



RCEP: Development of China-Japan-Korea Digital Economy and trade strategies of digital trade

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Abstract: Currently, information technology innovation is advancing day by day; digital, intelligent, networks are booming, and in terms of the current situation, China, Japan, and South Korea are still facing some problems to be solved in the development of digital trade, and digital technology can shine when meeting the relevant issues. Although predecessors have conducted many related studies on the development of digital trade between China, Japan, and the ROK, there are still debates about how to solve the new problems facing China, Japan, and the ROK and how to face the challenges in the development of digital economic and trade exchanges. To this end, based on the development trend of China, Japan, and South Korea in the field of digital trade, according to the economic and trade characteristics of China, Japan, and South Korea under the "RCEP," this paper deeply analyzes the common problems faced by the three countries and predicts their development direction. Accelerating the development of digital trade benefits the comprehensive development of China, Japan, and the ROK and plays a huge role in promoting economic globalization. By accelerating the transformation and upgrading of digital technology, strengthening the collaboration between digital rules and creating a new growth space; second, continuing to deepen the economic and trade cooperation between China, Japan, and South Korea, opening up new channels of economic and trade cooperation, and promoting new forms, models, and exchanges.

Keywords: China, Japan, and South Korea; digital economy and trade; digital economy; opportunities and challenges.

1. Introduction:

In the context of global technological and industrial transformation, the digital economy has become a vanguard force that leads to development. Catalyzed by the new round of global technological and industrial revolution, the rise of the digital economy at an unprecedented growth rate has had a profound impact on global economic patterns. Based on the data provided by the United Nations Conference on Trade and Development (UNCTAD), Han Dongxue used the trade competitiveness index, explicit, and other comparative advantage indices to compare the digital service trade in China, Japan, and South Korea, and found that China is stronger than Japan overall, while South Korea is in the leading position of digital service trade[1]. However, in some areas, South Korea lagged far behind China and Japan. From the perspective of industry composition, China has shown strong competitiveness in business services and information and communication technology, Japan has significant advantages in the field of intellectual property rights, and South Korea is unique in the cultural industry and has a unique competitive advantage. Nevertheless, in the global competition pattern, including in China, Japan, South Korea, Europe, and the United States, China still has a broad development space and huge potential in the field of digital service trade.

The Regional Comprehensive Economic Partnership (hereinafter referred to as January 1, 2022, has brought several "maximum" benefits to the three countries: first, the agreement covers 30% of the global population, 29% of the economic aggregate and 27% of foreign trade; second, the 15 members have different historical and cultural backgrounds and different levels of economic development and social systems; third, the member states in the agreement have a huge potential for development, with an average annual growth rate of 5.2%.

[Received] 12 July 2024; Accepted 13 Sep 2024; Published (online) 15 Sep 2024]

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DOI: 10.61363/h9b8w431

The most striking part of the RCEP is that the three major economies of China, Japan, Japan, and South Korea entered the same free trade zone for the first time. This was a historic moment. China, Japan, and South Korea are ranked second, third, and ninth, respectively, in 2021. Their economic strength far exceeds that of European countries and they rank as well as the North American Free Trade Zone, making them the global economic center. Within the agreement, the GDP of China, Japan, and the ROK reached more than 82%, which is an integral part of high-quality economic development. Although the economic and trade relations between China, Japan, and South Korea have been close for a long time, due to historical grievances and slow development after the financial crisis, the political situation remains volatile, which has caused great obstacles to regional economic integration.

Against the backdrop of the changing international situation, the impact of globalization, and the risk of recession in the world economy, the RCEP has highlighted its strong vitality and vitality.(MaShuzhong, LiuJianqi, HeGe,2022) This is of great significance for promoting China-Japan-ROK economic and trade exchanges, deepening China-Japan-ROK economic and trade cooperation, and promoting economic and trade development in East Asia. China, Japan, and the ROK should accelerate the integration of higher-level international standards and seize new opportunities for the development of digital trade. This will not only open up new development space for the economic and trade development of the three countries but also fill the gap in the Northeast Asia Free Trade Zone and promote in-depth cooperation between China, Japan, and the ROK. In the post-epidemic period, China, Japan, and the ROK should seize the opportunity to carry out broader exchanges and cooperation in bilateral economies, trade, and other areas based on the agreement.

2. Digital development and trade changes in China, Japan, and South Korea under the framework of RCEP

2.1 "Digital China" contributes to Chinese-style modernization

We will accelerate the digitalization and industrialization of industries and promote vigorous development of the digital economy. China has made remarkable achievements over the past decade. Its data scale is the second largest in the world and has played an important role in guiding and supporting China's economic and social development. Digital infrastructure construction has been removed. At the same time, China is also a world leader in telecom network construction. China has vigorously promoted the "broadband China" network and built the world's largest optical fiber and wireless broadband network, with its total mileage increasing by 2.7 times from 14.79 million km in 2012 to 54.81 million km.

Based on this, China has vigorously promoted the "use of cloud data" for enterprises, accelerated the development of the industrial Internet, digital commerce, and smart agriculture, and promoted the comprehensive and full-chain transformation and upgrading of traditional industries. In the process of digital industry development, China has increasingly independent innovation consciousness; China will unswervingly promote innovation-driven development, increase efforts in the core field, accelerate the bigger, stronger, and better, make up for its shortcomings, and form an independent and controllable industrial ecology(MaKuiyuan); in emerging industries such as artificial intelligence, blockchain, and the Internet of Things, a large number of basic software and hardware platforms and open source communities with independent intellectual property rights have been formed. The degree of scientific and technological innovation in key products has significantly improved, and a certain scale effect has been initially formed.

At present, cooperation in the digital economy among other countries in the world is deepening. At the Second Internet Conference, General Secretary Xi Jinping elaborated on the important thought of "building a community with a shared future in cyberspace," and put forward "four principles" and "five propositions" on how to build and govern the global Internet. Xi general secretary at the G20 Rome summit in 2021, said China welcomes countries to join the digital economy partnership agreement, China is willing to work with relevant countries to promote the "Belt and Road" to a higher level of development, deepen the information infrastructure construction, deepen the digital industry, digital security cooperation in such fields, build digital silk road in the 21st century, let the global people share the digital economy development. (TangXia,2021).

2.2 Japan is actively carrying out digital transformation

Japan has profound experience in the development of the digital economy, especially in the fields of digital processing and mechanical processing. However, Japan had an early focus on intelligent manufacturing, and was relatively unique in the application of intelligent development and digital technology. It can be said that in the process of Internet transformation, Japan's network development is relatively lagging behind, which



restricts its competitiveness in digital products and other aspects to some extent. In the 21st century, especially under the influence of the global financial crisis, Japan has actively promoted the "reindustrialization," integrated numbers with wisdom, and carried out systematic reform of the digital economy.

In terms of big data, Japan issued the Declaration on the Creation of the Most sophisticated IT Countries five years ago, which proposed the strategy of focusing on the development of public data and big data from 2013 to 2020, and pointed out that "big data is indispensable to enhance Japan's competitiveness" and open information resources to the public. To this end, Japan has also strengthened the research and development of big data and made large investments in its data center operations to develop a series of new business models to improve the competitiveness of the Japanese industry and expand the scope of new industries. In addition, the Japanese government has established a huge intelligence-gathering system. In this system, a variety of materials from multiple industries and organizations can be opened to information providers and users.

In the process of digital reform, the behavioral motivation and execution tendency of enterprises will significantly change their industrial selection behavior. When promoting the digital economy, due to the lack of understanding of its macro and strategy, it encountered major strategic problems in the development of digital technology. To this end, in the future, promoting the digital transformation of enterprises will become one of the focuses of Japanese industrial policy: the construction of 5G will achieve comprehensive advancement; at the same time, the enterprise will vigorously promote the Internet of Things, artificial intelligence, and big data application in the field of business, actively transforming business models, improving the way of labor, and actively carrying out digital transformation.

2.3 South Korea's concept of "building a digital power"

South Korea attaches great importance to the development of the digital economy. Since the "Four Industrial Revolutions", it has increased its investment in "digital infrastructure". It has a strategic position in the development of 5 G and has reached the international advanced level, laying a good foundation for the development of "digital economy". South Korea has played a leading role in formulating its digital economy policies, increasing its investment in the digital economy, and driving more social funds to enter its development field. Based on the above situation, South Korea has also performed well in the digital economy in recent years.

At the end of September 2022, South Korea announced the Digital Strategy of the Republic of Korea, proposing the idea of "joining hands with the people to build a global digital power" and the strategic goal of "making another leap forward, co-prosperity, and moving towards a digital economic society".(TianZheng,2022) With this digital strategy, the government expects Korea moving from eighth to third in Lausanne, Switzerland, and the Organization for Economic Cooperation and Development remains first in the index of "digital infrastructure" and "digital government";

With the expansion of digital buildings, South Korea has gradually formed an entrepreneurial atmosphere focusing on in-depth technology. The construction of the Data Dam is a central project of South Korea's Digital New Deal, part of the New Deal in the United States, and part of the Hoover Dam project to collect and use all kinds of information on private and public land. It involves many areas, such as culture, transportation, healthcare, finance, big data, and AI-based education. Second, South Korea and the European Union have established a new digital cooperation program, to enhance cooperation in semiconductors, next-generation action networks, artificial intelligence, platforms, and materials.

3. Practical challenges facing china-Japan-ROK cooperation in digital economic and trade fields

With the rapid development of digital technology, the digital economy cooperation between China, Japan, and the ROK has become increasingly close. However, the three countries still face many challenges in the actual process of cooperation. For example, the change of interest demands and expected goals, the high barriers of industrial digital transformation, and the obstacles of the US to the economic and trade development of the three countries may hurt the digital economic and trade cooperation between China, Japan, and the ROK.

3.1 Change of interest demands and expected goals

In 2002, the idea of China, the Japan-ROK free trade zone proposed at the summit, has not yet made any substantive progress, and it will be some time before the final agreement is signed. The agreement will lay a good foundation for the construction of the China-Japan-ROK Free Trade Area and provide an important theoretical and practical basis for the smooth development of bilateral economic cooperation. Improving the efficiency and success rates of negotiations between the two sides is of great significance. However, the current situation has made the agreement uncertain.

First, the agreement leaves the three countries under the same FTA framework, and all are concerned about the need to sign the FTA again. Second, Japan now focuses on the Trans-Pacific Partnership (CPTPP); since both China and South Korea have not joined, there must be competition among regional cooperation mechanisms. Third, doubts remain about who plays a leading role in free trade zones. In this context, when the trilateral economic and trade cooperation agreement between China, Japan, and the ROK is reached, the intention of some member states in the free trade agreement may decrease due to changes in their respective interests and expected goals. At this time, the difficulties brought about by the trilateral economic and trade cooperation agreements cannot be underestimated.

3.2 The digital transformation faces high barriers

According to the White Paper on Global Digital Economy (2023), in 2022, the digital economy in the world, including the United States, China, Germany, Japan, and South Korea, totaled \$31 trillion, accounting for 58% of the GDP, while China's digital economy accounted for a relatively small proportion. There are serious problems in the process of digitization: first, because of the many fixed assets and high technical level in the manufacturing industry, the fixed cost is relatively high, coupled with the lack of digital awareness, which leads to high barriers to digital transformation; second, the low investment in information technology products and services, and the high-end digital technologies, products, and services required for information transformation come from developed countries, so they are restricted by developed countries; third, there is a lack of specialized digital technicians; digital transformation requires a large number of new professionals familiar with digital technology, scientific and technological innovation, and digital management ability, and digital training in developing countries has just begun, industrial clusters have not yet formed, and there is still a big gap with other countries in the world.

3.3 The United States poses an obstacle to the economic and trade development of the three countries.

Based on its characteristics and values, the United States advocates the transnational data flow of "multiple subjects" in the digital economy environment and proposes the promotion of "digital authoritarianism" (digital authoritarianism). While the overall decline in Sino-US relations is happening, the situation between China and Japan is not optimistic. As the most important Allies of the United States, Japan, and South Korea are highly dependent on the military, military, and military aspects of the United States. Therefore, South Korea's independence has long been restricted. In recent years, the United States has been committed to promoting the development of the region, but has not participated in the CPTPP intention; on the contrary, the region will be committed to building a conducive to promote trade liberalization, digital economy, technical standards, supply resilience, carbon emissions, clean energy, infrastructure, labor security, and other related fields of organization structure (HuangQingming, YouChuanping.,2023). In November, the US and Japan announced the establishment of the US-Japan Economic and Trade Partnership Agreement, which aims to create more collaboration in the labor, environmental, and digital sectors, with China as the main competitor. In the economic and trade relationship between China and Japan in the region, the dominant US strategy is the main obstacle to its biggest influence.

4. Strategies for coordinated digital economic and trade development between China, Japan, and the ROK under the framework of RCEP

4.1 Strengthening digital economic and trade cooperation

A rule-based multilateral trading system benefits the entire world. China, Japan, and the ROK should continue to strengthen integration, regional economic and trade relations, and the resilience of their industrial chains, and promote global economic integration. The major changes in the industrial structure of China and South Korea have expanded the scope of cooperation between the two countries on the original basis and completed the digital transformation between the two countries. This is also a new development direction between the



two countries and more about cooperation between the two countries. At present, both China and South Korea regard digital technology as a major strategy to promote their own economic development and as a key strategy to promote their own economic growth. The Korean government considers digital technology as an economic and social focus in the future, attaches special importance to the development of the digital industry, accelerates the innovation and application of digital technology, and creates a new environment for growth. China will be committed to new infrastructure projects such as 5 G, digital economy, industrial Internet, artificial intelligence, cloud computing, and big data. It is in line with the South Korean version of the "New Deal" concept, and its core is South Korea's "digital New Deal."

China and Japan have obvious advantages in scientific and technological innovation and are highly complementary. Especially in the field of the digital economy, there is room for bilateral cooperation. After SARS, China's digital economy is booming, while Japan has a strong scientific and technological heritage and technological innovation strength in the fields of "digital economy" and "smart city" (JiangYuanyuan, 2023). At the same time, China and Japan have huge development potential in the fields of "digitalization", "e-commerce", etc. We should take the opportunity to seize the opportunity to further promote the practical cooperation between the two countries in the above fields and make it a new growth point of Sino-Japanese economic and trade cooperation. (MaShuzhong, LiZhezhou,)

4.2 Opening up new tracks in new fields of digital economy and trade

The first level is in the face of the external environment, China, Japan, and South Korea must be the potential, should the potential, make good use of the important period of strategic opportunities, speed up the development of a higher level of open economy, the trend to expand their own development space, actively explore new mode of foreign economic cooperation, to open to the outside world to win the economic development and international competition. (HanDongxue, WangLiang,) The second level is to adapt to the new trend of world economic development openly and cooperatively, foster new advantages in international cooperation and competition, and be more closely integrated with the world economy. The third level is an important opportunity for free trade between China, Japan, and the ROK and promoting economic growth, which is conducive to building a green supply chain, promoting the supply chain, and protecting the ecological environment.

4.3 Seize the potential development opportunities of RCEP

With the signing of the RCEP, some non-tariff barriers between China, Japan, and the ROK will gradually disappear, which is of great significance for promoting regional economic development and trade exchanges. In this process, the three countries, on the one hand, expect that the implementation of the agreement will bring economic effects, and on the other hand, they also hope to actively explore ways to enhance mutual understanding and communication by promoting economic and trade development, trade and investment [11]. Second, after the RCEP takes effect, a raw material industry chain will be a solid one among the three countries, and it is inevitable to strengthen regional cooperation. China can not only purchase raw materials from Japan and South Korea but also work together to explore a third market and use digital technology to cooperate in areas such as disease prevention and treatment. It is not only an important supplement to the multilateral trading system but also conforms to the trend of world economic development, peaceful development, and win-win cooperation.

4.4 Realizing mutual learning in new business forms and new models

China, Japan, and the ROK are among the three largest Asian countries. The economic complementarity of the three countries is high. Their industrial and supply chains are closely linked, which is conducive to strengthening the economic and trade exchanges between China, Japan, and the ROK. These three countries attach great importance to digital technology and have their characteristics in technology presentation. The Japanese animation market leads in AI technology, South Korea's 5G technology is highly competitive, and China's VR technology has a broad market. These three countries have great potential for development in terms of products, ecology, commerce, markets, and core technologies. (LiShengming, 2023) More importantly, in the future, the three countries will jointly promote healthy and orderly development of the digital economy. These three countries can work together to formulate digital governance standards that serve their interests and promote the high-quality development of new business forms and models.

Funding

This research did not receive any funding.

Data availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

This study was conducted following ethical guidelines, and all necessary approvals were obtained.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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