

The Digital Economic Diplomacy in China and the “Belt and Road”: the Dual Impact of Technology and Economy

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Abstract. This study analyzes the diplomatic interactions between China, Singapore, and Pakistan in terms of digital economic diplomacy. Digital economic diplomacy, a term that refers to the use of digital technologies and platforms to advance economic and political goals, particularly through trade, investment, and financial services in the digital realm, is used to explore the implications of this emerging field on bilateral international relations. The reason for choosing these two countries is that they represent different economic, political, and technological environments as participants in the 'Belt and Road' initiative. Through the investigation of digital currency, e-commerce, digital infrastructure, and regulatory frameworks, the study reveals the critical role of the digital economy in deepening China's economic cooperation and political influence with these two countries. It also forecasts the further development trends, emerging opportunities, and possible challenges that may shape China's relations with these and other relevant countries under the framework of the 'Belt and Road' in the future.

Keywords: Digital economy, "Belt and Road", International diplomacy.

1. Introduction

Driven by the deepening development of globalization and technological revolution, the digital economy has emerged as a transformative force within the modern economic system. It has profoundly altered the global business model and the economic financial exchanges between countries. The digital economy, a multifaceted entity, encompasses not only technological innovation but also a range of economic activities and industries. These elements collectively underpin the digital evolution of modern society, reshaping the way we conduct business and interact with each other.

China, as a frontrunner in the digital economy, has swiftly ascended to a central position in the global digital economy. Its vast market size, advanced technological infrastructure, and active policy support have propelled it to this leadership role. This leadership role is characterized by [specific characteristics of China's leadership role]. Concurrently, with the inception and execution of the “Belt and Road” Initiative, China has pioneered a series of innovative economic cooperation models worldwide, particularly in Asia, through the digital economy [1]. Emerging fields such as digital currency, cross-border e-commerce, and financial technology have become crucial tools for China in promoting regional economic integration.

The digital economy is an economic phenomenon and a diplomatic strategic resource [2]. As digital technology accelerates innovation and is increasingly integrated into the entire economic and social development process, the digital economy will play a more significant role in promoting economic growth in various countries and facilitating people's production and life. With the help of digital economic tools such as digital currency, e-commerce, and financial technology, China has successfully deepened its economic ties with Asian countries and transformed these economic ties into voice and influence on the international political stage [3]. This "digital economic diplomacy" model is not only an essential means for China to achieve its diplomatic, strategic goals but also provides innovative Chinese wisdom and solutions for regional economic integration and global economic governance [4].

Driven by globalization and technological innovation, the digital economy has become an indispensable part of the modern economy, significantly changing the global business landscape and

how countries interact economically. With its vast market, advanced technological infrastructure, and active policy support, China has made remarkable achievements in digital economy, which has not only accelerated its economic transformation but also enhanced its position in international economic diplomacy [5, 6]. In particular, under the “Belt and Road” Initiative framework, China has deepened its economic ties with Asian countries through digital economy tools such as e-commerce, digital currency, and financial technology [7].

Although the role of the digital economy is becoming increasingly prominent, there are still many aspects worth exploring in depth on how it can specifically promote economic cooperation between China and Asian countries under the framework of the “Belt and Road” Initiative, thus enhancing diplomatic and political influence. Existing research on this aspect may have many directions worth exploring in depth, which provides a broad space for this study.

2. Case Study

This section is going to discuss the challenges and opportunities in the digital economy cooperation between China, Singapore, and Pakistan.

2.1. Case study of Singapore: Digital Economy Landscape

As a leading country in developing digital economy in Southeast Asia, Singapore has continuously deepened its cooperation with China in the field of digital economy. In recent years, the between the two countries in cross-border e-commerce, digital finance, 5G infrastructure construction, data sharing, and innovative city development have accelerated. The Singaporean government has actively promoted digital transformation, especially in financial technology, and has achieved remarkable results. The cooperation between China and Singapore in financial technology, such as digital currency and blockchain technology, has further deepened the economic ties between the two countries [8]. According to the latest data, the annual average growth rate of investment in Singapore's financial technology industry has reached 15%, of which Chinese companies account for a considerable proportion [9]. Through the "Belt and Road" initiative, the cooperation between China and Singapore in the field of digital economy has not only enhanced the economic ties between the two countries but also promoted the integration of the regional economy.

The Monetary Authority of Singapore (MAS) has cooperated extensively with many Chinese technology companies in financial technology, promoting the development of cross-border payments, financial technology innovation and digital financial services. Ant Group is one of China's most prominent financial technology companies, and its Alipay has become a leading global payment platform. In 2020, Ant Group cooperated with MAS to support Singapore's digital banking plan and obtained a digital wholesale banking license, which can provide non-physical banking services to small and medium-sized enterprises and non-individual customers [10].

In 2019, Tencent signed a cooperation agreement with MAS to promote the application of blockchain and distribute ledger technology in financial services, improving the efficiency and security of cross-border payments and transactions. Blockchain provides an essential channel for transforming information on the Internet to value the Internet. It is regarded as an emerging technology with national strategic significance and a significant driving force for continuously transforming new and old kinetic energy. It also promotes model innovation through technological innovation, leading to industrial transformation. Through the "blockchain +" model, empowering finance and natural industries, facilitating the integration of blockchain and industry, and accelerating the construction of industrial blockchain will be the central theme of the development of the blockchain industry in the next three to five years [11]. In addition, WeChat Pay has been widely promoted in Singapore, especially among Chinese tourists and residents. Through cooperation with local banks and financial institutions in Singapore, WeChat Pay's application scenarios in Singapore are becoming more and more extensive [12].

In October 2023, JD Industrial Development teamed up with EZA Hill, a subsidiary of Hillhouse Capital, for the first time and acquired a logistics asset package in Singapore from ESR at a total cost of S\$350 million. JD Industrial Development and EZA Hill jointly established the "Primus" entity as a new platform for managing the logistics asset portfolio. This is the first time that JD Industrial Development has landed in Singapore. In addition to further consolidating its layout in Southeast Asia, it is also a critical step in its global expansion [13]. The asset package acquired at this time mainly includes modern logistics facilities in Singapore, which is substantial in meeting JD's growing supply chain needs in Southeast Asia. Through cooperation with EZA Hill, JD Industrial Development can further expand its logistics network in the Southeast Asian market and support the development of its cross-border e-commerce business. The participation of Hillhouse Capital has added capital strength and industry experience to this cooperation. Through the newly established Primus platform, both parties will improve the operating efficiency of assets and strengthen the management and optimization of logistics infrastructure.

Portulans Institute released the Network Readiness Index 2022 report on November 15, 2022 (Table 1). Recognizing the ubiquity of digital technology in today's networked world, the Network Readiness Index (NRI) measures the application and impact of information and communication technology (ICT) in global economies based on four primary dimensions: technology, talent, governance, and influence. It assesses 130 economies around the world and depicts their network-based readiness.

3. Literature References

Table 1. Network Readiness Index 2022

Country	NRI Rank	NRI Score	Technology	Talents	Governance	Influence	Country
America	1	80.30	1	2	7	20	America
Singapore	2	79.35	4	4	10	2	Singapore
Sweden	3	78.91	8	5	5	3	Sweden
Netherlands	4	78.82	3	14	4	4	Netherlands
Switzerland	5	78.45	2	11	12	5	Switzerland
Denmark	6	78.26	6	7	2	7	Denmark
Finland	7	77.90	13	6	3	8	Finland
Germany	8	76.11	7	9	14	8	Germany
South Korea	9	75.95	14	1	22	13	South Korea
Norway	10	75.68	12	12	1	14	Norway

Singapore ranks second among high-income countries and first in the Asia-Pacific region. Also, its scores on various indicators are significantly higher than the average scores of these two groups. Singapore's most significant advantage lies in its influence. Among all the evaluated indicators, Singapore performs exceptionally well in terms of mobile phone prices, a population covered by at least 3G mobile networks, and internet access in schools. Overall, Singapore's digital economy has developed steadily, with leading global digital competitiveness, making it the digital capital of Asia and a leader in global digital economic development. It has excellent regional and international influence, influence (see Table 1) [14].

The digital economy cooperation between China and Pakistan mainly focuses on infrastructure construction and e-commerce. Pakistan is enhancing its digitization through Chinese investment and technology as an essential part of the China-Pakistan Economic Corridor (CPEC) under the "Belt and Road" Initiative. China has invested heavily in digital infrastructure in Pakistan, including 5G networks and data centers. According to research data, the average annual growth rate of digital infrastructure investment in Pakistan has reached 3.28% [15].

Building a performance-based economy focusing on digitization is a top priority for emerging economies worldwide. And Pakistan is also transitioning towards digitalization, where China's expertise in this field can facilitate its transformation. As we know, over 64% of Pakistan's population

is under 30, representing a vast potential that any country should fully utilize for embracing digitization. In 2018, it was observed that the “mobile ecosystem” worth \$16.7 billion contributed 5.4% to Pakistan’s GDP [16].

In the architecture of 4G networks, wireless signals are transmitted from users’ mobile devices to nearby base stations (also known as cellular towers). Then data is transmitted from the base stations to the core network and the internet via fiber-optic cables. These cables connect the base stations and data centers, ensuring high-speed and high-capacity data transmission. The Pakistan-China Optical Fiber Cable (OFC) project connects the two countries through a terrestrial link. The project carries commercial traffic and enables sustainable internet connectivity through China and the global internet. According to the annual report of the Pakistan Telecommunication Authority (PTA), the Special Communication Organization (SCO) has already used fiber-optic cables to connect Azad Jammu, Kashmir and Gilgit-Baltistan regions. It will also connect these two regions with the rest of Pakistan and China.

The Pakistan-China Optical Fiber Cable (OFC) project has been completed under the China-Pakistan Economic Corridor (CPEC) initiative. Through this project, the Shanghai Cooperation Organization (SCO) has deployed approximately 1,092 kilometers of optical fiber cables from Rawalpindi and Karimabad to Khunjerab Pass, aiming to establish the first-ever land-based connection with China. The total length of optical fiber cables spanning Azad Jammu, Kashmir and Gilgit-Baltistan regions is 5,252 kilometers, including the Pakistan-China OFC. The SCO has been increasing the deployment of optical fiber cables, with a 2.4% increase in the fiscal year 2021. On April 30, 2021, the project commenced trial operations in Gilgit.

In the fiscal year 2020-2021, the number of users of China Mobile Pakistan in Azad Jammu and Kashmir and Gilgit-Baltistan regions has been increasing, which are essential areas of the China-Pakistan Economic Corridor. According to statistics from the Pakistan Telecommunication Authority, in the fiscal year 2020-2021, the number of mobile subscribers in China Mobile Pakistan in these two regions increased to 1 million. During the same period, it also added 509,118 broadband users and installed 386 base stations in these two regions. In this fiscal year, 40 million mobile phone users in Pakistan used the network of China Mobile Pakistan, and 2.7 million internet users accessed its broadband services.[16, 17].

Based on the data analysis provided above, we can speculate that digital economy cooperation between China and Singapore will continue to deepen in the future, and the collaborative relationship between the two countries in various digital economy fields is expected to become even closer. Singapore will be more critical in China’s “Belt and Road” digital economy strategy. As China increases its digital economy footprint in Southeast Asia, Singapore, with its geographical advantages and leading position in the digital economy, will become an essential hub for Chinese technology exports and market expansion. It may also consolidate its economic leadership position in Southeast Asia and play a bridging role on the global digital economy platform by developing digital economy cooperation with China. In the future, the two sides will also cooperate in formulating digital economy standards, particularly in data privacy protection, cross-border data flows, and 5G technology. They will work towards promoting more unified and open digital economy standards within the region. As an international technology and financial center, Singapore may help facilitate the establishment of digital economy standards by China in Southeast Asia, thereby enhancing the recognition of Chinese technical standards in the region and strengthening China’s dominant position in this field[18]. This bilateral relationship will be further strengthened through deepened technological and economic cooperation, while Singapore will maintain its independence in international relations.

In the next five to ten years, Pakistan will play a more significant role in China’s “Belt and Road” digital economy strategy. Especially under the China-Pakistan Economic Corridor (CPEC) framework, digital infrastructure construction and technological cooperation will become the core driving forces for promoting economic relations between the two countries. China will also further increase its investment in Pakistan’s 5G networks, optical fiber communications, data centers, and smart city infrastructure, helping Pakistan accelerate its digitization process. China’s investment in

Pakistan will significantly enhance Pakistan's digital infrastructure, making it an essential node in the digital economy of South Asia [19]. This infrastructure upgrade will drive Pakistan's economic growth and enable it to occupy a more important position in the global supply chain. With China's support, Pakistan will emerge as a new force in the digital economy of South Asia in the coming years. Developing e-commerce, fintech, cross-border e-commerce, and other sectors will enhance Pakistan's competitiveness in the international digital economy [20]. In the future, Pakistan will be an export market for Chinese technology and products and serve as a bridgehead for China's digital economy in South Asia [21].

4. Conclusion

China's close cooperation with Singapore and Pakistan in the digital economy will significantly enhance its economic and political influence in Southeast and South Asia. As a crucial hub for China's digital economy expansion, Singapore will help China gain greater technological and commercial advantages in the Southeast Asian market by promoting cross-border e-commerce, fintech, and smart city construction. Furthermore, Singapore's international status will give China to have a louder voice in advancing regional digital standards and policy coherence. Meanwhile, through digital infrastructure investments and technology transfers under the China-Pakistan Economic Corridor, Pakistan has emerged as a strategic partner for China in South Asia, excelling in digital skills enhancement and e-commerce market development. This digital economy-driven cooperation model will further facilitate regional economic integration, reshape regional political structures, strengthen China's leadership position in Southeast and South Asia, and elevate its dominant role in global digital economy governance. Additionally, it will deepen Pakistan's dependence on China, making it a central pivot for China to stabilize economic and political relations in the region.

Authors Contribution

Wang Zhe is responsible for literature search, framework construction, introduction, case analysis, abstract writing, and full text polishing.

Qu Xinran is responsible for literature search, framework construction, introduction, literature review, theoretical framework, abstract, case analysis writing, and overall article structure integration.

All the authors contributed equally on references, and their names were listed in alphabetical order.

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