

Leading High-Quality Development of Service Industry with Institutional Innovation

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To realize the transition from high-speed growth to high-quality development, it is necessary not only to change the way and path of economic growth, but also to speed up the improvement of the institutional system that is compatible with high-quality development. China has unique institutional advantages in promoting the high-quality development of the service industry (HQDSI), but the service industry is a typical institution-intensive industry that faces higher institutional barriers than the manufacturing industry. Therefore, institutional reform and business environment optimization are particularly important to the promotion of HQDSI, and the effect is also very prominent. Facing the future, we should lead HQDSI by building a high-standard socialist market economy, promote the high-quality and efficient development of the service industry by standardizing it, and encourage the innovation and entrepreneurship of the industry by improving the institutional environment, thus steadily boosting HQDSI in the new era of reform and opening up.

Keywords: service industry, high quality development, institutional barrier, institutional innovation

1. Introduction

The report of the 20th CPC National Congress called for “advancing the rejuvenation of the Chinese nation on all fronts through a Chinese path to modernization.” As mentioned, “to build a modern socialist country in all respects, we must, first and foremost, pursue high-quality development. The share of added value of China’s service industry in GDP exceeded the combined share of primary and secondary industries for the first time in 2015, and reached 53.3% in 2021. It is clear that the service industry is the most important part of the modern industrial system and an important support for the high-quality development of China’s economy. Therefore, whether HQDSI can make

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a substantial breakthrough has attracted wide attention. In recent years, China's high-tech service industries and strategic emerging service industries, such as information technology, finance, leasing and business service, transportation, have maintained a trend of rapid growth despite the severe impact of certain countries' industrial decoupling and technology blockade. Under the impact of COVID-19, in particular, the service industry has shown a strong development momentum. China's service industry stands out in terms of scale and growth rate, but its low level, poor structure and low efficiency mean that there is still a long way to go before the realization of HQDSI. In this context, it has become an unavoidable theoretical and practical issue to build a high-quality and efficient new service industry system and ensure smooth sailing of the giant ship of China's economy through HQDSI. Promoting the high-quality and efficient development of the service industry and maintaining a reasonable growth rate requires comprehensive policies, but the most important thing is to find its institutional logic and consolidate its institutional foundation.

2. Institutional Barrier: The Main Obstacle to HQDSI

Since the initiation of reform and opening up, the core of China's institutional reform has centered on the relationship between the government and the market. China's reform is both a market-oriented reform and an administrative system reform, and there is unity between them. Moreover, with the reform entering a more complex stage, coordinating these two aspects of reform becomes increasingly challenging. Basically, the course of China's administrative system reform is from streamlining government institutions to transforming government functions, from government control to government service, from omnipotent government to limited government, from closed administration to open and transparent administration and from manual administration to IT-based administration (Jiang, 2019).

The market-oriented reform in the service industry started late, with an obvious administrative color. In this industry, there is still serious policy discrimination and excessive regulation, with a low degree of marketization, which has obviously restrained the development of the industry (Lyu *et al.*, 2006). Compared with the economic attributes of other industries, the social and security attributes of the service industry receive more attention from the government, resulting in the use of more government regulation. For example, the financial industry involves national financial security, the telecommunications industry involves national information security, and the cultural media industry often involves ideological sensitivity. For this reason, most of these industries are state-monopolized or state-dominated, and it is difficult for private and foreign capital to enter. A high entry threshold and narrow market access channel make it difficult for most potential investors to enter the service industry (Xia, 2019).

Local governments tend to provide more support to industry but insufficient support to

the service industry. In general, local government leaders have a preference for developing industry due to the relatively large scale of industrial investment and the motivation to seek job promotion (Yu and Pan, 2019). Most enterprises in the service industry are small, more difficult to tax, and hardly have an immediate effect in promoting economic growth, so they often receive less government support (Wang *et al.*, 2007). Tan (2015) argues that China's factor market is obviously biased towards industry, making domestic investment, FDI and export structure also biased towards it, and thus inhibiting the growth of the service industry. Clearly, policies are friendlier to the industry than to the service industry in terms of water, electricity and land use, and their prices are much higher for the latter than for the former. For example, a large number of studies have shown that in order to attract investment to promote industrialization, local governments are more willing to provide industrial land at a low price but residential land at a high price (Fan *et al.*, 2015). Moreover, in the early years, the land of some development zones was approved as industrial land, so service projects could not be built there. This phenomenon can also be seen in opening up and service trade. Since China's accession to the WTO in 2001, the field open to foreign investors has been gradually expanded from the manufacturing industry to the service industry, opening of the latter has been relatively slow, and the effect has not been significant (Sun *et al.*, 2018).

3. The Theoretical Logic of Institutional Change Promoting HQDSI

From a theoretical and practical point of view, the reason why institutional reform can drive HQDSI is very intuitive: the service industry is more contract-intensive, more asset-specific, and more challenging in terms of division of labor than the manufacturing industry, so it relies more on an excellent institutional environment. In reality, institutional barriers are higher for the service industry than for the manufacturing industry. Therefore, institutional reform is very necessary for HQDSI and the effect is significant. Institutional reform has a pivotal influence on the development of service industry mainly in two aspects. First, it serves service enterprises and promotes their specialization. The reform can eliminate the institutional barriers facing the development of the service industry, such as relaxing administrative approval, increasing land supply, and reducing water and electricity prices, thus facilitating the entry and operation of enterprises. Second, it serves manufacturing enterprises and promotes servitization of manufacturing. For example, institutional reform encourages the fine division of labor and specialization in the manufacturing industry, gradually separates manufacturing enterprises' R&D, design, financing, HR management and other service-related departments from these enterprises, thus promoting the subdivision of service industry and creating basic conditions for the development of producer service industry (PSI). In a word, the Chinese government can promote HQDSI through institutional reform, deregulation in the service industry, manufacturing industry, and public administration field, and the provision of good regulatory services.

3.1. Institutional Reform and Service Industry Development

Over the years of reform and opening up, the reform of the government administrative approval system and other deregulation reforms have continued to advance, releasing the vitality of market players and playing an important role in driving economic growth and optimizing the economic structure (Xia and Liu, 2017). Scholars generally believe that government deregulation can boost economic development and increase total factor productivity (TFP). For example, Olley and Pakes (1996) argue that reducing government regulation is a prerequisite for increasing companies' willingness to invest and capital flows to productive areas, thereby increasing society-wide productive capacity and company efficiency. Using the data of Chinese industrial enterprises over the period of 1998–2007, Aghion *et al.* (2015) find empirically that monopoly is the source of inefficiency of companies and low welfare of the population, and that policy initiatives in favor of “full competition” can reduce the cost and increase the productivity of enterprises.

However, the direct research on HQDSI is rare, mainly because the data availability of service industry is worse than that of manufacturing industry (Xu, 2000). Most previous research literature agrees that institutional reform is the key to the development of service industry. Mattoo *et al.* (2020) investigated 24 transitioning countries in Eastern Europe and Central Asia, confirming that the free entry to and opening of service industry is the key to development. Some Chinese scholars have found that the reform of administrative monopoly industries, the marketization of production factors and the reform of cadre promotion system are effective ways to solve the problems of inefficiency, poor brand and poor structure of China's service industry (Jiang and Li, 2004). Jiang (2019) discussed the connotation and requirements of HQDSI, pointing out that an inclusive and prudent regulatory framework and policy system is the key path to promote HQDSI.

3.2. Institutional Reform Promotes Professionalization of the Service Industry

Industrial division of labor and deep specialization are the endogenous driving forces of economic development and industrial structure upgrading, and the trend of service industry specialization is also very obvious. In his book *The Wealth of Nations*, Adam Smith first made a systematic study on the changes of industrial structure. He pointed out that the exchange of goods leads to the division of labor, and the scope of division of labor is restricted by factors such as market size, market scope, exchange capacity and enterprise organization form. According to the theory of specialized division of labor, with the continuous expansion of market scale, specialized producers will appear, so manufacturing and service enterprises will focus on their respective core competitiveness, thus improving the competitiveness of all links in the value chain. High-end services

such as product design, technology R&D, market research, supply chain management and customer service are all highly specialized knowledge-intensive services, each of which requires a different composition of technology, skills and human capital. Although these high-end services can also be internally provided by manufacturing enterprises themselves, it is almost unnecessary or impossible for them to set up highly specialized service teams due to limited scale of the enterprises. However, if these services are outsourced to specialized service providers, the overall level of specialization will be significantly improved. Buera and Kaboski (2012) found that the share of added value of high-skilled services in the entire service industry had increased significantly.

Although we have been advocating specialized division of labor for many years, the level of specialization in China's service industry is still hovering at a low level. Service industry is a derivative industry, whose development speed and quality often depend on the growth and release of intermediate demand in the process of economic development. As far as the industrial and value chains are concerned, most manufacturing enterprises, whether big or small, are still all inclusive, where the level of specialization in intermediate products and intermediate services is quite low. This situation has not changed over the years, most likely because the contractual environment for the development of services specialization in China is not yet robust enough. The incompleteness of the contractual environment exposes manufacturers to risks, as a result of which, the higher the specificity of assets is, the lower the matching rate of upstream and downstream producers in the market will be (Grossman and Helpman, 2002), and the more likely transactions are to be completed within the enterprise. Many empirical studies have demonstrated the significant role of contractual and transactional costs on the division of labor and specialized production of enterprises. Hanson (1997) found a significant positive correlation between outsourcing and the degree of standardization of products and intermediate goods. All of these prove that the more complex, intermediate and specialized links are, the less likely they are to be separated out, and the contractual institutional environment is an important constraint to industrial specialization and value chain upgrading. All these prove that the more complex, intermediate and dedicated the production links are, the less likely they are to be separated from the manufacturer, and that the contractual and institutional environment is an important factor constraining industrial specialization and value chain upgrading. In other words, the refinement of division of labor, the specialization of industry, and the upgrading of the value chain all depend on the institutional environment to a large extent. However, administrative protection, market segmentation, and market access restrictions are serious in most parts of China, leading to industrial fragmentation and structural convergence.

The intangibility, asymmetry and non-storability of service supply and service consumption determine that the development of service industry relies more on the completeness of external contractual rules and institutional arrangements for strict

compliance with contracts. On the one hand, the service industry is contract-intensive (Clague *et al.*, 1999), and a sound institutional environment is an important factor to ensure its development. Many production services exist throughout the entire process of production and operation, unlike component manufacturing and processing that can be performed independently. For example, the development of new products has to be matched with the capacity of each department of the enterprise. Outsourcing these services to external service providers requires repeated communication among various internal departments of the enterprise, which involves a high transaction cost. On the other hand, the quality of service is difficult to compare with that of other industries, especially the manufacturing industry (Holmstrom, 1985) because the output of service industry is mostly intangible and service consumption and supply are often simultaneous (Hill, 1999). The intermediate inputs in the manufacturing industry are parts and components with clear quality and technical specifications that can be clearly specified in the contract, so unqualified products are easy to be identified. However, the service industry is obviously different in that the quality standards of many intermediate inputs cannot be accurately stipulated in the contract, so the more knowledge-intensive and specialized the service is, the greater the uncertainty between input and output, making it difficult to set standards in advance. Examples of such services include R&D of new technologies and products, marketing, management activities, etc. Ni *et al.* (2016) found that the service industry has a relatively low degree of production segmentation due to its intangibility, low tradability, poor inter-industry linkage, and relatively short industrial chain. Wang *et al.* (2020) empirically found that the level of specialization of China's service industry is generally lower than that of the manufacturing industry and it is in a backward position in the world.

In reality, there are countless examples of promoting the specialization of service industry through institutional reform. For example, when the system of paid-in registered capital is implemented, intermediary services survive mostly by advancing capital; when a large number of pre-approvals are required, they focus on getting approvals or getting fake approvals. After the reform of the commercial registration system, the market demand for advancing capital and getting approval is reduced, and intermediary services are gradually standardized and specialized, focusing more on providing services such as agent registration, agent bookkeeping, agent declaration of enterprise annual reports and business information consulting. Along with the institutional reform, business services such as intermediary services have become standardized, professionalized and specialized. In terms of measurement and identification, the measurement of TFP for Chinese enterprises, industries and regions is mainly centered on manufacturing industries, and most of the relevant research literature uses the data from China Industrial Enterprise Database and the OP method. For example, using the raw data from China Industrial Enterprise Database, Shi and Li (2020) defined the degree of enterprises' participation in specialized division of labor as the proportion of the value of outsourced

intermediate products in the total output value of enterprises, and calculated the total industrial intermediate inputs and total industrial output for this indicator.

3.3. Institutional Reform Promotes Servitization of Manufacturing

The “Ford model” is the cornerstone of the development of modern large industries, with economies of scale and scope as the goal, where product design, manufacturing, sales and after-sales service are carried out by the manufacturers themselves (Jiang, 2011). With the development of science and technology and the increasingly fierce competition in the market, this all-embracing traditional model gradually loses its competitive advantage in many aspects, and it has become an inevitable choice for industrial enterprises to focus their efforts on core areas while outsourcing non-core business to specialized companies. In fact, the boundary between manufacturing and service in the traditional sense has gradually become blurred, and the value chain of manufacturing industry has gradually extended and expanded to service links. Vandermerwe and Rada (1988) were the first to put forward the concept of servitization of manufacturing and regarded it as an inevitable trend of manufacturing development.

Constrained by the planned economic system, historical inertia and old concepts, China’s production services, which should have been market-oriented, industrialized and socialized, have become self-sufficient services for industrial enterprises, which not only affects the development of industrial enterprises towards high end and high quality, but also inhibits the growth of service enterprises at source. For a long time, China’s manufacturing industry has practiced a vertically integrated business model, where production services are not sufficiently separated from manufacturers, but embedded in them. For example, in the 1990s, two-thirds of large and medium-sized industrial enterprises ran their own transport fleets, and almost all manufacturers of consumer durables undertook their own after-sales service for their goods.

Influenced by the mechanism of division of labor and specialization, production services are being separated from the manufacturing industry and evolving into a specific industry in the form of outsourcing, which is an important path to develop a new type of industrialization and becomes an effective way to improve the efficiency of Chinese industrial enterprises. According to Yuan and Liu (2009), outsourcing of manufacturing services significantly increases the output and market potential of the service industry, thus enhancing its development space and productivity. Liu and Xia (2018) argue that the potential of service industry development in the stage of high-quality development lies in three areas: industrial integration, service innovation and transformation and upgrading of traditional service industries. Xu *et al.* (2021) point out that industrial integration is an important feature of modern industrial development, and the trend of deep integration of advanced manufacturing and knowledge-intensive service industries is becoming increasingly significant, which not only promotes

industrial upgrading, but also significantly improves the complexity of China's export commodities and competitiveness in the international market.

Globalization of the service industry is unstoppable, for which the service outsourcing is a major driving force. Over the years, the scale and scope of service outsourcing has been expanding, and its content has been increasingly enriched, from information system service, software programming, home working, business process outsourcing, remote diagnosis, education and other personal services. Amiti and Wei (2009) conclude that service offshoring has a 10% explanatory power for productivity improvement in the US. The study on productive service industry (PSI) has also received increasing academic attention. Technology, communication and finance are located in the upstream of the global value chain, while marketing and after-sales services are located in the downstream of the value chain. So, PSI can use its upstream and downstream industry chain linkage to influence the manufacturing industry in the middle of the global value chain, thus generating cost-saving effects and preference complementarity effects among industries. Li *et al.* (2017) argue that PSI, represented by ICT and scientific research, greatly contributes to both GDP and TFP and can drive China's sustained economic growth and quality improvement. Zhu *et al.* (2021) empirically find that the increase in the level of service-based manufacturing in China effectively improves the resource allocation efficiency of non-exporting enterprises and those located at the lower end of the global value chain.

4. Strategies and Ideas for Institutional Innovation to Drive HQDSI

The service industry is playing an increasingly important role in economic growth, which is an inevitable result of the upward shift of China's value chain (Cheng, 2013). The development of China's service industry is in an important period of strategic opportunities, and the requirement to promote HQDSI with institutional innovation is more urgent and more relevant. Promoting HQDSI is a systematic project involving comprehensive adjustment and synergy of institutions, mechanisms, policies, measures, and work priorities.

4.1. Lead HQDSI by Building a High-Standard Socialist Market Economy

The report of the 20th CPC National Congress emphasized the need to "build a high-standard socialist market economy and ensure that the market plays the decisive role in resource allocation and that the government better plays its role." HQDSI depends on the continuous improvement of the socialist market economy and has higher institutional requirements for it.

4.1.1. Deepen Market-Oriented Reforms to Release the Vitality of Market Players

Underdeveloped market-based transaction services remain a major cause of China's

economic imbalance and prevent the service industry's development mechanism from properly functioning. The paramount task for the government to remove the numerous barriers to specialization and division of labor (i.e., to reduce transaction costs) is to enhance market-oriented reforms and put the market mechanism in order. The first thing to do is to achieve fair and open market access. As market-oriented reform of the service industry continues to advance, almost all areas of consumer-oriented services have been liberalized, but the marketization level of many social services, especially production services, is still relatively low. Facing the future, we should introduce a competitive mechanism to break market monopoly and excessive regulation. Except for a few services related to national security, most services should be provided by the market through competition, so that the market mechanism can play a decisive role. The second is to speed up the reform of investment facilitation in the service industry, explore the establishment of an autonomous registration system for enterprises, optimize the administrative review and approval process, and promote the reform of joint review and joint handling. Measures should be taken to gradually expand the access of foreign and private capital to consumer-oriented services such as education, culture and medical care. The third is to liberalize market pricing in the service industry. To this end, we need to clearly define the service industry in the competitive field, where price restrictions should be lifted in principle. We also need to distinguish between basic public services and non-basic public services, and implement different pricing mechanisms for them.

4.1.2. Create an Open and Transparent Business Environment and an Orderly Competitive Market System for the Service Industry

Service industry will continue to occupy a dominant position in China's economy, because it is not only the key to sustainable economic growth, but also an important way to enhance international competitiveness and international cooperation. To develop and grow, the service industry needs an open and transparent business environment, allowing cross-border flow of information, data, capital and personnel. What the service industry needs most is a good credit system. Therefore, it is important to strengthen the construction of a credit information system in the service industry, build a sound credit management system, improve the credit trading environment, promote the healthy development of the credit service industry, further strengthen the construction of an honest government, and expand the open sharing of credit information.

PSI is mostly a knowledge and skill-intensive industry. With high initial investment but low marginal cost, it is a typical industry with increasing returns to scale. This feature requires it to operate in a large unified market in order to reduce the average cost. Building a unified national market is not only conducive to the professionalization and development of PSI itself, but also provides low-cost and specialized intermediate inputs for the real economy. To this end, China should continue to deepen reforms in two aspects. The first

is to break local protectionism and establish a unified competitive market, thus providing positive incentives for the development of a specialized and high-end PSI and enabling it to better serve the real economy (Xia, 2022). The second is to improve the public, standardized and transparent regulatory system. Both lack of regulation and excessive intervention can harm the market and affect orderly competition in the industry. It is true that services, especially high-end services, need to be moderately regulated to achieve the best balance, but the regulatory system should have consistency, uniformity and stability.

4.2. Increase the Openness of Service Industry to Push Its Reform

The report of the 20th CPC National Congress emphasizes the need to “steadily expand institutional opening up with regard to rules, regulations, management, and standards to provide guidance and direction for the institutional reform of the service industry”. Compared with the open level of the manufacturing industry, that of China’s service industry is relatively low. According to Xia (2022), certain areas in the service industry are the “deep-water areas” or “key points” for its opening up, so whether substantial breakthroughs can be made in opening up these areas determines whether the all-round opening up of the service industry can be achieved.

4.2.1. Adhere to High-Level Opening to Create an Open and Inclusive Environment for International Cooperation

At present, economic globalization is facing headwinds, unilateralism and protectionism are on the rise, and the world openness index is declining continuously. In this context, high-level opening of the service industry is an inevitable choice to promote the development of an open world economy. On the one hand, adhering to the principle of combining reform and opening, opening and regulation, multilateral opening and regional cooperation, agreement-based opening and self-driven opening, all-round opening and opening of key areas, we need to explore new modes of two-way opening of service trade and new international trade rules, and establish bilateral communication mechanisms for service industry regulation among countries. On the other hand, we need to bring the system, regulation, rules and standards of China’s service industry in line with those of the international service industry, and promote the liberalization and facilitation of trade and investment. We should improve the level of cooperation with foreign high-end service providers, reasonably reduce the negative list for foreign investment, relax restrictions on foreign capital, improve the quality and level of foreign investment in the service industry, and guide more foreign investment into advanced manufacturing, modern services, high-tech, energy conservation and environmental industries, especially those in the relatively backward central, western and northeastern regions, so as to enhance their ability to utilize foreign capital.

4.2.2. Innovatively Develop Service Trade to Enhance Its International Competitiveness

Service trade is becoming a key factor for the effective operation of the global value chain system, so China must attach more importance to the innovative and high-quality development of service trade. The first is to innovate on the development mechanism of service trade. The key point is to improve the statistical system of China's international service trade, adjust tax and customs policies and systems, and promote the specialized development of service trade. The second is to optimize the industrial structure of service trade. We should make full use of our own resource advantages, transform traditional industries with high technology, actively cultivate emerging industries, optimize the structure of service trade, and change the mode of trade growth. The third is to strengthen service outsourcing and deepen international labor cooperation. Efforts must be made to promote the construction of service outsourcing bases or parks, improve the public service capability of service outsourcing enterprises, cultivate service outsourcing enterprises with international qualifications, and promote the extension of service outsourcing to the high end of the value chain.

4.2.3. Vigorously Develop Digital Trade to Foster Competitive Advantage

The deep integration of digital technology and international trade has accelerated the arrival of the digital trade era. As an important part of international trade, digital trade is the carrier of science, technology, rules and even the competition for dominance. All countries in the world regard the development of digital trade as a strategic priority in the new round of industrial competition. China should actively participate in the formulation of international rules, identify its comparative advantages in digital trade, and release its potential in this area to enhance the development level of digital trade. First, China needs to improve the infrastructure needed for digital trade, strengthen the essential conditions for creating digital service value, optimize the allocation of data resources, and promote efficient production. Second, actively participate in the formulation of international rules, make domestic policies consistent with international agreements and rules, and use China's leading edge in the field of digital technology to create new competitive advantages in digital trade. Third, China needs to formulate digital trade promotion policies, build a global digital trade network, and take "the Belt and Road Initiative" as an opportunity to build a demonstration platform for digital trade development.

4.3. Promote the High-Quality and Efficient Development of Service Industry with Standardization Strategy

On July 8, 2022, sixteen central departments jointly issued the *Action Plan for Implementing China National Standardization Program*. The Plan set out a

specific implementation roadmap. In the past, China's industry standard codes were fragmented, and there was no clear boundary between national standards and industry standards, which caused confusion among overseas stakeholders. Simplifying and integrating these standards can reduce the complexity of the standard system and improve management efficiency. Moreover, the service economy is essentially a quality economy, and the impact of quality on the service industry is more intuitive than on the manufacturing industry. Standardization provides a basis for the evaluation of service quality, solves the problems such as lack and confusion of standards, and comprehensively improves the quality and efficiency of service industry.

4.3.1. Improve the Standardization System of High-Quality Service Industry

Standardization plays an important role in providing high-quality services. Building a sound, scientific, standardized, forward-looking and directive service industry standard system is conducive to improving service quality and building service brands. First, we should give full play to the demonstration role of service industry standardization pilots, strengthen the evaluation and supervision of the implementation of standards, and ensure that service standards can be promoted to and generally accepted by service providers and consumers. The second is to deepen the research on the standardization of new technologies, new formats and new models. Focusing on industrial digitalization and digital industrialization, we should carry out research on the standard system of digital economy, and promote and guide the orderly development of emerging service formats such as digital economy and platform economy. The third is to promote higher service standards, explore the establishment of an enterprise standard leader system, optimize the integrated national standard information network platform, and urge service providers to strengthen quality self-discipline with the construction of the service industry standard system.

4.3.2. Accelerate the Internationalization of Service Industry Standards

In recent years, the Chinese government has attached more and more importance to strengthening communication and cooperation with ISO and its member countries, actively participated in international standardization activities, and submitted an increasing number of proposals to ISO and IEC. However, the opening up of China's service industry to the outside world is still restricted, and there is a lack of voice in the development of international service industry standards. On the one hand, efforts should be made to strengthen international cooperation in standardization, promote the alignment of China's service industry standards with corresponding international standards, and push Chinese service standards to the world, so as to enhance China's voice and influence in global governance. On the other hand, new technologies and

new models of service industry, especially blockchain and big data technologies, are rapidly iterative, which will fundamentally change the ecology of service industry. At present, the relevant standards are far from enough. China needs to participate in global actions to accelerate the formulation and promotion of relevant standards and contribute its wisdom in key areas such as data security, privacy protection, and non-standard product trading brought by new technologies.

4.4. Promote Innovation and Entrepreneurship in the Service Industry by Improving the Institutional Environment

The dynamism of innovation and entrepreneurship is closely related to the development of the service industry. Most of the famous innovation centers such as Silicon Valley and Hsinchu were developed in traditional agricultural areas rather than in areas with developed manufacturing industries. In general, innovation and entrepreneurship are less dependent on industrial base or mature infrastructure, less sensitive to general industrial support policies such as government tax preferences, subsidies, and incentives, but more dependent on and sensitive to institutional environment.

4.4.1. Build a Good Legal Environment

Innovation is full of risks and uncertainties, thus increasing transaction costs. A key function of laws and regulations is to reduce such risks and uncertainties (Van Waarden, 2001). Zhao (2022) discussed the decisive role of market activities and legal environment on regional innovation activities from the perspective of technology trade and patent protection. At present, some problems still exist in China's legal environment, such as inadequate protection of private property, imperfect legislative procedures and judicial system, insufficient protection of intellectual property right (IPR), and lack of laws in some important service areas. To address these problems, three things must be done at least. The first is to improve the system of laws and regulations and strengthen the legislative work in the fields of rights and interests protection, public competition and market supervision. The second is to improve the IPR protection system, improve laws and regulations on the protection of patent right, trademark right, copyright and trade secret, improve IPR rules in the fields of Internet, big data and e-commerce, streamline and optimize the process of IPR review and registration, and improve the punitive compensation system for IPR infringement and the overseas IPR protection assistance mechanism for enterprises. The third is to improve the trial-and-error tolerance mechanism that encourages innovation. For those legal provisions that are not applicable to the digital age or contradictory to reform measures, the revision process should be started as soon as possible. It is recommended that an experimental mechanism be implemented to accelerate the establishment of a sound mechanism for error tolerance and correction.

4.4.2. Build a Public Competition Order in the Digital Age

According to the findings of Donges (2022), reforms and policies aimed at increasing competition and creating a equal playing field are conducive to innovation, and the establishment of inclusive systems in developing and emerging economies can help them catch up with the technological frontier. Digital technology has greatly improved the productivity of service industry, but with the changes in production process, competitive advantage source and market structure, it has also brought new challenges to enterprises. A major reason is that the adjustment of policies and systems is too slow to keep pace with the changes that are taking place. As technology reshapes the market and changes the dynamics of growth and distribution, policies must ensure continued inclusiveness of the market and help enterprises and workers to gain new opportunities. At the same time, policies need to be smarter, more sensitive to changes, and solve the problem of growing inequality between winners and losers caused by disruptive technologies. First, we need to improve the institutional framework and institutional system for fair competition in the digital market and develop operable and enforceable implementation rules covering before, during and after-event matters. Second, we need to comprehensively enhance and improve digital market governance and platform governance, improve anti-monopoly and anti-unfair competition rules, and at the same time prevent administrative power from restricting competition in the digital economy. Third, we need to ensure fair competition both online and offline, and encourage more market players to participate in digital development in an orderly manner. Fourth, efforts must be made to ensure cyber security, data security, and establish a sound, diversified user rights protection mechanism.

4.4.3. Construct a Good Talent Training System and Talent Flow Mechanism

Under the background of globalization of knowledge economy, “talent” is the most important resource to enhance innovation ability. Liao *et al.* (2022) found that talent capital is positively correlated to corporate innovation performance, and the influence of talent capital factors on corporate innovation performance is higher than that of R&D investment. Logistics, communications, financial services, strategic business services, education and personnel training are all knowledge-intensive service industries. Special attention must be paid to the development of human resources (Hua, 2001), because the rapid development of technology has made human resources more important than ever before. At present, the development of service economy is seriously restricted by the lack of government management personnel who master the law of service economy development and the shortage of knowledgeable technical personnel who are expert in emerging services and industrial integration. To address these problems, we must first broaden the channel of talent training, deepen university-enterprise cooperation, diversify the modes of such cooperation, and strengthen the

talent reward and guarantee system. Second, we need to carry out multi-level and multi-form on-the-job training, increase the subsidies for vocational qualification training and pre-job training, and improve the skills and service level of employees. Third, we should increase the supply of professional and inter-disciplinary talents. Efforts should be made to establish demonstration centers for training skilled talents in the service industry, encourage enterprises and universities to jointly build practice and training bases, and strengthen personnel training and skill upgrading. Fourth, we need to introduce high-end service professionals from abroad by adopting more proactive policies, and further improve the free flow mechanism of talents.

References

- Aghion, P., Dewatripont, M., Du, L., Harrison, A., & Legros, P. (2015). Industrial Policy and Competition. *American Economic Journal: Macroeconomics*, 7(4), 1–32.
- Amiti, M., & Wei, S. (2009). Service Offshoring and Productivity: Evidence from the US. *The World Economy*, 32(2), 203–220.
- Buera, F., & Kaboski, J. (2012). The Rise of the Service Economy. *American Economic Review*, 102(6), 2540–2569.
- Cheng, D. (2013). The Development of the Service Industry in the Modern Economy: Mechanisms and Implications for China. *China Finance and Economic Review*, 1(1), 1–12.
- Clague, C., Keefer, P., & Olson, M. (1999). Contract-Intensive Money: Contract Enforcement, Property Rights, and Economic Performance. *Journal of Economic Growth*, 4(2), 185–211.
- Donges, A., Meier, J., & Silva, R. (2022). The Impact of Institutions on Innovation. *Management Science*.
- Fan, J. (2004). Market Integration, Regional Specialization and Industrial Agglomeration Trends and Their Impact on Regional Disparity. *Social Sciences in China (Zhongguo Shehui Kexue)*, 6, 39–51+204–205.
- Grossman, G., & Helpman, E. (2002). Integration versus Outsourcing in Industry Equilibrium. *The Quarterly Journal of Economics*, 117(1), 85–120.
- Hanson, G. (1997). The Effects of Offshore Assembly on Industry Location: Evidence from U.S. Border Cities. *National Bureau of Economic Research*, 297–322.
- Hill, P. (1999). Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output. *The Canadian Journal of Economics*, 32(2), 426–446.
- Holmstrom, B. (1985). The Provisions of Services in a Market Economy. *Managing the Service Economy: Prospects and Problems*, Chapter 7.
- Hua, E. (2001). On the Strategic Position of the Service Industry in the National Economic Development. *Economic Research Journal (Jingji Yanjiu)*, 12, 3–8+91.

- Jiang, C. (2019). Connotation Definition and Promotion Strategy of High-Quality Development of Service Industry. *Reform (Gai Ge)*, 6, 41–52.
- Jiang, S. (2019). *Seventy Years of Administrative Reform in the People's Republic of China*. Shanghai People's Publishing House: Shanghai Research Series in Celebration of the 70th Anniversary of the Founding of the People's Republic of China, 410.(in Chinese)
- Jiang, X. (2011). Service Industry Growth: Real Significance, Multiple Impacts and Development Trend. *Economic Research Journal (Jingji Yanjiu)*, 4, 4–14+79.
- Jiang, X., & Li, H. (2004). Service Industry and China's Economy: Correlation and Potential of Faster Growth. *Economic Research Journal (Jingji Yanjiu)*, 1, 4–15.
- Li, P., Fu, Y., Zhang, Y. (2017). Can the Productive Service Industry Become New Momentum for China's Economic Growth? *China Industrial Economics (Zhongguo Gongye Jingji)*, 12, 5–21.
- Liao, S., Zhao, C., Chen, M., Yuan, J., & Zhou, P. (2022). Innovative Strategies for Talent Cultivation in New Ventures under Higher Education. *Frontiers in Psychology*, 13, 1–12.
- Liu, X., Mattoo, A., Wang, Z., & Wei, S. (2020). Services Development and Comparative Advantage in Manufacturing. *Journal of Development Economics*, 144(C), 102438.
- Liu, Y., & Xia, J. (2018). Promoting High-Quality Development of China's Service Industry: Main Tasks and Policy Recommendations. *Intertrade (Guoji Maoyi)*, 8, 53–59.
- Lyu, Z., Liu, Y., & Wang, Q. (2006). Strategy Selection of China's Producer Services Industries Development—Based on the View of Industrial Interaction. *China Industrial Economics (Zhongguo Gongye Jingji)*, 8, 5–12.
- Ni, H., Gong, L., & Xia, J. (2016). The Evolution Path of Production Fragmentation and Its Factors. *Management World (Guanli Shijie)*, 4, 10–23+187.
- Olley, G., & Pakes, A. (1996). The Dynamics of Productivity in the Telecommunications Equipment Industry. *Econometrica*, 64(6), 1263–1297.
- Shi, B., Li, J. (2020). Does the Internet Promote Division of Labor? Evidences from Chinese Manufacturing Enterprises. *Management World (Guanli Shijie)*, 36(4), 130–149.
- Sun, P., Hou, X., & Sheng, B. (2018). Service Opening, Managerial Efficiency and Firm Export. *Economic Research Journal (Jingji Yanjiu)*, 7, 136–151.
- Tan, H. (2015). Is There an Industrial Bias in Chinese Factor Market Distortions? An Empirical Study Based on Provincial Panel Data in China. *Management World (Guanli Shijie)*, 12, 96–105.
- Van Waarden, F. (2001). Institutions and Innovation: The Legal Environment of Innovating Firms. *Organization Studies*, 22(5), 765–795.
- Vandermerwe, S., and J. Rada. (1988). Servitization of Business: Adding Value by Adding Services. *European Management Journal*, 6(4), 314–324.

- Wang, D., Zhang, Z., & Bai, C. (2007). Size of Government, Rule of Law, and the Development of Services Sector. *Economic Research Journal (Jingji Yanjiu)*, 6, 51–64+118.
- Wang, Z., Zhang, Y., Niu, M., & Zhong, Y. (2020). Dynamic Changes of Functional Specialization in China's Export and International Comparison under Global Value Chains. *China Industrial Economics (Zhongguo Gongye Jingji)*, 6, 62–80.
- Xia, J. (2019). China's Service Economy Study in the Past 70 Years: Evolution, Introduction, Reference and Innovation. *Finance & Trade Economics (Caimao Jingji)*, 10, 17–33.
- Xia, J. (2022). Create a New Pattern of All-Round Opening Up with the Opening of Service Industry as the Main Way. *Finance & Trade Economics (Caimao Jingji)*, 10, 5–9.
- Xia, J. (2022). High-Quality Development of Real Economy from the Perspective of Chinese Path to Modernization. *Reform (Gai Ge)*, 10, 1–11.
- Xia, J., & Liu, C. (2017). Administrative Approval Reform, Transaction Costs and China's Economic Growth. *Management World (Guanli Shijie)*, 4, 47–59.
- Xu, X. (2000). An Analysis of the Causes of the Backwardness in China's Service Industry Development in 1990–2000. *Management World (Guanli Shijie)*, 6, 73–77.
- Xu, Z., Yao, Z., & Xia, J. (2021). Research on the Impact of Collaborative Agglomeration on Export Technology Complexity: An Empirical Study on the Mediating Effect of Regional Innovation. *Economic Review Journal (Jingji Zongheng)*, 9, 43–52.
- Yu, Y., & Pan, Y. (2019). The Mysterious Coexistence of Rapid Economic Growth and a Lag in the Service Industry's Upgrade in China: An Interpretation Based on the Economic Growth Target Constraints Perspective. *Economic Research Journal (Jingji Yanjiu)*, 3, 150–165.
- Yuan, Y., & Liu, H. (2009). Service Outsourcing from Manufacturing and Productivity Growth of Services in China. *China Industrial Economics (Zhongguo Gongye Jingji)*, 5, 67–76.
- Zhao, Y. (2022). Legal Environment, Technological Innovation, and Sustainable Economic Growth. *Frontiers in Psychology*, 13, 929359.
- Zhu, S., Luo, Y., & Duan, W. (2021). Service-Oriented Manufacturing, Markup Dispersion and Resource Allocation Efficiency. *China Industrial Economics (Zhongguo Gongye Jingji)*, 4, 62–80.