



China's Digital Silk Road in Southeast Asia and Vietnam's Responses from 2015 to 2021



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[*Abstract*]

China launched the Digital Silk Road (DSR) in 2015 as part of the existing Belt and Road Initiative (BRI) to expand its influence in digital and technological development across Asia, Europe, and Africa. Southeast Asia is one of the key targets of the Digital Silk Road due to its geographical proximity to China and the rapid growth of the digital sphere. Although the DSR opens several potential opportunities for the Association of Southeast Asian Nations (ASEAN) member states to foster the digitalization process in the region, how each country reacts to projects under the DSR is varied. Secondly, Vietnam is the only ASEAN member state that has not signed any official agreement under the BRI framework, and thirdly, Vietnam opted out of Huawei technology. This paper aims to understand the perspective of Vietnam and how Vietnam has responded to the growing technological presence of China in Southeast Asia until 2021. By using qualitative methods, the author argues that the DSR has allowed Beijing to overcome the limitations of the original strategy, BRI, and strengthen its influence in the field of information and communication technologies, particularly

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fifth-generation (5G) telecommunications. Furthermore, the paper examines Vietnam's digital development and digital diplomacy and how the Vietnamese government has responded to DSR projects. In light of both the potential threats and economic benefits that the DSR has brought to Vietnam and Southeast Asian countries, in the last section, the policy implications for cooperation are discussed.

Keywords: Vietnam, China, Digital Silk Road, Southeast Asia, digitalization

I . Introduction

Since 2013, China, under the leadership of Xi Jinping, has made significant changes in its foreign policy. The Belt and Road Initiative (BRI), as a multi-continent and multi-ocean infrastructure strategy, reflects the increasing ambition of the Chinese government to strengthen its control over Eurasia. The Digital Silk Road (DSR) is the technology component of the BRI. It embraces many digital areas, including satellites, cables, wireless networks, and so on. The DSR aims to strengthen China's digital capacities in artificial intelligence, big data, and other strategic fields (Hillman 2021). The DSR, however, has not been studied as extensively or in-depth as its parent effort, the BRI, and has gotten less attention than the BRI. It continues to be overlooked both as a government project and as a business endeavour. Even defining the DSR's boundaries is challenging since there is scant literature, mostly vague and occasionally inconsistent. Some government documents define the DSR as those digital technologies that boost connectivity or aid in the development of digital economies. They highlight investments in telecommunications network infrastructure, including 5G, submarine and overland fibre-optic cables, satellite ground stations, data centres, whole-of-system integrated solutions like smart cities and security-sector information systems, and some "over-the-top" applications and financial services (David and Nouwens 2022).

Southeast Asia is one of the key target regions of the DSR. Apart from China's historical influence and geographical proximity,

Southeast Asia is crucial to China in terms of exporting models for data in cyberspace and business. The responses of ASEAN member states to this situation are varied. Some countries generally accept Chinese technologies, while others resist projects under the DSR. Among the member states, Vietnam is arguably the most cautious and sceptical state, although Hanoi has already endorsed the BRI. As such, this paper aims to answer how DSR has been implemented in Southeast Asia, and how the Vietnamese government responded to the risks and opportunities associated with DSR from 2015 to 2021. The findings show that on the one hand, Vietnam has been aware of the economic benefits that the BRI and the DSR could bring to the digitalization process. On the other hand, Vietnamese leaders are also concerned about the political and strategic impacts of the DSR, particularly in light of the ongoing South China Sea conflicts. Until 2021, Vietnam and China had not officially signed any projects under the framework of the BRI. Given the rising influence of China in regional technological development, Hanoi has been adjusting its foreign policy to deal with China's digital diplomacy as well as strengthening its role in the rollout of digital connectivity in Southeast Asia (Le 2018).

In order to understand the dynamics between Vietnam and China, the article first examines the changes and main patterns of the new foreign policy of China under Xi's leadership, with a focus on the digital aspect. The next part discusses how China is implementing the DSR in Southeast Asia, and how it has triggered some concerns from both the Vietnamese and other ASEAN governments. The next and main part of the article focuses on Vietnam's policy responses to China, both directly and indirectly. The last part discusses implications for cooperation and healthy competition between maximizing cooperation with China and reducing the potential risks from the DSR.

II. Methodology and Contributions

The research methods used in this paper are qualitative, including case study design (Vietnam), documents analysis, and discourse

analysis. Qualitative methods were selected to produce rich, complete, and contextual analyses of the topic, particularly when tracing the development and dynamics of DSR in Southeast Asia and its impacts on Vietnam-China relations. First, regarding documents analysis, a wide range of documents were used, including printed and online versions; formal documents such as governmental announcements and strategies; and informal documents to gain background information in Vietnamese, Chinese, and English; and contextual and historical insights into the topic. Key documents include but are not limited to the Vietnam National Digital Transformation Programme by 2025, with an orientation towards 2030; the Fudan University Digital Belt and Road Centre DSR Bluebook 2018; China Key Points in the Work of National Standardization in 2020; the National Standardization Development Outline (China Standards 2035); the ASEAN ICT Masterplan 2020; and the ASEAN Digital Masterplan 2025. Second, the research also used discourse analysis to evaluate the speeches and announcements of national leaders, governmental officials, and diplomats at bilateral and multilateral dialogues involving parties, including Vietnam, China, and ASEAN. Even though many experts doubt that DSR is a rhetorical concept rather than an umbrella covering all key digital sectors, analyzing the discourses of national leaders and experts from China, Vietnam, and other ASEAN member states also contributed to the understanding of DSR.

As for the contributions of the paper, first, China and Vietnam are two neighboring countries that share distinct political, economic, and social characteristics. It is impossible to thoroughly understand the development of Vietnam, including digital development, without taking into account China-Vietnam relations and China's impact on the economic and political realms. Secondly, since Vietnam can be considered a unique case study in Southeast Asia with the arguably most cautious attitude towards DSR and BRI in general, investigating Vietnam's response can meaningfully contribute to the study of the Digital Silk Road by understanding the drivers, functions, and impacts of DSR before and during the COVID-19 pandemic on Southeast Asian countries. Last but not least, the paper provides more insights for researchers, political leaders, and policymakers. It

draws policy implications on how Vietnam can leverage the opportunities that DSR brought to the country and region and address the risks correctly without exaggerating or overlooking them.

III. China's Digital Silk Road: Aims, Scope, and Operations in Southeast Asia

3.1. China's Foreign Policy Shift in Light of its Technological Rise

China's foreign policy has undergone drastic changes under the leadership of Xi Jinping. Xi's thought of diplomacy refers to the shift to "major-country diplomacy" with Chinese characteristics (Wang 2018), namely a community with a shared destiny of humankind, win-win cooperation, the development of people, partnerships, and an accurate understanding of justice. The new diplomacy of Xi Jinping marked a departure from Deng Xiaoping's "hide your ambitions and disguise your claws." If Deng's diplomacy reflects realism, particularly his philosophy that "it doesn't matter whether a cat is white or black, as long as it catches mice," Xi's leadership embraces idealistic and moralistic aspects, in which the Chinese Dream is at its core (Wang 2018).

One of the prerequisites to achieving the Chinese Dream is the establishment of new universal norms and moral values in global governance. The rapid growth of big data, the internet, or artificial intelligence has increased the level of interdependence between China and the West. It is aligned with the vision of a community with a shared destiny. Indeed, with its rise in every aspect is the urge to expand its influence across different regions, a recreation of Eurasia.¹ It also aligns well with the current rise of China, which, according to Beeson and Li (2015), is instead a re-emergence. Throughout history, apart from the "hundred years of shame" of being colonized by the West, this country has been the most important center of trade and had huge impacts on Asian countries in terms of culture and politics (Beeson 2009). In the past, Deng

¹ Eurasia in the paper refers to Asia and Europe spaces, stretching from Portugal to the Bering Strait, from Lapland to Malaysia in the Grand Chessboard of Zbigniew Brzeziński (1998)

Xiaoping announced the strategic guidelines under which China needed to hide capacities and bide time to avoid conflict with the U.S., prevent the risk of being encircled by other countries, and create room for economic development and social stability. Three decades on, along with China's re-emergence, Xi Jinping confirmed in the media that Beijing had moved away from its low-profile foreign policy and started to follow the "fenfa youwei" (striving for achievement) strategy in foreign policy (Xi 2013). In 2014, President Xi asserted that China had become a major power (Jun 2014).

As such, the BRI has become increasingly salient in the foreign policy of China, and the BRI is described as China's Eurasian pivot. The key concept of BRI is connectivity, in which the Maritime Silk Road (MSR), the Silk Road Economic Belt (SREB), and the Digital Silk Road aim to link a network of roads, railways, and sea routes with technological infrastructure. The focus of this paper, DSR, was introduced in 2015 with the aim of improving China-centered digital infrastructure and strengthening digital connectivity. DSR serves three primary purposes: 1) to promote regional and international connectivity; 2) to innovate traditional industries and increase employment opportunities in recipient countries while promoting dependency on the Chinese digital economy; and 3) to establish a regional community with common interests in various digital industries, particularly in neighboring regions such as Southeast Asia (Digital Belt and Road Centre 2018). China believes that in the process of implementing the DSR, it is necessary to promote the role of the government and international organizations, create top-tier policies, build a transnational cooperation mechanism, and forge alliances on industry cooperation, public service creation, dispute settlement mechanism establishment, increased risk warning and network safety, unification of technical standards, promotion of international standardization cooperation, perfecting the legal system, and building an effective management system (Hoang 2022).

DSR has four main components. The first component is the investment in digital infrastructure in various countries. There are different types of investments, including 5G telecommunications, cellular networks, cables, or data centers. The second component of DSR is the domestic technological development that improves

China's advantages in global trade, supply chain, and military, such as AI, quantum computing, or the satnav system. Thirdly, in order to reduce economic interdependence, Beijing has been improving its e-commerce system by lowering foreign trade borders and building new logistics centers in various regions. Lastly, China has been promoting a digital environment that is favorable for its development through digital diplomacy and global governance, such as the International Telecommunications Union (Cheney 2019).

Fudan University's Digital Belt and Road Center also points out five key aspects of DSR, namely infrastructure, trade, finance, people, and policy. Regarding infrastructure, Chinese telecommunications companies, submarine cables, and cloud computing providers are leading digital infrastructure connectivity across Eurasia. For instance, Huawei is the leading company in 5G telecommunications, with 3325 patents compared to approximately 2000 by Nokia and 2400 by Ericsson (Lytics 2021). Chinese corporations own 60% of the smartphone market in Southeast Asia, including Singapore, Thailand, Indonesia, Malaysia, and the Philippines. Another important aspect of infrastructure are smart cities. China aims to become the new global smart-city provider to BRI recipient countries (Ekman 2019). The second pillar, regarding trade and finance, is closely linked to the Made in China 2025 plan. The Digital Silk Road allows China to gain better access to different markets and provide cheaper digital goods and services to these markets. Furthermore, Chinese companies such as Alibaba also facilitate the development of developing countries in terms of digitalization by connecting these economies to the worldwide e-commerce system, as well as providing finance and fulfilling the needs of developing countries by sponsoring education, training, or digital infrastructure programmes. The last aspect is policy, which refers to China's efforts to change international standards. By establishing themselves as leaders in the field of technology, the Chinese government and Chinese companies have been challenging existing trade and economic regulations set up by the Westphalia consensus. In particular, Beijing wants to become a rule-maker in cyber governance and data management through China Standards 2035 (Dekker 2020). In general, DSR is an important part of China's

strategy to promote its technology and standards across various regions of the world.

Nevertheless, several experts argue that the DSR idea has developed into a catch-all phrase for numerous digital projects that the Chinese government is interested in. Furthermore, there is no exhaustive list of project types that ought to be included in the DSR. Another challenge is that, unlike BRI infrastructure projects, majority of international information and communications technology (ICT) projects carried out by Chinese businesses are not advertised or identified as DSR initiatives. Therefore, instead of being understood as a project or initiative directed or carried out centrally by Chinese ministries in Beijing or as a concept in which all business operations related to the digital economy are grouped together under its rubric, the DSR is best understood as an umbrella branding effort and a narrative for China to promote its global vision across a range of particular key technological sectors. More importantly, despite having its origins in the BRI, the DSR appears to have grown more naturally via the actions of China's domestic technology corporations and ICT sector than as a government-driven program. For this reason, the next part examines the operations of DSR in Southeast Asia in three primary domains: infrastructure, trade finance, and policy.

3.2. Digital Silk Road in Southeast Asia: Infrastructure, Trade and Finance, and Policy

Given the main features of DSR and as one of its main targets, how has Southeast Asia been affected by DSR? Southeast Asia has witnessed the increasing technological influence of China due to the geographical proximity between China and ASEAN countries, the increasing economic growth rate in Southeast Asian countries, and the strategic values and benefits that China can gain from these markets. This section discusses China's presence in three main aspects, namely digital infrastructure, trade and finance, and policy, with a focus on Vietnam.

As reported by *Xinhua News* (2021), China and ASEAN are supposed to witness rapid growth in their combined value of digital

economies, which can reach more than USD 9.5 trillion by the end of 2025. Professor Zhai Kun of Peking University and Yuan Ruichen, researcher of the BRI Big Data Innovation Experimental Project, also emphasised the potential of ASEAN-China digital cooperation, notably in the fields of cybersecurity, digital governance, and e-commerce. While ASEAN has great potential because it is the fastest-growing internet market in the world, Beijing has advanced digital transformation, the biggest market, and a leading digital ecosystem. Bilateral cooperation is critical for digital development on both sides (Zhai and Yuan 2021).

Currently, China has been acting as the main player in the digitalization process in Southeast Asia, with investments in infrastructure, e-commerce platforms, finance, and other fields. In particular, the Regional Comprehensive Economic Partnership and the Initiative on Building China-ASEAN Partnership on Digital Economy have brought more opportunities for both ASEAN and China in the digital space, such as infrastructure, electronic commerce, and digital financing. Zhai Kun also noted that cybersecurity cooperation should be considered the key field for bilateral cooperation, starting with establishing a multi-level cybersecurity cooperation mechanism to develop a regional governance system (*ibid.*).

China's DSR has always been integrated into bilateral and multilateral dialogues in order to expand policy linkages and enhance trust with other countries in order to accelerate the process of building the DSR. For example, the ASEAN-China Foreign Ministers' Meeting held in July 2019 discussed and agreed that digital economic cooperation should be a new focus for both China and ASEAN. At the following 22nd ASEAN-China Summit, China and ASEAN discussed issues affecting standards, application areas, and integrated solutions for smart city technology.

Regarding digital infrastructure, infrastructure building is the core of the Belt and Road Initiative. As such, it is also the key pillar of DSR. China mainly focuses on building telecommunications infrastructure, submarines, and fiber-optic cables to connect Southeast Asia with other regions like South Asia, the Middle East,

Africa, and Europe. Besides, investors from China, including Alibaba and Didi Dache, invested in rising e-commerce companies in the region like Tiki, Lazada, and Grab with the aim of building stable e-commerce platforms in Southeast Asia (Boudreau and Nguyen 2021). Nevertheless, digital infrastructure in this region still lags behind, particularly in less developed member states such as Myanmar, Cambodia, and Laos (Zhong 2019).

Regarding trade and finance, as a leading country in the internet and financial services, Beijing has been working on improving the fintech sector. In 2020, China's Ant Group established the mobile payment system in Southeast Asia through its investments in Ascend Money in Thailand, Digital Money in Myanmar, Dana in Indonesia, and Mynt in the Philippines (Iwamoto 2020). Furthermore, the Chinese government has advised Chinese banks to use the RMB as the main currency for the payment system, which helps China become less vulnerable to financial transactions and the supply chain. In 2015, the Central Bank of China established the Cross-Border Interbank System globally with the aim of promoting the RMB across the world (Shen 2019). In 2019, the Chinese government will strengthen its efforts in the five-year blueprint to turn Guangxi into a financial gateway to Southeast Asia. The primary objective of this plan is to promote the use of RMB in Southeast Asian countries by facilitating regional trade, currency transactions, investing, and financing in the Chinese yuan (Pal 2019).

Regarding policy, China has been working on altering the existing standards and establishing new ones in technology and science. Many Southeast Asian countries have not established comprehensive laws and regulations in the digital space, which allows China to convince them to adopt their standards. By exporting Chinese platforms and investing in digital infrastructure through DSR, Beijing has made ASEAN countries more dependent on its technology. For instance, most Southeast Asian countries embrace Huawei, notably the Philippines, Thailand, Cambodia, and Myanmar. Singapore and Indonesia also welcome the operations of Huawei Technologies (Le 2019). Currently, Vietnam is the only ASEAN member state that does not support the operations of

Huawei within its territory. Instead, the Vietnamese government has been working on developing its 5G network by cooperating with a Swedish company, Ericsson. By leading the telecommunications and digital platforms in the region, ASEAN countries are expected to be locked into China's DSR projects and reluctant to switch to other platforms (Le 2019).

China is identified in the Masterplan as the key trade partner that ASEAN needs to include 4.0 technologies in trade facilitation processes (ASEAN 2021a). China has been advocating for the ASEAN-China Comprehensive Strategic Partnership, which embraces "e-cooperation in the economic, technological, cultural, and political fields" with multi-level diplomatic cooperation at the government and people-to-people level to deal with both bilateral and multilateral issues, and intensive partnerships on the digital economy and technology innovation were mentioned as the key to future growth (Li and Ye 2019). This can be considered an important effort by Beijing to strengthen the presence of DRS in Southeast Asia. Nevertheless, according to the survey of Singapore's think tank, The ISEAS-Yusof Ishak Institute, trust in China is very low in ASEAN, and there are concerns that this partnership will blur the strategic autonomy of ASEAN in the physical and digital space (Seth and Seah 2021).

IV. Vietnam's Digital Transformation and its Responses to DSR from 2015-2021

4.1. Digital Strategy and Digital Diplomacy of Vietnam

In light of the increasing influence of China in the digital space, Vietnam has been worried about security implications and increasing dependence on China's economy and technology if it embraces DSR. However, previously, state-owned companies from China did have access to telecommunications networks in Vietnam, such as ZTE, when Hanoi developed a 3G network. Since the rise of fourth generation of broadband cellular networks, Vietnam has been working on producing its own base stations as one of the starting points of its national strategy to embrace the Fourth

Industrial Revolution (Zhong 2019). As such, this part will unpack the digitalization process and strategy of the Vietnamese government.

As for domestic development, it is worth noting that previously, Vietnam did not have a comprehensive policy on digitalization. During the past few years, Hanoi has achieved critical milestones in digital transformation. For instance, the digital economy of Vietnam has increased steadily and reached USD 14 billion by 2021 (compared to USD 9 billion in 2018) (VNA 2021a). In 2021, new Prime Minister Pham Minh Chinh officially concluded at the first meeting of the National Committee on Digital Transformation that digital transformation is an inevitable trend not only in the country but also on a global scale, especially in the context of facing a dual challenge—both fighting the COVID-19 pandemic and proactively adapting to digital safety and security for socio-economic recovery and development. Furthermore, Vietnam also approved the National Digital Transformation Programme by 2025. As stated in the Digital Transformation Plan through 2025, digital transformation in Vietnam has three main pillars: digital government, digital economy, and digital society (Sameul 2021). While digital governance enhances the digital capacity of the Vietnamese government in every aspect of governance, digital society primarily refers to the digital access and applications for every citizen. The most relevant pillar to Vietnam-China relations, digital economy embraces three main elements, namely the ICT digital economy, platform digital economy, and sectoral digital economy (Thai 2022).

E-commerce platforms and online payment systems like Sendo and MoMo are among the fastest-growing digital subfields in Vietnam. In 2020, e-commerce grew by 18%, and it is expected to rank third in Southeast Asia by 2025 (VNA 2022a). Vietnam also launched the program "Vietnam National Pavilion" on the Chinese JD.com in 2021, which marks the first goods space of Vietnam on a Chinese e-commerce platform (Vietnam News 2021).

Furthermore, telecom is another important field. Currently, Viettel Group is the main company that takes charge of it. This

state-owned enterprise decided not to cooperate with Huawei Technologies and used supplies from Nokia and Ericsson. Other major telecommunications companies, namely Vinaphone and MobiFone, also did not choose to work with Huawei and opted for other partners. (Onishi 2019).

As for foreign policy, at the 13th Party Congress, Deputy Foreign Minister Le Hoai Trung emphasized the importance of the digital aspect of Vietnam's foreign policy. Hanoi still follows three aspects of its foreign policy, namely party, state, and people-to-people, but makes it more modern and comprehensive by expanding the digital aspect of foreign diplomacy (VNA 2022b).

The Vietnamese government demonstrated its understanding of digital diplomacy as the new form of public diplomacy in which ICT and social media channels are tools to foster foreign relations and achieve national interests (VNA 2021a). According to the survey about the role of ICT in public policy, Vietnamese diplomacy practitioners agree that digital diplomacy is becoming increasingly important to the digitalization process in Vietnam. ICT has transformed Vietnam's public diplomacy into an interconnected one, with digital diplomacy being used as a tool to achieve domestic and international policy goals. To be specific, ICT has played an important role in promoting political legitimacy and international reputation. Therefore, any hindrance to the development of digitalization, such as blocking international social media, would paint Hanoi as a restricted and unappealing environment for business and socio-economic activities (Lam 2021).

Furthermore, the Ministry of Information and Communications aimed to improve its training in digital technologies, the digital economy, and society to support the digitalization process in Vietnam. Key fields of technology include AI, cloud computing, a new generation of cellular network technology, robotics, and data management. In terms of the digital economy, key fields are digital banking, payment services, data analysis, digital transactions, and so on (Anh 2020). At the 14th Annual Conference of Deans and Directors of ASEAN+3 Diplomatic Training Institutes, Ambassador Nguyen Nguyet Nga also emphasised the importance of adopting

new approaches and gaining the necessary digital skills to embrace the new challenges and opportunities of digitalization (Vietnam News 2021).

However, similar to its strategy on digital transformation, digital diplomacy is a new field for Vietnamese policy-makers and diplomats, and Hanoi has paid more attention to digital diplomacy to respond to the digital diplomacy of other countries and catch up with the digital transformation at the global and regional level. The next part will discuss how Vietnam has responded to DSR.

4.2. Vietnam's Response to China's Digital Silk Road

First of all, the Vietnam-China bilateral relationship is very complicated and unsettled. Both countries share the same political ideology and a one-party system, yet they also face several issues such as geopolitical competition and maritime disputes. Although Vietnam has been sustaining and managing its trade and economic cooperation with China, it always finds ways to minimize the influence of China to protect its sovereignty and national interests. Vietnam has been skeptical about BRI and DSR and their political and security implications, despite the economic benefits they might bring to the digitalization process in the country (Le 2020).

Regarding the cooperative side, China is the largest trading partner of Vietnam; Vietnam is the fifth-largest trading partner of China in the world. Therefore, collaborating with China is unavoidable. In many fields, China plays a critical role in the development of Vietnam. For example, Prime Minister Pham Minh Chinh highlighted the importance of China in promoting its digital economy (Hai 2021). Furthermore, there is a need to foster cooperation with China and Chinese technology companies in other digital fields, including education and training. He emphasized that Vietnam had been aware of the significance of digital transformation and on the path toward a more digitalized economy and society. Furthermore, Vietnam is also an active player in advocating for the ASEAN-China Comprehensive Economic Cooperation Agreement (ACFTA), with a focus on e-commerce to promote free trade agreements with both parties (VNA 2022c).

However, the Vietnamese government encountered several challenges in dealing with China in general and the DSR in particular. Both policymakers and international relations analysts in Vietnam often adopt a realistic, practical, and pragmatic approach to China. China's Belt and Road Initiative and later the Digital Silk Road have raised several concerns for Vietnam. As one of China's main geopolitical competitors in Southeast Asia, the geopolitical implications of BRI are clear. Since 2013, China, under the leadership of Xi, has made significant changes in its foreign policy. The BRI, as a multi-continent and multi-ocean infrastructure strategy, reflects the increasing ambition of the Chinese government to strengthen its control over Eurasia. Scholars argued that geopolitical theories, particularly the classical land power theory and sea power theory, have been guiding the foreign policy of China. In 1904, Mackinder predicted that China would become a threat to existing great powers, as it had both sufficient resources and advantages to become a land power and a sea power. With a 9,000-mile temperate coastline and many favorable natural seaports, China has the great potential to serve as the next sea and land great power (Mackinder 1969). Indeed, a century later, Beijing is expanding its influence on sea and land from Asia to Europe and Africa.

Furthermore, during the feudal period, the kings of Chinese dynasties perceived China as the center of the world, and the surrounding countries were vassal states. As one of the so-called vassal states of China, according to the map, it is understandable why Vietnam is often cautious about any projects under the BRI. Since the map of power in modern politics is not simply defined by physical borders but also by control over data, technology, goods, and international standards, the concept of sovereignty is also expanded and associated with critical infrastructure and new technologies (Leonard 2021). DSR allows Beijing to overcome the physical limitations of BRI by applying digital principles and norms in recipient countries. Therefore, once Vietnam officially signs a project under DSR or uses Chinese technologies intensively, there is a high chance that Vietnam will have to adopt China's norms and requirements in cyberspace. It does not only increase the

dependence of Vietnam's economy on China but potentially leads to other risks and negative consequences, such as intelligence gathering or intellectual property infringement. "There were reports that it was not safe to use Huawei. So Viettel's stance is that, given all this information, we should just go with the safer ones," said Le Dang Dung, Viettel's Chief Executive Officer, in an interview with *Bloomberg* (Nguyen 2019). Le Hong Hiep, a reputable Vietnamese scholar at the ISEAS-Yusof Ishak Institute, also shared the same view: "Vietnam cannot trust China" in the article published on the *Jakarta Post* with the title "Vietnam prefers its mobile networks to be free of Huawei." They cannot risk their critical infrastructure just because they offer something cheaper than other companies (Boudreau 2019).

Another challenge is the US-China trade war and great power competition in general. Vietnam has been following a hedging strategy in which it does not align with the US against China, as PM Pham Minh Chinh said to the Chinese Ambassador to Vietnam: "Vietnam will not side against China"; however, it does not support the operations of DSR-related projects either (Lau 2021). This is the most concrete evidence of Vietnam's diplomacy towards China's growing digital presence in Southeast Asia.

More importantly, the digital application of China-Vietnam cross-border cooperation is also facing serious challenges. Over the past few decades, the disparity and dissonance in the level of use and methods of digital technology management between Vietnam and China at the border gates in the customs clearance process has always been a negative factor for the development of Vietnam. In the content of BRI and DSR cooperation, China clearly stated that it would improve clearance equipment at border gates, speed up the implementation of the one-stop mechanism at border gates, reduce costs, and improve customs clearance capacity. In recent years, the efficiency of managing border trade activities at Vietnam's border gates has been quite low due to not being able to keep pace with China's e-commerce level and the COVID-19 pandemic (ibid.). Vietnam's digital infrastructure equipment and inter-network services have not kept up with the requirements of cross-border trade connectivity, easily leading to congestion of goods and a waste

of time in customs clearance. The trade management by the digital system between two countries is not in sync, which makes it difficult for cross-border trade, including storage, data transfer, and transparency in tariffs. The situation worsened during the pandemic as Vietnam's information system failed to meet China's requirements, which caused spoilage of products for several small businesses (ibid.).

Therefore, Hanoi develops its digital capacity as a solution to being dependent on China's technologies and giant technology companies. The World Bank's report "Digital Vietnam: The Path to Tomorrow" highlights several efforts of Vietnam in the digital revolution, including improving the quality of digital infrastructure, promoting the digital economy by establishing a secure and efficient internet payment system, and harnessing the digital economy (The World Bank 2021). Vietnam is one of the only two ASEAN states that avoids Chinese telecommunications companies. However, instead of signing an agreement with other international vendors like Singapore in 2020, Vietnam chose to build its own 5G network. It is worth noting that Huawei is not the only company that is kept out, but it is also a part of the 5G and national digital transformation plans, which help Vietnam be more competent in cyberspace and less fragile because of the emerging digital standards and norms of China (*Vietnam Investment Review* 2022).

Besides building its own digital capacity, another solution that Vietnam adopted was to diversify its partnerships and collaborations with other countries, such as the US, India, and Switzerland. For example, the Vietnamese Minister of Information and Communications (MIC) and the United Kingdom's Parliamentary Under-Secretary of State at the Department for Digital, Culture, Media, and Sport have agreed to foster bilateral cooperation in the digital economy and digitalization under the framework of the UK-ASEAN Digital Innovation Partnership. Similarly, Vietnam and Switzerland also agreed to promote digital transformation and high-tech applications in various fields (Nhan Dan Online 2021). In late 2021, India and Vietnam also signed an agreement to facilitate cooperation in the field of technology by enhancing the digital economy, digital government, and tech start-up ecosystems in both

countries (Chaudhury 2021).

Secondly, Vietnam chose to enhance regional collaboration with the ASEAN member states to both collaborate with China and minimize the influence of DSR and Chinese companies in the region. Among various partners, partnerships with the ASEAN Member States still play a fundamental role in dealing with China's digital strategy in the region.

According to the World Economic Forum (n.d.), ASEAN is the fastest-growing digital market globally, and its digital economy is expected to add USD 1 trillion to the GDP of the region in the next ten years. Acknowledging the importance of digital transformation, ASEAN announced the Masterplan on ASEAN Connectivity 2025 and the e-ASEAN Framework Agreement as the two key documents to foster intra-bloc cooperation (The World Economic Forum 2021). To be specific, priorities of the ASEAN Digital Masterplan include: 1) Digital infrastructure; 2) Digital transformation; 3) Resilience, Trust, and Security; 4) Digital Policy, Regulation, and Standards; and 5) Cooperation and Collaboration (ASEAN 2022). Vietnam, as a member state of ASEAN and the co-chair of the OECD's Southeast Asia Regional Program, supports and advocates for the implementation of the master plan in the region (VNS 2022). In particular, Vietnam, at the ASEAN-China Special Summit commemorating the 30th year of ASEAN-China Dialogue Relations, supported the new partnership framework and called for closer collaboration between the two parties in economics, trade, and investment (VNA 2021b). Moreover, at the 42nd General Assembly of the ASEAN Inter-Parliamentary Assembly, incoming State President (and outgoing Prime Minister) Nguyen Xuan Phuc also advocated for ASEAN parliamentary cooperation on AI, robotics, the digital economy, and pro-business e-government. Hanoi also suggested setting up "a pan-ASEAN roaming charge for mobile phones" mechanism, cybersecurity intelligence collaboration, and training skilled manpower in ICT (Nguyen 2021). Indeed, in the past few years, Vietnam has become an active player in regional digitalization. Viettel, a state-owned and largest telecommunications service provider in Vietnam, also operates in three other ASEAN countries.

In Cambodia, the Viettel (Metfone) network covers 97% of the country and accounts for a significant market share. This Vietnamese company also supports Laos in launching a 4G network and improving the rate of data-using customers in Laos to over 49%. In Myanmar, Viettel (Mytel) worked on increasing the internet and telecommunications system across the country from 31% in 2018 to 55% in 2019 (Viettel Group 2020).

In general, it can be concluded that although Vietnam has not had comprehensive digital diplomacy, until the end of 2021, it has been actively working on the domestic digital transformation and enhancing cooperation with other countries within and outside Southeast Asia to respond to the increasing presence of DSR in the region. The last part will discuss the implications of DSR for China-Vietnam relations.

V. Implications and Ways Forward for Vietnam-China Digital Cooperation in Southeast Asia

5.1. Implications on Vietnam-China bilateral digital cooperation

Dr. Le Hong Hiep, a senior research fellow at the Singapore Institute of Southeast Asian Studies, explained that Vietnam does not want to receive Chinese funding because it does not want to be dependent on China, even if it needs more capital for infrastructure development. The root cause lies mainly in the disputes in the South China Sea. Regarding the possibility of implementing DSR in Vietnam in the future, Dr. Pham Sy Thanh, the Director of the Mekong-China Strategic Studies Programme, emphasized that this decision relies more on businesses than on the government. "It will purely depend on the strategy of the companies and not the choice of the government," he said; "Businesses will know what they need to do." (Van and Kim 2021).

However, whether the opportunities are in the hands of government or business, there is still a need to understand DSR in a more comprehensive way in order to maximize efficacy and limit the risks of DSR. More studies about the content and status of

cooperation in the DSR, particularly cooperation with Southeast Asian countries, as well as forecasting the development scenario of the DSR in the region (*ibid.*). These studies should involve relevant ministries, local governments, and ICT companies in Vietnam, and if possible, foreign stakeholders and other governments.

Secondly, Vietnamese telecommunication carriers like Viettel, Mobifone, and VNPT are now capable of building a 5G network without the Chinese companies, as by 2020, they will account for over 95% of the market share. According to the World Bank, in terms of mobile phone usage, it currently compares favorably to peers and aspirational comparable countries, and its people and businesses have good Internet access. All of its provinces are covered by a very advanced digital infrastructure that is financed by national telecommunications corporations that are focused on the future. Additionally, it is home to numerous top-tier IT companies like Apple, Samsung, Intel, etc. This shows how competitive Vietnam is and provides a special platform for local businesses and developers, following the example set by Japan and Korea in the 1970s and 1980s and, more recently, China (Morisset 2021).

Nevertheless, Vietnam still needs to collaborate more with other countries, including China as the front-runner of e-commerce and mobile applications. This is in order to strengthen the national digital capacity and realize the National Digital Transformation Program by 2025 in all three components, namely the digital economy, the digital society, and the digital government. In particular, utilizing digital applications like ordering, shipping, and paying online has become a universal skill for all classes of Chinese residents for more than a decade. Vietnam can carry out training items for high-quality human resources in ICT with both the Chinese government and companies, thereby expanding the scope of digital use in the country. Cooperation in education and training in the digital period is also a recommendation of Prime Minister Pham Minh Chinh at the 2021 Global Service Trade Summit. There must be focus on "cooperation in education and training of human resources in the field of human resources, science, and technology that supports workers to gradually adapt to digital technology". It is also covered under the framework of DSR. (Vietnamplus 2021).

Thirdly, it is important to strengthen the digital cooperation between China and Vietnam on cross-border trade as it can serve as the breaking point for the cooperation under the framework of DSR and can gradually build trust between the two sides for further collaborations in other digital fields. In order to foster the digitalization process of the country, Vietnam needs to accelerate the process of completing the digital infrastructure system across the border in order to facilitate the stages of transportation, customs clearance, payment, and control of entry and exit of people and goods. The digital infrastructure system at border gates should be compatible with some basic standards of the Chinese side to maximize the application efficiency of the digital infrastructure system according to digital commercial requirements between the two countries. This is in line with one of the main goals of DSR: digital standard setting, as China has been signing joint initiatives on strengthening standards cooperation on 5G networks, smart cities, and other digital infrastructure, focusing more on the digital economy (Dai 2021). Although agreement on 5G telecommunications has not been feasible at least in the near future, a more coherent cross-border digital system is achievable if greater efforts are made by Vietnam-China border provinces like Lao Cai, Guangxi, Yunnan, Cao Bang, and Ha Giang to facilitate provincial initiatives (VnEconomy 2022).

5.2. Implications on Vietnam-China-ASEAN Digital Collaboration in Southeast Asia

Dealing with DSR and other Chinese policies and initiatives requires regional collaboration given the asymmetry in power and national capacity between Southeast Asian countries and China. There are challenges for both Vietnam and China to strengthen their collaboration with other ASEAN member states and facilitate the operations of DSR in the interest of digital integration and development in Southeast Asia.

From the point of view of ASEAN, all member states have been supporting the cooperation between China and ASEAN. The Year of the Digital Economy in China and ASEAN China-Vietnam Cooperation was launched in 2020 to foster cooperation in the

digital economy during the global pandemic under the chairmanship of Vietnam (Zheng 2020). Still, all of the above-mentioned challenges and concerns remain the same. Therefore, it is necessary for this association to continue to work with China while minimizing the potential risks of DSR in the region.

First, a significant effort in enhancing a regional digitalization process is the ASEAN E-Commerce Association, Public-Private E-Commerce Dialogue, and ASEAN Work Program on Electronic Commerce 2017–2025, where a regional e-commerce value chain is encouraged. ASEAN acknowledges that an E-commerce Framework or ASEAN Agreement on E-commerce is the key to economic growth and economic development, and an official agreement was signed in 2019 and entered into force in December 2021 (ASEAN 2021b).

The COVID-19 pandemic has accelerated efforts to boost e-commerce growth as a path towards economic recovery. A healthy regulatory environment is crucial for ASEAN countries to penetrate the electronic commerce market more efficiently. This challenge still remains because there is a lack of alignment of standards and regulations across Southeast Asia, and with the participation of Chinese technology firms in the region through the Digital Silk Road, regulatory harmonization is crucial to enhancing regional integration and regional electronic commerce growth (US-ASEAN Business Council 2021). However, in practice, Southeast Asians still take various approaches to security and privacy issues. Among ASEAN members, Indonesia and Vietnam are applying the most far-reaching restrictions on data flows across the region due to data sovereignty and data security (The World Bank 2019). Only three out of ten members, namely Singapore, Malaysia, and the Philippines, have developed complete data protection statutes, so there is room for regional coherence on data protection laws and regulations (Ingram 2020: 13). The ASEAN Telecommunication Regulators' Council can act as the leading agency by analyzing national regulations from each country, comparing the regulations, and coming up with pan-ASEAN regulations.

Furthermore, digital connectivity at the regional level is still underdeveloped, despite foreign investment from China, Japan, and

other countries. Lack of cargo and commercial flights, ports, and railways currently hinders the digital transformation in ASEAN in general and Vietnam in particular. Telecommunications infrastructure is the most costly to install, particularly for less developed countries in the region such as Laos, Cambodia, and Myanmar. Mobile broadband is also more expensive in these countries than in Indonesia, Vietnam, and Singapore, which continue to widen the infrastructure development gap between ASEAN member states (*ibid.*). The United Nations (2020) estimated that by 2040, the gap could reach USD 500 million. In light of that, China's telecom companies like Huawei provided cheaper products than their competitors, Nokia and Ericsson. Indeed, affordability can be considered the main reason why many Southeast Asian countries welcome DSR, although they are also worried about the security consequences associated with Chinese companies.

The ASEAN Digital Economy Framework Agreement by 2025 is expected to continue what the e-ASEAN Framework Agreement has highlighted before: the need for improvement of digital infrastructure. "Member States shall enhance the design and standards of their national information infrastructure with a view to facilitating interconnectivity and ensuring technical interoperability between each other's information infrastructure" (ASEAN 2003). In the ASEAN Digital Masterplan, the ASEAN Secretariat also noted that the second series of outcomes for this plan is "An excellent telecommunications infrastructure is at the heart of any digital transformation. Achieving this outcome ensures that telecommunications infrastructure in ASEAN is upgraded to higher data rate capabilities and resilience in a timely and cost-effective manner and that its coverage is extended into rural areas" (ASEAN 2021a). However, how to implement it is the big question because of the lack of infrastructure financing. Apart from cooperating with each other, diversifying the sources of funding to improve digital infrastructure in the region is another priority, notably with Japan, Korea, and other RCEP countries, to establish a Digital Economy Partnership Agreement with them. It requires more multilateral, regional, and bilateral cooperation mechanisms by hosting meetings with potential stakeholders around the world. Besides, Southeast

Asia can also receive financial aid from international institutions; for example, the Asian Development Bank established the ASEAN Infrastructure Fund solely for the ASEAN member nations to develop infrastructure in Southeast Asia (ADB n.d.).

Nevertheless, DSR should still be considered a potential source of funding for digital connectivity and infrastructure in the future, even though there are some national cybersecurity and geopolitical concerns regarding Chinese technology. Given the fact that China's economy is operating under socialist market economy principles, investments and business activities overseas by Chinese companies are primarily motivated by market-oriented strategies for increased market shares and maximum profits. Therefore, even though their investment can be influenced or facilitated by DSR, it does not necessarily support the Chinese government in achieving its goals, as we can see in the case of Tiktok (He 2022).

Vietnam has been one of the leading actors, along with Singapore and Indonesia, in the digitalization process. The paper identifies two main issues that hinder Vietnam from cooperating with the rest of the ASEAN member states. The first problem is the fear of digital authoritarianism. Since Vietnam and China share the same type of political system, the US has been accusing China of conducting intelligent activities within and outside its territory. It is reported that the mobile application called "MFSocket" allows Chinese police to extract data from users' phones (Wang 2020). Looking at the case of Vietnam, the government seems to be attracted by the strategy of promoting and subsidizing state-owned technology companies like China. Moreover, in 2018, Vietnam ratified its cybersecurity law, which requires tech giants to store all data in Vietnam and allows the government to control various media platforms and business activities to some extent. It does raise the same concerns on cybersecurity and data storage for the rest of the ASEAN countries. Even if Viettel was successful with its own 5G network, other countries choosing it over Huawei Technologies is still a question. Second, there is a growing gap within ASEAN, in which some countries, such as Cambodia, strongly support China and DSR projects in the region.

Disagreements are likely to happen in the future, particularly from Vietnam's side as the most cautious member state of ASEAN, like the way Cambodia blocked the ASEAN joint statement in 2016 (Mogato 2016). As such, finding a common ground within the association to collaborate with China is crucial. In practice, this is hardly achievable given the varying degrees of engagement of each ASEAN country with China. However, given the fact that ASEAN has been trying to institutionalize cooperation in the field of digitalization with the ASEAN Digital Masterplan 2025, the ASEAN Framework on Digital Data Government, the ASEAN Data Management Framework, and the ASEAN Cybersecurity Cooperation Strategy 2021-2025, it is still feasible for ASEAN to institutionalize its cooperation with China under the framework of DSR in the post-COVID 19 world.

VI. Conclusion

As a part of the grand strategy on infrastructure, the Digital Silk Road has contributed to the increasing presence and influence of China in Southeast Asia in different ways, including digital infrastructure, digital economy and trade, and policy. During the past 6 years, from 2015 to 2021, DSR has allowed China to become the main provider of the 5G network in several ASEAN countries, promoting the use of online payment systems and Chinese currency, as well as gradually applying Chinese standards in member states' economies. In its three focus areas in Southeast Asia, namely infrastructure, trade-finance, and policy, DSR has allowed Chinese technology companies to access Southeast Asian markets and increase their influence in those countries, although it is not necessarily that those companies always support the agenda or geopolitical goals of the Chinese government, as some overstatements from a number of scholars suggest. In short, despite having its roots in the BRI, the DSR appears to have developed more as a result of technological developments and technology companies in China than as a result of a government-driven initiative.

As one of the leading players in digitalization and one of the two countries that rejected Huawei Technologies in ASEAN, Vietnam's response as studied in this paper contributes to the literature of China-ASEAN and Vietnam-ASEAN relations. Furthermore, the technology field is relatively new; hence, there is a lack of in-depth research on Vietnam's response to DSR. As such, this paper fills a gap in the existing literature. In principle, apart from strengthening its national digital capacity, particularly in terms of the 5G network, and fostering collaborations with ASEAN Member States and other partners, Vietnam still needs to collaborate with China in order to facilitate the digitalization process. On the one hand, Hanoi has been very cautious about the geopolitical implications and cybersecurity risks of DSR and Chinese companies. On the other hand, Vietnam also collaborates with China, both bilaterally and multilaterally, under the framework of ASEAN and other international forums.

In light of that, the last part discusses the implications and future directions for the digital collaborations between China and Vietnam and China-Vietnam-ASEAN at large. The cooperation between Vietnam and China plays a crucial role in enhancing Vietnam's digital capacity, particularly in terms of mobile applications, e-commerce, and cross-border trade. In order to leverage opportunities from DSR and enhance regional digital integration, a more institutionalized and cohesive framework for the digitalization process and coordination, both within the 10 member states and with external partners like China, is needed, particularly in the post-COVID-19 world.

As a reminder, the primary contribution of this research is that it allows us to have a comprehensive and in-depth understanding of Vietnam's viewpoint and response to the Digital Silk Road. Future research may also look at the viewpoints and diplomacy of other ASEAN countries to compare with the Vietnamese approach, which will benefit the research on ASEAN-China digital cooperation in general.

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