

# ***Research on the Digital Commerce Readiness Assessment of RCEP Member Countries and Regional Coordinated Development Strategies***

**Yinghan Zhong<sup>1,a,\*</sup>**

*<sup>1</sup>International Business School, Yunnan University of Finance and Economics, Wuhua District, Kunming, Yunnan, China*

*a. Cai18587360623@163.com*

*\*corresponding author*

**Abstract:** Grounded in the current status of digital commerce development in Regional Comprehensive Economic Partnership (RCEP) countries, this paper constructs a digital commerce readiness assessment system, and uses factor analysis and cluster analysis to quantitatively assess the digital commerce readiness of RCEP member countries in 2022. The study reveals the advantages and disadvantages of various countries in the development of digital commerce by analyzing the scores of three main factors: digital skills and network services, market maturity and cross-border competitiveness, and technological innovation and infrastructure. The results show that Singapore, China and Australia have outstanding performance in human capital, innovation capabilities and infrastructure construction, ranking at the top of the RCEP digital commerce readiness ranking; while some Southeast Asian and South Asian countries still have large gaps in market competitiveness and technological innovation. This paper provides an essential reference for promoting digital commerce cooperation among RCEP member countries, and provides theoretical support for the digital development path under the "Belt and Road" initiative.

**Keywords:** RCEP, digital commerce, digital commerce readiness, factor analysis, cluster analysis.

## **1. Introduction**

Since the implementation of the RCEP agreement, countries have carried out pragmatic cooperation and initially formed a broad cooperation pattern, especially in the field of e-commerce, where relevant rules have been reached in the Asia-Pacific region for the first time[1]. However, the digital divide between RCEP member countries is still relatively obvious, and there are significant differences in the basis of digital commerce development among countries. In October 2022, RCEP member countries proposed to accelerate the formulation of the "Digital Economy Development Action Plan" to promote the development of digital economy cooperation in the region[2]. As a free trade zone covering nearly half of the world's population and one-third of the world's trade volume, studying the digital commerce potential and efficiency of its member countries and identifying the constraints are of great significance for stabilizing foreign trade, optimizing the structure and building a new pattern of internal and external dual circulation. In this context, it is essential to explore the digital commerce

development foundation of RCEP member countries by building a digital commerce readiness index system and conducting quantitative evaluation. By using cluster analysis, the conditions for the development of digital commerce in various countries can be further clarified and their relative advantages can be analyzed. At the same time, this study also provides a reference for promoting digital commerce cooperation among RCEP member countries, and is of great significance to the digital development of the "Belt and Road" initiative and the building of a community with a shared future for mankind.

## 2. Literature review

Scholars at home and abroad have carried on the discussion in theory and practice, mainly focusing on three aspects: digital commerce, readiness, readiness evaluation of digital commerce.

### 2.1. Digital commerce research

Digital commerce is a new economic model that digitally empowers commercial economic activities based on rule construction, with the Internet platform as an important carrier and data as a key resource element, covering e-commerce, sharing economy, online education, online life services, online medical digital trade and many other fields [3].

The digital economy serves as an expansive and encompassing economic context, encapsulating the entirety of economic pursuits facilitated through information technology and digital instruments. Extending beyond the realm of e-commerce and digital commerce, the digital economy signifies a transformative shift affecting the entire economic system. This transformation is exemplified by the integration of digital applications in diverse sectors such as finance, manufacturing, education, healthcare, and numerous others[4]. Consequently, e-commerce emerges as a subset of digital commerce, with digital commerce itself situated within the broader sphere of the digital economy. Together, these three elements constitute the intricate pattern of digital transformation observable in contemporary economies.

This study focuses on sorting out the definitions of the correlation between digital commerce, e-commerce and digital economy, and summarizes them as Figure 1, to provide theoretical support for the subsequent construction of digital commerce readiness assessment.

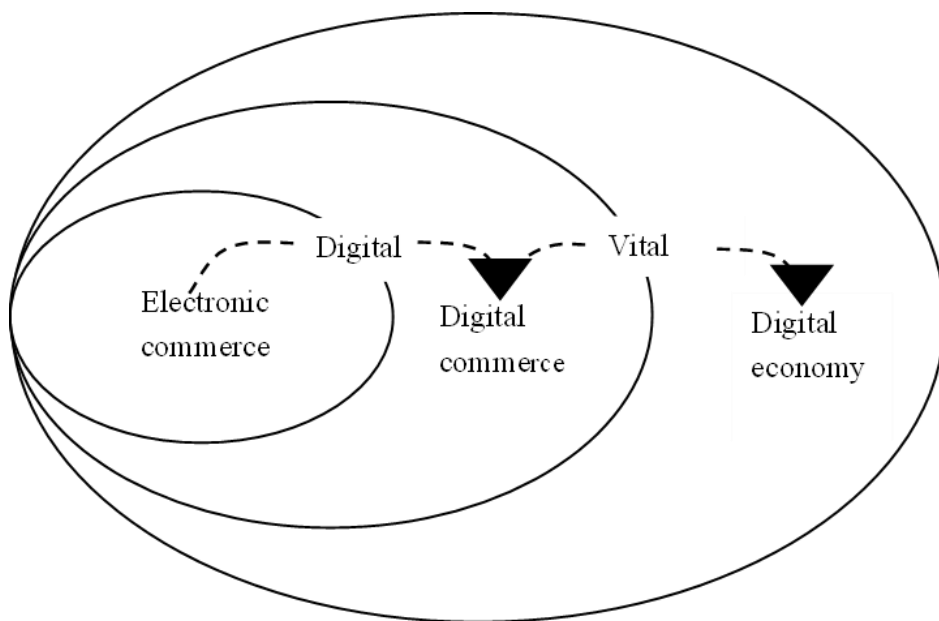


Figure 1: Inclusive relationship model among e-commerce, digital commerce and digital economy

## 2.2. Readiness study

The concept of "readiness" originated from the "Readiness for the Networked World: A Guide for Developing Countries" published by the Center for Information Development at Harvard University in 2000, which was defined as "the readiness of a group to participate in the networked world" [5]. In 2001, the World Economic Forum (WEF) launched the "Global Information Technology Report 2001-2002", which expanded the definition of readiness to development potential and proposed the Network Readiness Index to evaluate network usage and driving factors[6].

The earliest readiness model focused on the field of information technology. The more mature one is the e-commerce development readiness, which measures the readiness of enterprises or countries in terms of Internet infrastructure, electronic payment systems, and digital skills[7]. The e-commerce readiness research group of the Massachusetts Institute of Technology (MIT) regards e-commerce readiness as "the ability to obtain value creation opportunities through the Internet". The OECD proposed a measurement model for e-commerce, taking readiness, application and influence as the three dimensions of e-commerce development. Domestic scholars mainly measure and analyze the e-commerce readiness of various countries from the aspects of infrastructure and social environment[8].

## 2.3. Digital commerce readiness evaluation

According to the 2020 World Economic Forum report, the deepening of global digitalization has made the competitiveness of enterprises and countries increasingly dependent on their digital commerce readiness, that is, "digital commerce readiness"[9]. Scholars started their research on digital commerce relatively late, but have formed a preliminary digital economy and e-commerce readiness evaluation system, which has important reference significance for the construction of a digital commerce readiness evaluation framework.

The evaluation of digital economy readiness is the focus of scholars' research. Zhang Bochao et al. established the digital economy development readiness index for countries along the "Belt and Road" based on eight related indicators such as venture capital, availability of the latest technology, and fixed broadband penetration rate[10]. Zhang Hong et al. used the AHP-entropy weight method to evaluate the digital rural development readiness of 31 regions based on five primary indicators and 29 secondary indicators such as the digital rural macro environment, infrastructure support, and information environment[11]. In addition, Qiao Tianyu et al. proposed four core dimensions of digital foundation, capability, application, and supervision from the perspective of digital ecology, constructed an international digital ecology index, and evaluated the digital development level of various countries[12]. These studies have enriched the digital economy evaluation system and provided a multi-angle perspective and evaluation framework for a comprehensive understanding of the development of the digital economy.

In the study of e-commerce readiness, scholars have adopted both macro and micro perspectives. The Organization for Economic Cooperation and Development (OECD) proposed the "Readiness-Application-Impact" model to measure the development of e-commerce. Domestic research mainly focuses on the e-commerce readiness of regions and enterprises. Duan Lufeng et al. constructed an evaluation index system for rural e-commerce readiness from three dimensions: development environment, infrastructure and user subjects, and compared the differences between rural areas in Shaanxi Province and other regions[13]. At the enterprise level, Chen Jingqi et al. focused on service-oriented enterprises and proposed four evaluation index systems covering strategic initiation, information system resources, human resources and partner readiness[14]. These studies comprehensively evaluated the readiness and level of e-commerce from different perspectives and dimensions.

Some academic studies and international organizations widely use multi-dimensional evaluation systems to measure the digital commerce readiness of countries and enterprises. The EU Digital Economy and Society Index (DESI) evaluates the performance of countries in the digitalization process through multiple indicators, covering digital infrastructure, digital skills, e-commerce use, R&D investment and other aspects[15]. In addition, the International Telecommunication Union (ITU) provides the Global ICT Development Index (IDI) through its annual report to quantify the digitalization level of each country and compare it with economic development. A common feature of these evaluation systems is that they emphasize the comprehensive role of infrastructure, technology application, digital skills, innovation capabilities and policy environment. The OECD study further pointed out that in the process of promoting the development of digital commerce, countries should focus on strengthening cross-sectoral collaboration to ensure that technological innovation is closely integrated with market demand, thereby improving the overall digital commerce readiness[16].

In summary, these research results of domestic and foreign scholars and organizations have provided valuable materials and have great reference value, but there are still the following problems: lack of connection between the two and quantitative evaluation of digital commerce readiness; the research perspective is limited to enterprises, rural areas or "Belt and Road" countries, ignoring the Asia-Pacific region; in terms of methods, there is room for exploration of the digital commerce readiness evaluation system and indicator selection.

### 3. Construction of Digital commerce Readiness Index System

In the real economy, there are a vast number of indicators related to the development of digital commerce, and there are not many relevant studies by scholars for reference. Therefore, this article inherits the existing research results, based on the inclusive relationship between e-commerce, digital commerce and digital economy, combined with the basic concept of digital economy proposed by the G20 and the definition and connotation of e-commerce mentioned above, drawing on the research results of the EU, the International Telecommunication Union and the OECD on digital commerce readiness, strictly following the principles of relevance, representativeness and accessibility, to construct a digital commerce development readiness indicator system to comprehensively measure the capabilities and readiness of countries or regions in promoting digital commerce. The indicator year selected in this article is 2022. The indicator selection list and other information are shown in Table 1.

Table 1: Digital commerce readiness quantification indicator system

| Indicator name                        | What the indicator means                                                             | Data Source                                                 | unit                  |
|---------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------|
| Fixed broadband penetration rate      | The degree of perfection of information infrastructure                               | World Bank Open Data                                        | Households/100 people |
| Digital skills penetration rate       | Digital capabilities of the workforce and consumers, and the skilled worker pipeline | United Nations Conference on Trade and Development (UNCTAD) | %                     |
| R&D investment as a percentage of GDP | Environmental Suitability for Innovation                                             | World Bank Open Data                                        | %                     |

Table 1: (continued).

|                                             |                                                                                               |                                                               |        |
|---------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------|
| Global Innovation Index                     | Global competitiveness of innovation capabilities and national technological innovation level | World Intellectual Property Organization (WIPO)               | point  |
| E-commerce user penetration rate            | Market digitalization level                                                                   | statista data                                                 | %      |
| Cross-border e-commerce transaction volume  | Digital commerce openness                                                                     | statista data                                                 | %      |
| Government Online Services Index (GOSI)     | Digital government coverage                                                                   | United Nations E-Government Development Index Report (EGDI)   | %      |
| Number of secure servers per million people | Information security and data protection environment                                          | World Bank OpenData                                           | Piece  |
| Cloud computing adoption rate               | Enterprise digitalization and innovation capabilities                                         | National statistical offices and ministries of communications | %      |
| Number of digital start-ups                 | The vitality of the innovation ecosystem                                                      | Statistical reports from various governments                  | Number |
| 5G Coverage                                 | Modernization level of national mobile Internet infrastructure                                | Telecommunication Development Industry Alliance               | %      |

#### 4. Quantitative Assessment of Digital Commerce Development Readiness of RCEP Countries

The indicators used in this paper to measure the national readiness of RCEP are not completely independent. Therefore, it is necessary to classify and analyze the above 11 indicators to extract the main factor weights reflected by these 11 indicators. This paper uses factor analysis to determine the internal correlation and corresponding weights of the 11 indicators. The steps are as follows: First, the original indicator data is input into SPSS software for KMO and Bartlett tests. The results show that the KMO value is  $0.711 > 0.7$ . Generally speaking, KMO values of 0.7 and above indicate that the data are suitable for factor analysis. And the Bartlett sphericity test p value is less than 0.05, indicating that the independence assumption of each variable is not established. Therefore, the above 9 indicators pass the factor analysis adaptability test, and the factor analysis method can be used to assign weights to each indicator. Then, the varimax rotation method is used to perform factor analysis on the data of the above 9 indicators. The cumulative variance contribution rate of the first three principal components is 92.859%, which exceeds 85%. Therefore, the first three principal components can basically reflect all indicator information. Finally, the principal component method was used to calculate the factor loading matrix, and the initial loading matrix was subjected to varimax rotation. The rotated factor loading matrix is shown in Table 2.

Table 2: Principal component rotation loading matrix

|                                             | Element |        |       |
|---------------------------------------------|---------|--------|-------|
|                                             | 1       | 2      | 3     |
| Fixed broadband penetration rate            | 0.608   | 0.502  | 0.554 |
| Digital skills penetration rate             | 0.884   | 0.279  | 0.278 |
| R&D investment as a percentage of GDP       | 0.284   | 0.482  | 0.814 |
| Global Innovation Index                     | 0.587   | 0.503  | 0.601 |
| E-commerce user penetration rate            | 0.329   | 0.853  | 0.318 |
| Cross-border e-commerce transaction volume  | 0.233   | 0.844  | 0.357 |
| Government Online Services Index (GOSI)     | 0.756   | 0.447  | 0.350 |
| Number of secure servers per million people | 0.942   | -0.044 | 0.080 |
| Cloud computing adoption rate               | 0.811   | 0.357  | 0.411 |
| Number of digital start-ups                 | 0.057   | 0.902  | 0.237 |
| 5G Coverage                                 | 0.421   | 0.611  | 0.646 |

By observing the principal component rotation loading matrix, we can see that the four indicators of digital skills penetration rate, Government Online Service Index (GOSI), number of secure servers per million people, and cloud computing adoption rate are reflected by the first principal component, which is named "digital skills and network service factor". The three indicators of e-commerce user penetration rate, cross-border e-commerce transaction volume share, and number of digital start-ups are reflected by the second principal component, which is named "market maturity and cross-border competitiveness factor score". The four indicators of R&D investment ratio to GDP, global innovation index, fixed broadband penetration rate, and 5G coverage rate are reflected by the third principal component, which is named "technological innovation and infrastructure factor".

In SPSS, the regression method in factor analysis can be used to automatically calculate the scores of each country on different principal components (principal factors), and then the weights are calculated according to the corresponding rotated variance contribution rates of each common factor to calculate the total scores of digital economic development readiness of each country. The calculation formula is as follows:

$$F_i = \sum_{j=1}^3 W_j \cdot F_{ij} \quad (1)$$

$F_{ij}$  represents the score of the  $i$ th country on the  $j$ th principal factor,  $W_j$  represents the standardized weight of the  $j$ th principal factor. After obtaining the scores of the three main factors and the total scores of digital economic development readiness of each country, the "efficacy score method" is used to calculate the score of each country on each main factor. The calculation formula is:

$$S_i = \frac{X_i - X_{\min}}{X_{\max} - X_{\min}} \times 100 \quad (2)$$

$X_i$  represents the actual score of the  $i$ th country on the main factor,  $X_{\max}$  Indicates the maximum score of all countries on this main factor,  $X_{\min}$  Indicates the minimum score of all countries on this main factor. The scores calculated in this way reflect the relative position of each country among all RCEP countries on a certain common factor indicator. The final calculation results are shown in Table 3.

Table 3: RCEP countries' digital commerce readiness performance scores in 2022

| Ranking | nation      | Digital Skills and Internet Services Factor Score | Market maturity and cross-border competitiveness factor scores | Technological innovation and infrastructure factor scores | Total efficacy score |
|---------|-------------|---------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------|----------------------|
| 1       | Singapore   | 100                                               | 8.902                                                          | 38.876                                                    | 51.213               |
| 2       | China       | 18.245                                            | 100                                                            | 25.126                                                    | 50.052               |
| 3       | Australia   | 80.347                                            | 37.561                                                         | 18.384                                                    | 49.937               |
| 4       | Japan       | 46.164                                            | 48.881                                                         | 50.004                                                    | 48.073               |
| 5       | South Korea | 34.760                                            | 33.949                                                         | 100                                                       | 45.897               |
| 6       | New Zealand | 72.433                                            | 24.711                                                         | 27.101                                                    | 44.123               |
| 7       | Malaysia    | 41.808                                            | 24.668                                                         | 22.295                                                    | 30.878               |
| 8       | Brunei      | 47.287                                            | 17.003                                                         | 10.168                                                    | 27.352               |
| 9       | Thailand    | 29.097                                            | 16.186                                                         | 37.209                                                    | 25.874               |
| 10      | Indonesia   | 21.802                                            | 47.542                                                         | 0                                                         | 26.164               |
| 11      | Vietnam     | 24.371                                            | 11.394                                                         | 34.577                                                    | 21.987               |
| 12      | Philippines | 23.742                                            | 19.727                                                         | 15.852                                                    | 20.399               |
| 13      | Cambodia    | 7.647                                             | 11.225                                                         | 21.980                                                    | 12.348               |
| 14      | Laos        | 2.344                                             | 6.208                                                          | 26.060                                                    | 9.364                |
| 15      | Myanmar     | 0                                                 | 0                                                              | 31.060                                                    | 7.325                |

## 5. Feature analysis

### 5.1. Analysis of the characteristics of RCEP national digital commerce readiness rankings

According to the results of Table 3, Singapore, China and Australia ranked in the top three of the RCEP countries' digital commerce readiness list in 2022. Singapore performed well in the human capital and digital skills factors, scoring a full score of 100. Although it scored a low score of 8.902 in the market maturity and cross-border competitiveness factors, it still ranked first in the list with its advantages in network infrastructure and innovation capabilities. China performed outstandingly in the market maturity and cross-border competitiveness factors, scoring a full score of 100, while also maintaining high scores in the network infrastructure and innovation capability factors, and finally ranked second. Australia's scores on the three main factors are relatively balanced, especially in the human capital and digital skills factors, indicating that its digital commerce development is relatively comprehensive, ranking third.

Among the top five countries on the list, in addition to the above three countries, Japan and South Korea also ranked among the top. Japan performed well in both human capital and market competitiveness, with relatively close scores, while South Korea scored full marks in the network infrastructure and innovation capability factors, showing its technological leadership, but there is still room for improvement in human capital.

In the middle list, New Zealand, Malaysia and Brunei performed relatively balanced. Although these countries did not perform particularly well in various factors, their overall development was relatively stable, especially New Zealand, which scored high in the innovation capability factor. Brunei performed well in the human capital and digital skills factors. Although its scores in network infrastructure and innovation capability factors were low, its overall performance was relatively balanced.

The countries at the bottom of the list, such as Thailand, the Philippines, Vietnam, Cambodia, Laos and Myanmar, generally performed poorly in human capital, market maturity and infrastructure. In particular, Myanmar and Laos scored significantly insufficiently in network infrastructure construction, showing the bottleneck of digital commerce development. These countries face great challenges in the development of the digital economy and urgently need to increase investment in infrastructure construction and the popularization of digital skills.

The development of digital commerce in RCEP countries shows a significant polarization trend. Developed countries such as Singapore, China, Australia, Japan and South Korea are leading in many aspects of digital commerce, especially in network infrastructure and innovation capability. However, some developing countries still have large gaps in human capital, market maturity and infrastructure, especially Cambodia, Laos and Myanmar in Southeast Asia, which face severe challenges in the digitalization process. This shows that in the future under the RCEP framework, narrowing the gap in digital commerce development levels among countries will be a key task to promote regional economic integration.

## 5.2. Clustering characteristics analysis of digital commerce readiness of RCEP countries

Using the k-means cluster analysis method, all sample countries are divided into five categories according to the characteristic performance of each country in the three main factor efficacy scores. The specific classification results are shown in Table 4.

Table 4: Classification of digital commerce readiness characteristics of RCEP countries

| Classification | nation                                     | Digital skills and network service factors | Market maturity and cross-border competitiveness factors | Technological innovation and infrastructure factors |
|----------------|--------------------------------------------|--------------------------------------------|----------------------------------------------------------|-----------------------------------------------------|
| Category I     | Singapore                                  | Strong                                     | Weak                                                     | Strong                                              |
| Category II    | New Zealand, Australia, Japan, South Korea | Strong                                     | Relatively strong                                        | Strong                                              |
| Category III   | China, Malaysia                            | Relatively strong                          | strong                                                   | Relatively strong                                   |
| Category IV    | Brunei, Thailand, Vietnam, Indonesia       | Relatively weak                            | Relatively weak                                          | Relatively weak                                     |
| Category V     | Cambodia, Laos, Myanmar                    | Weak                                       | Weak                                                     | Weak                                                |

Category 1: Singapore. Singapore enjoys a high reputation in the field of global digital commerce. With its highly developed infrastructure and technological innovation capabilities, it has become an important node in the international e-commerce platform. However, Singapore's small market size limits its potential in cross-border e-commerce. But thanks to its convenient commerce environment and strong government support, Singapore remains a key hub in the global e-commerce supply chain. The Singaporean government attaches great importance to technological innovation and actively encourages enterprises to adopt the latest digital technologies, which makes Singapore a leader in promoting smart logistics, data security and payment solutions. Although Singapore's expansion capabilities in the international market are limited, its advantages in the field of technology make up for this shortcoming and ensure its long-term competitiveness in the field of digital commerce.

Category 2: New Zealand, Australia, Japan, and South Korea. These countries have developed information infrastructure and strong network penetration, which provides a solid foundation for the development of digital commerce. The user participation of their e-commerce platforms is extremely high, and the maturity of logistics and payment systems ensures smooth online transaction processes at home and abroad. In addition, these countries' continued investment in technology research and development and innovation has also brought continuous growth momentum to digital commerce. In the field of cross-border e-commerce, these countries, especially Japan and South Korea, have successfully integrated into the global supply chain with their high level of market openness and international competitiveness, and promoted the export of a large number of high value-added products. New Zealand and Australia have maintained a strong e-commerce development trend in smaller markets through their high technology application and innovation capabilities. In general, the second category of countries not only rely on their mature market structure and high level of network infrastructure, but also benefit from extensive international cooperation and highly developed logistics systems.

Category 3 : China, Malaysia. China is undoubtedly the leader in global digital commerce. Its e-commerce ecosystem is highly mature. Thanks to its large user base and perfect logistics system, China's cross-border e-commerce has performed particularly well. China has provided an example of e-commerce for other countries in the world through innovative payment systems and seamless online and offline integration. At the same time, Malaysia has made significant progress in digital commerce in recent years. By introducing favorable policies and attracting foreign investment, it has gradually improved its digital infrastructure and enhanced its market competitiveness. Although Malaysia has a small market size, it has gradually become an important digital commerce hub in Southeast Asia through its location advantages and relatively sound policy support. The common feature of China and Malaysia is that they continue to expand the coverage of digital commerce based on strong e-commerce development policies and regional cooperation.

Category 4: Brunei, Thailand, Vietnam, Indonesia. Although these Southeast Asian countries are not as developed as the previous categories in terms of digital commerce, they have shown significant growth potential in recent years. Brunei and Thailand have relatively rapid development of digital commerce due to their relatively free market environment and good information technology conditions. However, the relatively insufficient infrastructure is still a bottleneck for these countries in the field of digital commerce. Although Vietnam and Indonesia have a large advantage in population size, their digital commerce infrastructure still needs to be greatly improved. Despite this, the cross-border e-commerce transaction volume in these countries has increased year by year, and the government is also actively promoting the improvement of e-commerce policies, technology applications and infrastructure improvements. If these countries can achieve further improvements in infrastructure and network services, they have the potential to become important regional digital commerce markets in the next few years.

Category 5: Cambodia, Laos, Myanmar. The development of digital commerce in Cambodia, Laos and Myanmar is still in its infancy, which is closely related to the weakness of their digital infrastructure. These countries have low Internet penetration, limited online purchasing behavior of consumers, and enterprises have not yet fully improved their ability to use digital tools. This makes their e-commerce market development relatively lagging. The development of cross-border e-commerce in these countries also faces many difficulties. Due to the backward logistics and payment systems, it is difficult for international e-commerce companies to deploy in these countries on a large scale. Therefore, these countries have a low level of participation in the global digital commerce system. However, with the advancement of the "Belt and Road" initiative and other international cooperation projects, the improvement of infrastructure and digital skills will provide these countries with opportunities to participate in the global digital commerce market in the future.

## 6. Conclusion

### 6.1. Main conclusions

This paper systematically analyzes the readiness and differences of RCEP member countries in digital commerce development in 2022 by constructing a digital commerce readiness assessment system. The results show that Singapore, China and Australia have outstanding performance in digital commerce readiness, especially in human capital, network infrastructure and innovation capabilities. In contrast, although Thailand, Vietnam and other countries have advantages in population and market potential, their international competitiveness in digital commerce needs to be improved due to insufficient infrastructure construction and technological innovation capabilities. Cambodia, Laos, Myanmar and other countries have limited their e-commerce development potential due to weak infrastructure and low penetration rate of digital skills. In the future, RCEP member countries should strengthen cooperation in the field of digital commerce and narrow the gap between countries in infrastructure and innovation capabilities, especially through policy support and regional cooperation to promote the improvement of digital skills and infrastructure. At the same time, developed member countries can help developing member countries improve their digital commerce capabilities through technology transfer and experience sharing, and promote common prosperity in the region.

### 6.2. Countermeasures and Suggestions

(1) Strengthen the construction of digital infrastructure in the region and promote connectivity. The construction of digital infrastructure is the foundation for promoting the development of digital commerce. RCEP member countries should improve the level of connectivity through regional cooperation. We can learn from the EU's "Connecting Europe Facility" (CEF) plan and establish a regional digital infrastructure development fund to focus on supporting the cross-border construction of broadband networks, 5G technology and data centers. In addition, by promoting the public-private partnership (PPP) model, we can attract international capital to support infrastructure construction in developing countries, such as Malaysia's 5G network development model. Similarly, China's cross-border e-commerce logistics network in the "Belt and Road" initiative also provides a model for RCEP member countries. Promoting the construction of cross-border logistics platforms will improve the efficiency of e-commerce in the region.

(2) Improve digital skills and cultivate local digital talents. Digital skills are the key to ensuring the sustainable development of digital commerce. RCEP member countries should improve the level of digital education and training through regional cooperation. South Korea's "Digital New Deal" plan provides successful experience in digital skills training. RCEP member countries can establish similar digital talent training programs to cultivate e-commerce related skills. The EU's "Erasmus+" project is worth learning from. RCEP member countries can create a cross-border talent flow and training mechanism to promote the regional flow of digital skills. At the same time, developing countries can promote local digital entrepreneurship incubation and support the growth of small and medium-sized enterprises in the field of digital commerce through programs similar to Singapore's "Startup SG".

(3) Optimize the policy and legal framework to promote the healthy development of the digital commerce ecosystem. The optimization of the policy and legal framework is the guarantee for promoting the healthy development of digital commerce. RCEP member countries should promote policy coordination within the region and ensure the security of data privacy and flow in cross-border e-commerce through cross-border data flow agreements such as the EU-US Privacy Shield. RCEP member countries can also promote the standardization of cross-border payment systems, refer to the cross-border payment pilot project between China and ASEAN, simplify electronic payment

procedures, and improve transaction convenience. In order to ensure the legal credibility of cross-border e-commerce, RCEP can promote the mutual recognition of electronic signatures and electronic contracts in the region, refer to the framework of the "United Nations Commission on International Trade Law Electronic Signature Law", and enhance the effectiveness of legal protection.

(4) Promote the innovation and development of cross-border e-commerce platforms and promote the opening of regional markets. With the development of the global digital economy, cross-border e-commerce has become an important part of international trade. RCEP member countries should jointly promote the innovation and integration of cross-border e-commerce platforms in the region and encourage enterprises from various countries to expand into the international market through digital means. Specific measures include: supporting small and medium-sized enterprises to use e-commerce platforms for cross-border trade and lowering the threshold for entering the international market; establishing standardized rules for cross-border e-commerce in the region, unifying certification and payment processes, simplifying cross-border logistics and tax procedures, and reducing trade barriers; accelerating the legalization of electronic contracts and electronic signatures and improving transaction efficiency. In addition, a regional cross-border e-commerce training mechanism should be established through multilateral cooperation to enhance the operational capabilities and market competitiveness of member countries' enterprises in a digital environment.

(5) Promote technological innovation and cooperation and stimulate new momentum for digital commerce. Technological innovation is the core driving force for the sustained growth of digital commerce. We can learn from the EU's "Horizon 2020" innovation fund and establish a regional science and technology innovation fund to support the research and development of e-commerce related technologies and promote the application of emerging technologies such as artificial intelligence and blockchain. At the same time, technology transfer and cooperation platforms between member countries are also crucial. Digital economy technology cooperation projects similar to those between China and Malaysia can promote the widespread application of technological innovation in the region. RCEP member countries should also promote the application of emerging technologies in e-commerce. For example, Japan's robotic automation technology used in the logistics field can be used to improve the automation and efficiency of e-commerce logistics in the region.

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