., & Idris, S. (2021). Research On The Upgrading Path Of China's Manufacturing Industry From The Perspective Of Global Value Chainzhang. *Journal of Technology and Operations Management*, 16(2), 34–44. <https://doi.org/10.32890/jtom2021.16.2.4>

RESEARCH ON THE UPGRADING PATH OF CHINA'S MANUFACTURING INDUSTRY FROM THE PERSPECTIVE OF GLOBAL VALUE CHAINZHANG

¹Zhang Yujie and ²Sidah Idris

Beijing Union University,

University Malaysia Sabah, Faculty of Business, Economics and Accountancy

Corresponding author: buu_zyj@sina.com

Received: 28/08/2021 Revised: 24/10/2021 Accepted: 24/11/2021 Published: 29/12/2021

ABSTRACT

Since joining the world trade organization, China has not only become the largest exporter and trading country in the world, but also one of the countries with the largest increase in the participation of global value chains. However, China's manufacturing industry is facing the situation of transformation and upgrading and is in urgent need of leaping to the high end of the global value chain. Aiming at solving this problem, this essay focused on the study from available literature, data, and reports from various media and CNKI, used Global Value Chain and Digital Economy as the framework to search relevant issues and contribute to how to solve the problem. The results show that the following two ways may be helpful for China to upgrade its manufacturing industry: 1. Promote service-oriented industries; 2. Improve the imbalance of industry supply and demand; 3. Reduce the international dependence.

Keywords: Global value chain, manufacturing industry, digital economy

INTRODUCTION

Global value chains (GVCs) have become a significant trend of world economic development. The global value chain division mode makes the production of final products and services beyond national boundaries, which is completed by the division and cooperation of different participants on the links of the value chain. In the whole process, a country exports its own goods and services as intermediate

inputs to other countries and regions, and the intermediate products are further processed by other countries and then exported until the goods or services become the final products and enter the hands of consumers.

At the beginning of the reform and opening up, China's manufacturing industry has been developing rapidly and gradually surpassed the United States to become the world's largest manufacturing and export country. Since joining the world trade organization, China has not only become the largest exporter and trading country in the world, but also one of the countries with the largest increase in the participation of global value chains (GVCs). (WTO,2014) Under these situations, China is known as the “world factory” at that time. For a long time, under the guidance of export orientation, China has embedded itself into the GVCs by making use of its rich comparative advantages in labor resources, and its industrial development model which helped China create a miracle of its economic growth. However, China's traditional manufacturing industry is threatened by the decline in the supply of low-cost factors such as labor and raw materials and the rapid rise in prices caused by the reduction of rural transferable labor force and the continuous rise of resource and environmental pressure. At the same time, it is limited by the functional upgrading and technological progress of value chain by multinational enterprises from developed countries, and the international division of labor to the regional gradient transfer with more advantages in production cost.

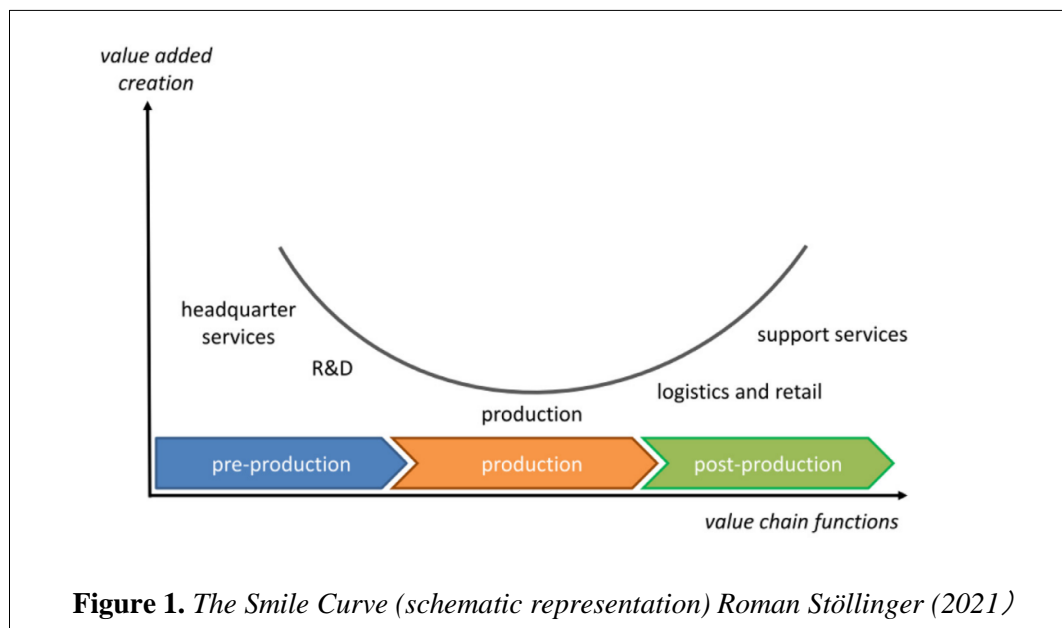
In addition, more and more developed countries started to realize that just develop the high-end industries along the smile curve and highly depend on the other countries for the low-end industries will cause serious industrial hollowing-out problems, which refers to the rapid transfer of a large number of material production and capital centered on manufacturing to foreign countries, and significantly reduces the status of material production in the national economy, resulting in a serious imbalance in the proportional relationship between domestic material production and non-material production. Thus, they called back and started quite a lot of industries such as manufacturing industries which caused a big decrease of job opportunities for China. In the meantime, the other developing countries such as Vietnam started developing their manufacturing industries as well and becoming more and more competitive. Moreover, trade protectionism is rampant and trade barriers are increasing as always. Especially during Trump's administration, trade disputes between the United States and major economies such as China, Japan and the European Union are increasing, resulting in a new development trend of GVCs adjustment and even the trend of “anti-globalization”. The international trade disputes have triggered a wave of transferring some manufacturing steps to lower labor cost countries, particularly the ASEAN/Africa countries. Transferring business operations oversea leads to the great challenges to Chinese enterprises due to distinct differences in local laws/regulations, business cultures, availability of infrastructures and industrial chains. However, even though the international situation is not favorable for China, it still has to take part in the GVCs with different ways and upgraded products. Just as highlighted by Mr. Keqiang Li, the China Prime Minister, in 2019 Summer Davos Forum, economic globalization will benefit all the participating countries. The next wave of industrial evolution under economic globalization will not only strength the connections of global industrial chain, innovation, and value chain, but also a profound promotion of inclusive growth cross regions. The Chinese textile enterprises need to find the best strategies and operation practices to continue the participation in the new circumstance.

Under these situations, China's manufacturing industry is facing a transformation and upgrading and is in urgent need of leaping to the high end of the global value chain. Since 1990s, with the development of the Internet and its widespread in economic life, the digital economy has gradually emerged in western developed countries such as Europe and the United States and has become an important driving force for promoting economic restructuring and upgrading. Especially after the 2008 financial crisis, the major economic powers started to rethink manufacturing policies and realize the importance of the manufacturing industry. The realization of the digital transformation of manufacturing industry has become the key to powerful competition by the big powers for the new strategic high point in the world. In China, the "digital economy" was officially written into the report of the 19th National Congress of the Communist Party of China in 2017, which pointed out that the digital economy is booming. Therefore, taking data resources as an important factor of production and

promoting the deep integration of digital economy and real economy is the mainstream of the times. In the meantime, China has also issued "Internet +" action, "Made in China 2025" plan and other related documents, the digital economy embedded in the traditional manufacturing industry is the "golden key" of China's manufacturing transformation and upgrading. The goal of manufacturing upgrading is to get out of the low-end trap of value chain locking, to transfer the industry to high value-added links such as R & D and sales at both ends of the "smile curve". Under the background of global value chain reconstruction, the paths of industries in different countries participating in global value chain reconstruction are different. Some authors such as Song Yiru, Yu Chunjiao, Wang Min, (2021) summarizes them into three kinds: embedding global value chain, constructing national value chain and leading regional value chain.

LITERATURE REVIEW

The global value chain describes those enterprises and worker change a product from concept to final use and all other activities, including R & D, design, production, marketing, distribution and final consumer support. The activities forming the value chain can be completed by one enterprise or distributed in different enterprises (Globalvaluechians, org, 2011). The emergence of global production networks causes an ever more granular international division of labour. The global division of the value chain made it possible for different production activities to be accomplished in different countries. In global economy, every country attends to different industries according to their own competitive advantages. Normally, the developed countries always take advantage of their knowledge and talents to choose the knowledge-intensive industries, while the developing countries can only take advantage of their natural resources and cheap labor costs to choose the labor-intensive industries. Such as, manufacturing, assembling, and processing along the global value chain. A smiling curve is an illustration of value-adding potentials of different components of the global value chain in manufacturing industry. The concept was first proposed by Stan Shih, the founder of Acer, an IT company headquartered in Taiwan, around 1992. It elaborates that in his industry, firms that actually produce the electronic goods in question earn lower profits and pay lower wages, in other words, create less value added than firms responsible for the more knowledge-intensive functions in the value chain, such as, R&D in the pre-production segment or certain marketing services at the post-production stage. This phenomenon is illustrated as Figure 1.



According to Shih's observation, both ends of the value chain command higher values added to the product than the middle part of the value chain. If this phenomenon is presented in a graph with a Y-axis for value-added and an X-axis for value chain (stage of production), the resulting curve appears like a "smile". The left side represents research and development (R&D) the middle illustrates manufacturing while the right side describes the functions of marketing. The global industrial division saw a tendency of shift from between the products or industries to inside the products with the value chain and product added value being the internal motivation of the division inside the industries. For most developing countries, whether or not they can truly integrate into the global value chain directly will significantly affect their domestic industrial upgrading and economic development. Since the reform and opening up, China has been continuously integrated into the global value chain system through efforts, but it has not got rid of the "low-end lock" state in the global value chain (Shi Mingxia, Xv Qiuchen, 2021).

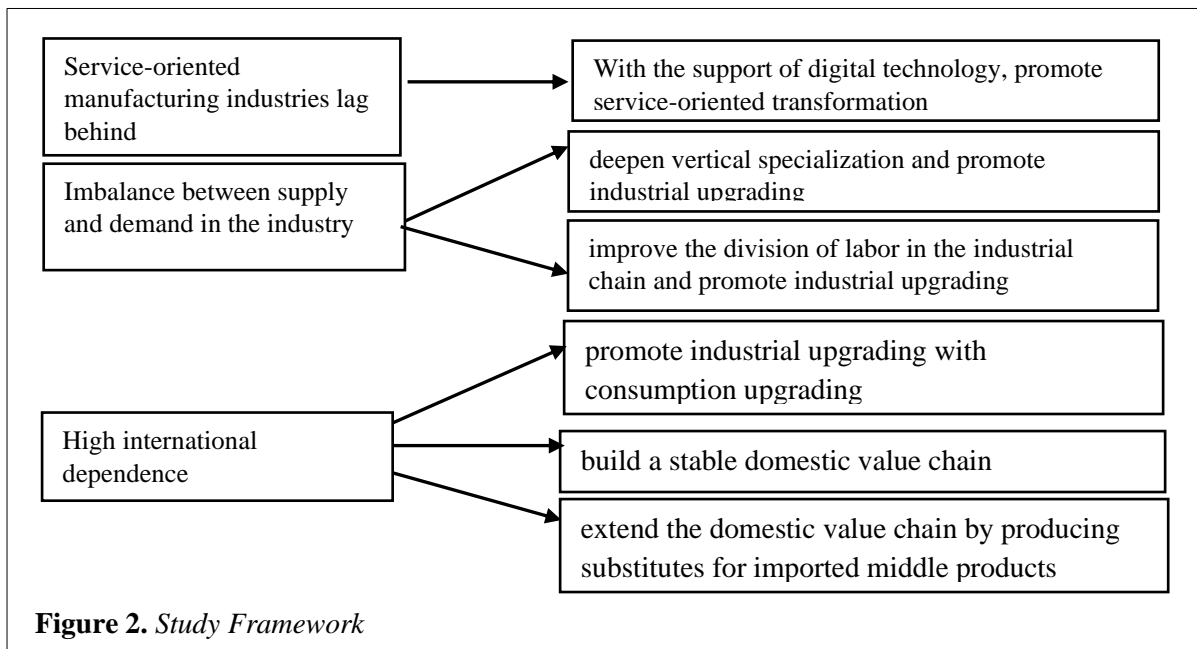
Gao Yunsheng, Zhu Jiachun and Dai Rui (2021) verifies Chinese firm-level data from the perspective of global embedding, which shows that participation in GVCs has effectively increased markups on the whole, but there is heterogeneous. It also suggests that enterprises' participation in GVC will improve markups through technology spillover effect and large market effect, but the cost saving effect will play a limited role and have a negative impact with further integration into GVCs (Gao Yunsheng, Zhu Jiachun and Dai Rui, 2021). Digital economy has become a new driving force for the steady and long-term development of China's manufacturing. More and more papers add digital economy to the global value chain (GVC) analysis framework. Zhang Yanping, Ling Dan, Liu Huiling, (2021) consider the development of digital economy will bring opportunities for China to seize the high-end of the manufacturing value chain and industrial dominance. First, the key technologies of digital economy can provide new driving force for GVC upgrading of manufacturing industry. For example, the in-depth development of cutting-edge digital technologies such as artificial intelligence, blockchain, Internet of things, 5g, robotics and data mining and the promotion and application of manufacturing industry can provide sustained momentum for the transformation and upgrading of manufacturing industry. Secondly, China should strengthen the construction of digital infrastructure to form a strong support for the vigorous development of digital economy. Last but not least, the government should guide the digital transformation of enterprises and improve the added value of value chain links. Meanwhile, enterprises should re-examine the distribution characteristics of their own value chain and accurately locate the development direction. Actively introduce advanced digital business concepts and technologies such as collaborative design between consumers and partner enterprises, automatic, intelligent and integrated production, platform and terminal marketing, and improve the enterprise with the business goal of maximizing the added value of the whole life cycle of enterprise products. (Zhang Yanping, Ling Dan, Liu Huiling, 2021)

Niu Jianguo, Zhang Shixian' (2021) study indicates that the empirical analysis shows that China's textile footwear and apparel industry's participation and position of global value chains have been increasing during 1995 to 2011, especially, the position shows tremendous increase and better than that of China's manufacturing industry as a whole; The relative competitiveness become weaken after year 2008. The increasing prices of labor raw materials and energies effect international competitive strength in form of U shape which resulted from the "game" between production factors' cost and productivity. For maintaining and increasing the international competitive strength of China's traditional manufacturing industry we have to promote productivity by innovation upgrade in global value chains and extend industry and product chains (Niu Jianguo, Zhang Shixian,2021). In recent years, a few Chinese enterprises have realized the reconstruction of the global value chain (GVC), climbing from the middle and low end of GVC to the high end, becoming the leading enterprises in their respective fields, and changing from the governed of GVC to the administrators or co-administrators. Meanwhile, Chinese enterprises can take advantage of their own advantages in production and become the common administrator of GVC by controlling GVC access and global production decisions. This may be a breakthrough path more in line with China's enterprise resources and capability endowment (Song Yun, Wang Jie, Zeng Zixin, Chen Haoze, 2021).

With the formation and development of international division of labor and global production network, value chain links and value-added activities have been decomposed and reconfigured globally. The division of labor of different value chain links or value-added activities in the industry has gradually replaced the division of labor among industries and become the leading role of international division of labor. The transformation and upgrading mainly includes: (1) Transformation of product structure. The products produced by processing trade enterprises are gradually transforming from low-level simple products to more complex, refined and high-end products in the same industry. (2) Transformation of business entities. We will change the monopoly of processing trade by multinational corporations, encourage more domestic enterprises to participate in the world division of labor, and change from foreign-funded processing trade to domestic and foreign-funded development. (3) Transformation of regional structure. Change the serious imbalance between coastal and inland areas, economically developed areas and economically underdeveloped areas, and encourage the gradient transfer and balanced development of processing trade. (4) Upgrading of the value chain. The value chain links and value-added activities engaged in by processing trade enterprises are transferred to the direction of high value-added, more grasp the strategic links and value-added activities, and build their own production network system, from production to marketing and design, from simple assembly to OEM (original equipment manufacturing), then to ODM (original design and manufacturing) and OBM (original brand manufacturing). (5) Upgrading of enterprise capability. Processing trade enterprises gradually turn to adopt more efficient production methods and continuously improve their technical and management capabilities, from traditional manufacturing to digitization upgrade. (6) Upgrading the status of enterprise network. The role of processing trade enterprises in the network is gradually rising to a higher level, constantly improving their position and control in the global production network, from low-level suppliers to high-level suppliers, and then to contract manufacturers and brand leaders. (7) Correlation and spillover effect escalation. Through the establishment and extension of domestic production network, processing trade enterprises provide technical assistance and employee mobility to supporting enterprises to continuously improve their ability and effect of promoting local economic development.

METHODOLOGY

This study is focused solely on available literature, data, and reports from various media and CNKI. Literature quest and analysis related to Global Value Chain and Digital Economy were used as the framework to search relevant issues and contribution to national competitive advantage approach were reviewed during the writing process.



Therefore, the purpose of the research is to analyze the overview, risks and impacts of China's national sword policy. Data collection methods include extensive reviews of past literature. This study adopted a systematic mapping study to gain a basic knowledge of the GVCs and the causes of why China is stuck in the low-end of GVCs. A systematic review allows authors to analyse the situation in a large research region with a high level of granularity. It also aids authors to explore the basic knowledge related to GVC and China's current situations and problem faced with. The relative areas in the related study domain that might be useful to investigate, as proposed by Shi Mingxia and Xv Qiuchen, (2021). The systematic review begins by introducing China's history of joining the GVCs and research topic, followed by a search for publications from various sources. This study does a systematic review by selecting relevant literature in the current situation and typical problems China have to deal with. The authors next suggest some possible ways Chinese enterprises could adopted to improve the lock of low-end situations in GVCs. In the end, a visualization of the findings and a summery were offered. Figure 2 depicts the entire procedure of a systematic review used in this study.

RESULTS

The world is experiencing great changes that have not been seen in a century. The fourth scientific and technological revolution characterized by big data and intelligence will reshape the global industrial value chain and will inevitably become the key to economic growth and international competition. At the same time, the United States is constantly strengthening its scientific and technological blockade, containment, and pressure against China, which has brought more challenges to our scientific and technological progress and modernization process (Wang Jing, 2021). In the meantime, the trend of "anti-globalization" has a serious impact on the global division of labor.

Service-oriented manufacturing industries lag behind

In the 1980s, manufacturing industry began the process of service-oriented transformation, and service-oriented manufacturing activities accounted for an increasing proportion in terms of the income and profits of manufacturing enterprises. Take textile and garment processing industry as an example, with the gradual optimization of China's textile and garment export product structure and the transformation of export growth mode, its value-added rate is rising year by year. From 2001 to 2012, the value-added rate of China's textile and garment processing trade maintained an average annual growth rate of 10.1%, reaching 218.4% in 2012. From the change of the overall value-added rate of processing trade, it can be found that although the overall trend of both shows an increasing trend, the overall value-added rate of China's processing trade fluctuates greatly and has only stabilized in the last three years, while the value-added rate of textile and garment processing trade has always shown a sharp upward trend for many years. It can be seen that China's textile and garment processing trade has gradually stepped out of the stage of making only cheap processing fees, the domestic industrial chain is lengthening, and the position of the textile and garment industry in the global value chain has been improved steadily (Deng Jun, Li Chaoqun, 2015).

However, although China is the largest manufacturing country in the world, it is not a strengthful manufacturing country. The innovation ability of manufacturing industry is not strong and the quality efficiency is not high. It is quite obvious that the important reasons are that the development of manufacturing service industry is not sufficient and the role of leading the rise of industrial chain and value chain is not obvious. According to the national input-output table in 2018, the scale of service industry as intermediate input is about 43.08 trillion yuan, of which the intermediate input of service industry for manufacturing accounts for about 30.1%; The scale of producer services as intermediate investment is about 26.89 trillion yuan, and the intermediate investment in producer services for manufacturing accounts for about 28.1%. The service investment in manufacturing is not high, and the support capacity of service industry to manufacturing is insufficient (Li Xiaohua, 2021). Besides, integrated development of manufacture and service industry has not yet become a driving force for enterprises to move upward of the value chain. For example, in the field of mobile phone

consumption, the world's leading Apple has continued to innovate its business model since 2003. Using the combination of online store and its terminal products iPhone and iPad, it has created a new business model integrating hardware, software and services, and achieved great success. In contrast, although China's mobile phone manufacturers have manufactured a large number of mobile phones, they have neither an operating system with independent intellectual property rights nor a corresponding software service platform which make the added value of their products lower than it deserves.

Imbalance between supply and demand in the industry

The relationship between supply and demand is the most basic relationship in the market economy. The market economy has a self-regulation mechanism to achieve the balance of supply and demand, in which the total supply, total demand and commodity price affect each other. Commodity price fluctuation plays an important role in realizing the balance of supply and demand. Ideally, commodity prices are flexible and can be adjusted quickly according to changes in supply and demand. At present, many high-tech industries in China are still in their infancy, and there are problems of phased development and imperfect industrial supervision and guarantee; In contrast, the backward production capacity and other problems faced by traditional industries have long been adjusted by multiple rounds of production capacity and demand. The long-term structural imbalance between supply and demand is difficult to be explained by industrial development obstacles, and more comes from institutional factors (Xv Ji & He Jun, 2021).

Although in recent years, China's processing trade has shown a trend of gradual transformation and upgrading, processing trade still accounts for a large proportion in China's foreign trade system and thus has the reputation of "world factory". From the statistics of OECD-WTO, 2020, China's low technology value-added products account for about 23% of the world, medium technology value-added products account for about 8% of the world, and high technology value-added products account for about 20% of the world. From the perspective of Global Value Chain, the added value of foreign products is still very low.

High international dependence

China's traditional manufacturing industry is facing some problems, such as the decline of low-cost factor supply, cheap labors, raw materials and the rapid rise of factor prices caused by the reduction of rural transferable labor force and the continuous rise of resource and environmental pressure, etc. However, the high international dependence is one problem that China cannot neglect. Taking the textile industry as an example, the international market of China's textile and garment processing trade is highly concentrated, and the highly concentrated trade pattern leads to excessive dependence on a few developed countries and regions. The lack of foreign market demand has become the biggest obstacle facing China's textile industry. As one of the largest trading countries in the world's entrepot trade, the sustained economic weakness caused by the financial crisis has not only hit domestic consumer confidence, but also inevitably lowered the global economic trend. Ma Wenfeng, an analyst at Oriental egger, pointed out: "the spread of the U.S. financial crisis mainly has two effects on China's textile industry. One is the shrinking proportion of the United States in the global market, and the other is the shrinking of the global market.

It is obvious that China lacks independent intellectual property rights and core technology. China's textile and garment industry has long taken the advantage of labor resources as the basis for the development of processing trade. It has always been in the low-end link in the international industrial chain, and it is difficult to play a positive role in improving the domestic industrial level. Besides, the possession rate of advanced textile and garment equipment in China is low, which not only lacks the ability to develop new products, but also is difficult to improve quality and reduce cost. Moreover, China still lacks of multinational brands with international influence. There were only 55 Chinese brands in the global brand list of British brand finance in 2018, indicating that China lacks leading enterprises and multinational brands with international influence, and is unable to obtain more brand premium in the global value chain.

To conclude, the long-term structural supply-demand imbalance of China's manufacturing industry can be analyzed from two dimensions: high-tech industry and traditional industry. The supply-demand imbalance of high-tech industry is caused by developmental obstacles, mainly manifested in insufficient technology supply, excessive entry limited market training; whereas the imbalance between supply and demand of traditional industries is caused by institutional obstacles, mainly manifested in backwardness, overcapacity, insufficient brand effect and so on.

DISCUSSION

Under multiple pressures resulting from increasing costs, stronger competition and contracted overseas demand, the textile and garment processing trade in China is at a crossroad of transformation and upgrading. From the perspective of global value chain, industrial upgrading refers to the rise from the low end of the industry to the middle and high end, which is highlighted by the improvement of value-added ability and control ability (Humphrey & Schmitz, 2002).

Promote service-oriented transformation

Service-oriented or service-oriented manufacturing is the development direction of manufacturing industry, which has become the consensus around the world. Service-oriented manufacturing is not only related to the market competitiveness, income and profit growth of manufacturing enterprises, but also affects a country's global value chain status, supply chain toughness and industrial chain modernization level. Promoting the service-oriented manufacturing industry is an important means for Chinese manufacturing to get rid of factor investment and low-end product locking, enhance industrial competitive advantage, and then realize industrial transformation and continuous upgrading. However, China has a complete range of manufacturing industries and a large number of service industries. The integrated development of the two industries is a two-way cycle process, rather than a one-way linear process, including both the service extension of the manufacturing industry to the back end and the reverse extension of the service industry (Huang Hanquan & Hong Qunlian, 2021).

Input service refers to the service as a more and more important input factor in the manufacturing industry. Promoting manufacturing service is considered as a powerful measure to optimize manufacturing structure and enhance industrial added value. At the medium and micro level, the research holds that manufacturing service is an effective way for manufacturing industries or enterprises to upgrade and extend to both ends of the value chain; At the macro level, manufacturing service represents an economic trend in which service factors occupy an important position in manufacturing investment activities. Potentials considered to be the phased product of the in-depth development of knowledge economy.

In order to integrate these two, digital technologies such as big data, cloud computing and the Internet can be used in all the aspects of this integrating process. The importance of digital economy in economic and social development has become increasingly prominent. The European Union, China, the United States, France, India and other countries have successively listed the development of digital economy as the national strategic focus, and digital economy has become a new engine of world economic growth. Of course, the new path of industrial upgrading has also become the new focus of international competition. Digital technology is infiltrating and integrating with other industries and promoting the digital transformation of industries plays an important role in reshaping the global value chain and breaking through the low-end lock of the global value chain (Guo Zhouting & Yuan Qiu, 2020). First, master the key technologies of digital economy and provide new momentum for the upgrading of GVC in manufacturing industry. Focus on artificial intelligence, blockchain, Internet of things, 5g, robot etc. The in-depth development of cutting-edge digital technologies such as data mining and the promotion and application of manufacturing industry strive to be an industry standard setter and increase the voice in international competition. Strengthen the government's investment in scientific research projects related to industrial digitization, strive to build a professional scientific research team, continue to carry out high-end digital technology R & D and

application expansion research, and provide continuous momentum for the transformation and upgrading of the manufacturing industry. Second, strengthen the construction of digital infrastructure to form a strong support for the vigorous development of digital economy. Starting from the top-level design, we will prospectively layout broadband, implement the development plan, accelerate the upgrading and transformation of network system and the innovation process of basic information facilities, continue to promote the wide application of 5g technology, artificial intelligence and Internet of things in enterprise digital infrastructure construction, and strive to build a digital ecology integrating induction, transmission, storage, computing and processing. Third, guide the digital transformation of enterprises and improve the added value of value chain links. Enterprises should re-examine the distribution characteristics of their own value chain and accurately locate the development direction. Actively introduce advanced digital business concepts and technologies such as collaborative design between consumers and partner enterprises, automatic, intelligent and integrated production, platform and terminal marketing, and improve the enterprise's value-added ability with the business goal of maximizing the added value of the whole life cycle of enterprise products (Zhang Yanping, Liu Dan & Liu Huiling, 2021).

Grasp the supply side structural reform, improve the matching degree of supply and demand

At present, the dynamic imbalance between supply and demand has also become a prominent problem faced by China's industrial development. Under the traditional mode, China's industrial development will not only be locked in the low end, but also lead to the coexistence of oversupply of traditional industries and undersupply of emerging industries in the long run, which is not conducive to the rational allocation of resources and the development and upgrading of industries. In the long run, it will hinder the high-quality development of China's economy. On the contrary, if the status of the value chain can be improved, its industrial development also has room for transformation to high-income countries (Wang Jing, 2021). The central economic work conference in 2020 proposed that we should grasp the supply side structural reform, pay attention to the demand side reform, open up the blocking points, make up the shortcomings, and connect all links of production, distribution, circulation and consumption, so as to form a higher level of dynamic balance between demand driving supply and supply creating demand, and improve the overall efficiency of the national economic system. It can be seen that improving China's industrial competitiveness and promoting industrial upgrading play an important role in China's economic development and national security.

On one hand, the imbalance between supply and demand among industries is not conducive to the rational allocation of resources and the development and upgrading of industries. In the long run, it will hinder the high-quality development of China's economy. The improvement of the matching degree of industrial supply and demand in a country (region) can fix the industry in a certain position of the global division of labor system and form the effect of factor and technology accumulation, so as to strengthen vertical specialized production. Therefore, vertical specialization is one of the intermediaries of supply-demand matching to promote industrial upgrading. On the other hand, the higher the matching degree of industrial supply and demand in a country (region), the more the industry can radiate more downstream customers, and the more products can be used by the production departments of other countries as intermediate inputs, that is, the industry can gradually become a supplier of intermediate products and move to the middle and upper reaches of the global value chain. It can be seen that the improvement of the matching degree of supply and demand can promote industrial upgrading through the improvement of the position of the industrial chain.

To conclude, China should release the scale advantages and potential of domestic and foreign markets and form a high-level dynamic balance in which demand leads supply and supply creates demand. Specifically, it includes deeply promoting the "reverse customization" mode and reducing the intermediate link between demand and supply; Build an Internet platform for the collaborative interaction of various industries and help various enterprises carry out digital transformation and upgrading; Widely provide various exhibition platforms, information services and other infrastructure to promote the full flow of information resources between the supply side and the demand side.

Build a new development pattern of double circulation and promote the interaction between consumption and export in the same direction

China should adhere to the strategy of expanding domestic demand, build a new development pattern with domestic circulation as the main body and domestic and international double circulation on the basis of expanding domestic demand, gradually change the export growth mode from "foreign demand driven" to "domestic demand driven", and give full play to its potential domestic demand advantages. First, promote industrial upgrading with consumption upgrading. From the perspective of international competition, the containment of China's industrial upgrading from developed countries such as the United States and Europe is getting more and more serious. Thus, the transformation and upgrading of China's manufacturing industry can no longer be realized by means of technology introduction. We should promote industrial upgrading with consumption upgrading and constantly improve the core competitiveness of high-tech and high value-added industries. As for the consumption upgrading, China should improve the medical pension welfare mechanism and increase the disposable income of residents, so as to improve the structural imbalance of low consumption rate and high savings rate and promote the improvement of the level of domestic market demand (Yang Binjing & Kang Wencheng, 2021).

Secondly, build a stable domestic value chain. Under the influence of many uncertain factors, China faces the risk of "decoupling" and "chain breaking" in the global value chain. Therefore, we should deeply promote the connection between the domestic market and the international market, actively promote the transformation and upgrading of China's foreign trade by stabilizing domestic key industries such as automobile and electronics, and taking large aircraft, high-speed rail and new energy vehicles as a breakthrough on the basis of consolidating the domestic value chain. Last but not least, China can also extend the domestic value chain and gradually produce substitutes for imported intermediate products, so as to reduce its excessive dependence on the global value chain. To build a new development pattern of "international and domestic" double circulation, we should continue to improve industrial development policies, expand and strengthen Chinese enterprises, and fully release the international competitiveness of China's industry (Wang Jing, 2021).

CONCLUSION

It has been a long time that developed countries such as the United States control the excess profits of the global value chain which leaves China limited room to move upward. Meanwhile, China's foreign trade is also facing competition from Vietnam, India and other countries in the middle and low-end fields, while in the high-end fields, it is facing blockade, exclusion and suppression from the developed countries and regions. The whole world is in the phase of Global Value Chain reconstruction. Regardless of the process and results of the reform and reconstruction, it is an important path for economic development to select the participation path that can give full play to its own advantages, seize the commanding height of economy and technology, lock the specialized production links, and form its own unshakable core competitiveness. China should make some changes from the government of enterprises and move upward gradually to the middle and top of the GVCs.

LIMITATION AND STUDY FORWARD

The current situation and problems of China is not fully discussed in this paper. The areas covered are not and will be discussed thoroughly in the future thesis. The solutions suggested may need to be further supported by data analysis. The application of Digital Economy will be explained and discussed in detail in my future study in terms how can it be used to make some changes from the perspective to the country, local government and enterprises.

ACKNOWLEDGMENT

This study is the earlier part of researcher's PhD Thesis and not funded by any specific grant from funding agency in the public, commercial, or not-for-profit sectors.

REFERENCES

- Roman Stöllinger (2021). Testing the Smile Curve: Functional Specialisation and Value Creation in GVCs, *Structural Change and Economic Dynamics*, 2021 (56), 93-116 <https://www.sciencedirect.com/443.webvpn.buu.edu.cn/science/article/pii/S0954349X20304033#fig0001>
- Shih, S. (1996). *Me-Too is not my Style: Challenge Difficulties, Break Through Bottlenecks, Create Values.* The Acer Foundation, Taipei <https://www.cmlab.csie.ntu.edu.tw/~chenhsiu/reading/metoo.pdf>
- Shi Mingxia, Xv Qiuchen. (2021). An analysis on the transformation of global value chain and the transformation and upgrading of China's foreign trade, *Prices Monthly*, 2021 (9), 49-54.
- Zhang Yanping, Ling Dan, Liu Huiling. (2021) Does the digital economy promote the upgrading of global value chain in China's manufacturing? *Studies in Science of Science*, 2021 (3), 1-19.
- Niu Jianguo, Zhang Shixian. (2019). A Study on the International Competitive Strength of China's Traditional Manufacturing Industry and the Nonlinear Effects of Factors ' Influence: Taking Textile, Footwear and Apparel Industry as An Example. *Inquiry into Economic Issues*, 2019 (8), 81-91.
- Song Yun, Wang Jie, Zeng Zixin, Chen Haoze (2021). How are Chinese Companies Reconstructing the Global Value Chains?---Research Based on the Grounded Theory. *Nankai Business Review*, 2021 (4), 1-23.
- Deng Jun, Li Chaoqun. (2015). Status-quo of China's Textile and Garment Processing Trade and Related Transformation and Upgrading Strategy. *Industry Review*, 2015 (12), 22-26
- Song Yiru, Yu Chunjiao, Bai Min. (2021). How does China ' s high — tech industry participate in the reconstruction of global value chains? *Studies in Science of Science*, 2021 (9), 1564-1603
- Wang Jing. (2021). The Industrial Upgrading Effect and its Mechanism of Supply and Demand Matching: Based on the Perspective of GVCs. *Journal of Guangdong University of Finance & Economics*, 2021 (5), 41-60.
- HUMPHREY J, SCHMITZ H. How does insertion of global value chain affect upgrading in industrial clusters? *Regional Studies*, 2002, 36(9), 1017-1027
- Editorial: continue to promote supply side structural reform while paying attention to demand side Reform. *21st century economic report*, 2020 12 16 (001)
- Guo Zhouming, Yuan Qiuying. (2020). Reconstruction of global value chain in the era of Digital Economy: typical facts, theoretical mechanism and China's strategy. *Reform*, 2020 (10), 73-58.
- Gao Yunsheng, Zhu Juachun & Dai Rui. (2021). Embedded in GVCs and Mark ups of Chinese Manufacturing Firm. *Journal of Guizhou University of Finance and Economics*, 2021 (4), 33-43.
- Li Xiaohua. (2021). The Innovative Development of Service-oriented Manufacturing Driven by the Digital Technologies. *Reform*, 2021.
- Huang Hanquan, Hong Qunlian. (2021). Research on promoting the deep integration of advanced manufacturing industry and modern service industry
- Yang Binjing, Kang Wencheng. (2021). Research on the causes and breakthrough path of "low-end locking" of China's manufacturing global value chain. *Shangye Jingji*. 2021 (9), 39-40.
- Xv Ji, He Jun. (2021). Causes and its Governance of long-term structural imbalance between supply and demand in manufacturing industry. *Theory Journal*, 2021 (4), 79-87.