

Connecting Asia: The Rise of China's Digital Silk Road in ASEAN Countries

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Abstract

Southeast Asia has emerged as a crucial hub for China's Digital Silk Road (DSR), owing to the region's increasing digital economy, young population, and geopolitical prominence. Between 2017 and 2023, Chinese companies such as Huawei, Alibaba, and ZTE made significant investments in ASEAN's digital infrastructure, including 5G networks, smart hospitals, data centers, and e-commerce platforms, while initiatives such as Huawei's "Seeds for the Future" increased technological capability. This study looks at how ASEAN countries deal with China's DSR while balancing national interests, regulatory frameworks, and digital development aspirations. The research identifies both opportunities and challenges based on case studies, policy analysis, and assessments of regional governance mechanisms. While Chinese investments have accelerated digital transformation, ASEAN member countries are also implementing regulatory safeguards, fostering regional cooperation, and advancing strategies such as the ASEAN Digital Masterplan 2025 and the Digital Economy Framework Agreement to protect sovereignty and promote interoperability. The findings highlight the region's attempts to attract foreign investment while developing secure, inclusive, and autonomous digital ecosystems that will influence its role in the global digital order.

Keywords: ASEAN, China, Digital, Digital Silk Road.

A. INTRODUCTION

China's BRI is the largest infrastructure project in human history. Moreover, its DSR is the largest digital link ever deployed on land, sea, and even in the sky. It seems inevitable that the 20th century will be a digital century. The DSR is one of the key growth trends of the BRI and has become an integral part of the project. The DSR was first proposed as the digital component of the BRI in 2015, followed by the Belt and Road forum hosted by President Xi Jinping in 2017 (Jia, 2023). In 2017, China, Laos, Saudi Arabia, Serbia, Turkey, Thailand, and the United Arab Emirates jointly signed the BRI for International Cooperation in the Digital Economy at the Fourth World Internet Conference, marking a new phase in the development of

the DSR (News Agency, 2017). Since the DSR was launched as a standalone project at the Second Belt and Road Forum in 2019, it has become an integral part of China's foreign policy agenda. Two main factors influence the DSR's place in China's global strategy. The push factor is the rapid development of China's digital economy in recent years, which has driven its IT companies to explore global markets. The Belt and Road Digital Trade Development Index Report 2022, released by the Huaxin Research Institute, a national think tank, states that by 2022, the scale of China's digital economy will grow to 45.5 trillion yuan (6.37 trillion U.S. dollars), accounting for 49.8% of China's GDP, with an annual growth rate of 16.2 (Institute., 2023). The pull factor is China's belief that there is a "digital divide" in emerging countries that hinders the expansion of their digital economies.

China's DSR projects aim to provide next-generation digital connectivity around the world, by deploying global satellite navigation systems, 5G cellular networks, data storage facilities, surveillance networks, and terrestrial and undersea data cables. Though the DSR is part of the BRI, but unlike the BRI, the main stakeholders of the DSR are private technology companies such as Huawei, Tencent, Alibaba, and ZTE, which often receive policy support to expand their overseas businesses (L. He, 2022). Chinese technology companies entered overseas markets long before the establishment of the DSR. In addition to providing international development opportunities for local IT companies such as Huawei, Alibaba, and Tencent, DSR-branded infrastructure projects offer Beijing a way to strengthen its position in developing and emerging countries. China also provides political support, economic assistance, and other forms of benefits to recipient governments through the DSR.

There is a significant consensus in Chinese scholar's circles that the DSR is "Beijing's overall branding and narrative to promote its global vision in a range of technology areas and

projects.” Therefore, the DSR contains normative elements that go beyond the export of digital infrastructure. One of them is Beijing’s recent promotion of the “China Solution” for global network regulation (A. He, 2022). Between 2017 and 2023, Chinese firms including Huawei, Alibaba, and ZTE invested heavily in ASEAN’s 5G networks, data centers, e-commerce, and smart technologies. While these programs help to drive regional growth, they also raise concerns about cybersecurity, data privacy, and national sovereignty. ASEAN member countries are thus seeking a balance between utilizing Chinese digital investments and protecting their own regulatory and strategic interests.

Existing literature on China’s Digital Silk Road highlights both opportunities and risks for partner countries. Scholars emphasize that the DSR is not only an economic project but also a geopolitical instrument through which China exports its digital norms and governance models. Research from CSIS (Hillman, 2021) and Pacific Forum (Cheney, 2019) identifies the DSR as a tool for technological statecraft, designed to expand China’s influence in developing regions. Studies such as (Hussain et al., 2023) point to the benefits of digital infrastructure development, including improved connectivity and e-commerce growth, while warning of dependencies on Chinese technologies. Reports by the (Union, 2024b) and ASEAN Secretariat (2019, 2023) highlight ASEAN’s efforts to harmonize regulations and build resilience through regional frameworks like ADM2025, DEFA, and DIFAP. Meanwhile, critical perspectives (Insikt Group, 2021; He, 2022) underscore concerns about surveillance, data sovereignty, and digital authoritarianism.

Despite this growing body of scholarship, there remain notable gaps. Much of the existing literature examines the DSR either from a broad geopolitical lens (focusing on China’s global ambitions) or from a technical-economic angle (focusing on infrastructure projects and market

expansion). Few studies provide a holistic assessment that integrates geopolitical, legal, and economic perspectives while situating ASEAN as an active agent rather than a passive recipient of Chinese influence. Additionally, earlier research has paid limited attention to how ASEAN's own regulatory initiatives, such as the Digital Economy Framework Agreement (DEFA) and the ASEAN Digital Masterplan 2025, are shaping responses to external digital pressures.

This study addresses these gaps by offering a multidimensional analysis of the DSR in Southeast Asia. It contributes new insights by examining not only the nature of Chinese digital engagement, but also the strategies ASEAN countries are adopting to safeguard sovereignty, harmonize regulations, and strengthen regional digital governance. The uniqueness of this work lies in its focus on ASEAN's agency, demonstrating that Southeast Asian countries are not merely recipients of China's digital investments, but active participants in negotiating and shaping the future digital order.

This study aims to study the dynamics of China's Digital Silk Road in ASEAN countries, with the following objectives:

1. To analyze the scope and nature of China's digital engagement in ASEAN, with a focus on infrastructural development and technological capacity building.
2. Analyze how ASEAN member states are responding through regulatory measures, policy frameworks, and regional cooperation activities.
3. To assess the impact of ASEAN-led digital governance strategies, such as the ASEAN Digital Masterplan 2025 and the Digital Economy Framework Agreement, on influencing responses to external digital influence and protecting sovereignty.

B. RESEARCH METHODS

The research adopts a qualitative approach, employing a variety of methodologies to capture the issue's complexities. Case studies of selected ASEAN countries (Malaysia, Thailand, Indonesia, and Singapore) provide contextual information about national strategy and policy responses. Document analysis is used to examine significant regional frameworks including the ASEAN Digital Masterplan 2025, the Digital Economy Framework Agreement, and the Digital Integration Framework Action Plan. In addition, bilateral and multilateral institutional frameworks are examined to better understand how ASEAN engages with China at various levels. The paper also examines digital investment patterns among Chinese technology businesses and compares them to ASEAN's emerging regulatory frameworks.

C. RESULT AND DISCUSSION

1. Explanation of the DSR's objectives

The goal of the DSR is to help participating countries in order to build and improve digital infrastructure. The project uses cutting-edge technologies such as fiber-optic networks, data centers and e-commerce platforms to strengthen digital connectivity, stimulate economic growth and advance regional integration. The DSR includes several digital initiatives such as technical standards, cross-border e-commerce and smart cities. The initiative, led by Chinese technology giants such as Huawei and ZTE, aims to narrow the digital divide in Belt and Road countries by exporting digital technology and providing alternatives to traditional infrastructure construction. China's goal is to increase its influence in the global digital economy and reduce its dependence on Western digital technology, which is also reflected in the project. The primary objectives are:

Infrastructure Development: China is investing heavily in laying fiber optic cables to connect countries and regions for high-speed data transmission. Some projects, such as the PEACE cable, connect Pakistan to Europe via Africa, while others, such as the Asia-Africa-Europe-1 submarine cable network, connect Asia, Africa, and Europe (Hussain et al., 2023). The construction of data centers is essential for processing and storing data, which helps China's IT industry grow internationally. These facilities are being built at China and abroad and are essential for managing and storing data. China is actively encouraging other countries to build 5G networks. Supporting cutting-edge applications such as artificial intelligence, the IoT, and smart cities is essential to promote digital transformation and economic growth. These infrastructure developments are intended to make China a global leader in digital infrastructure, improve economic integration, and narrow the digital divide. But they also raise concern about data security and geopolitical implications in regions (Sugianto & A, 2025) such as the Indo-Pacific and Southeast Asia.

Promotion of advance Digital Technologies: AI and facial recognition technologies are widely used in surveillance systems, and these technologies are dominated by China. Many countries have increased their surveillance capabilities by exporting these technologies. The global expansion of cloud computing services has enabled China to process and store large amounts of data. This has raised concerns about data sovereignty and the possibility of espionage, as the Chinese government may be able to access sensitive data (Group, 2021). When these technologies are used for data collection and surveillance, they have serious implications for privacy and security. Adopting these technologies brings many countries at risk of losing control over their data and aligning with China's digital authoritarianism. The reliance on Chinese digital technology poses risks to security and

privacy, especially in countries with weak cyber defenses. There are concerns that backdoors in Chinese technology could make espionage easier. China's exports and technological development are seen as tools to expand its geopolitical power. Western countries react negatively (Hillman, 2021) because they are concerned about China's growing hegemony in digital infrastructure.

Promotion of E-Commerce: In order to promote e-commerce under the DSR Initiative, it is imperative to leverage digital platforms to improve communications, digital payments, and logistics and facilitate cross-border trade. By using cutting-edge technologies to streamline business operations, the initiative aims to increase trade between participating countries. Companies such as Alibaba and Shein (Jiang, 2024) are important players in this effort, leveraging new technologies to improve operational capabilities and give small and medium-sized enterprises international reach. The DSR Initiative has also fostered collaboration with many countries by creating a framework for e-commerce development and advancing digital trade services. In addition, the integration of digital payment technologies is accelerating cross-border transactions, which could revolutionize the international payment system. Overall, the DSR Initiative aims to improve economic integration among member countries by establishing a smooth digital ecosystem to facilitate efficient and transparent cross-border supply chain activities.

Support for Technological Innovation: The DSR initiative places a high priority on adopting cutting-edge technologies to promote innovation and enhance the competitiveness of member countries. China hopes to transform the global supply chain and economic landscape by nurturing these cutting-edge technologies and developing a synergistic ecosystem that combines digital and physical infrastructure (B. Tan, 2024). To improve the

security and efficiency of data processing in multiple industries, this technological drive also brings a higher degree of automation and creativity. In addition to establishing China as a key hub in the modern digital ecosystem, the project also aims to use these technologies to improve supply chain efficiency, especially in developing countries (Patil & Gupta, 2024). This assistance in technological innovation is essential to promote economic growth, improve economic quality, create jobs, and improve the overall well-being of countries along the DSR.

Strengthening Regional Connectivity: The DSR calls for a dual approach to improve regional connectivity: improving digital integration and physical infrastructure. Digital integration is essential to facilitate smooth cross-border exchanges and collaboration, while physical infrastructure upgrades focus on traditional transportation networks. International standards for digital services, the creation of shared digital platforms, and the acceptance of digital currencies are all included. By nurturing these digital components, countries can benefit from improved cooperation, more seamless exchanges, and more efficient data exchange. Ultimately, this all-encompassing approach to connectivity promotes social connections and cultural exchanges in addition to economic integration, making the world society more united and integrated.

Capacity Building and Skill Development: The DSR project aims to equip local communities with the digital knowledge they need to thrive in a rapidly changing digital economy, and the project must prioritize capacity building and skills development. This requires funding for extensive training and education programs in order to foster innovation and ensure that the workforce has the skills necessary to meet evolving technological demands. Investments in human capital from these projects help close the skills gap between

existing workers and the needs of a digitally driven economy, enabling local people to make valuable contributions to economic development and technological advancement. In addition to encouraging a culture of innovation, this strategic approach equips people with the skills they need to thrive in a world increasingly connected by technology.

Cybersecurity and Governance: The DSR Initiative places a high priority on cooperation among participating countries on cybersecurity, data protection, and the establishment of a unified digital governance framework. This cooperative strategy is essential to guaranteeing the appropriate and safe cross-border use of digital technologies. Countries can strengthen their defenses against cyberattacks and protect data integrity by supporting common standards and practices.(Sabar et al., 2025) This is essential to building stability and confidence in the digital economy. But there are also some problems, as China's influence in cybersecurity governance sometimes requires an authoritarian approach that can jeopardize participating countries' rights to privacy and internet freedom.(Hezron Sabar Rotua Tinambunan , Istislam , Shinta Hadiyantina, Adi Kusumaningrum, 2025) Despite these obstacles, the initiative seeks to address the complexities of global data regulation while building a unified digital ecosystem that promotes technological innovation and economic prosperity.

Economic and Strategic Advantages: China will greatly benefit from the strategic and economic advantages provided by the DSR. By expanding digital infrastructure in participating countries, China gains access to a vast pool of data that is essential for developing its technological prowess and guiding its geopolitical choices (Cheney, 2019). With the DSR, China could also become a pioneer in establishing new digital standards, which would allow it to influence the global digital landscape to its own advantage. This

position as a key hub in the global digital network enhances China's influence in global markets and economies. Through the DSR, China hopes to leverage its technological advantages to create economic interdependence with other countries, consolidate its position as a global technology giant, and expand its geopolitical influence.

Independence in Technology: China's "Made in China 2025" and "China Standards 2035" plans (Hillman, 2021) emphasize promoting domestic manufacturing and setting international standards in key areas, and promote the DSR as part of a broader strategy to achieve technological independence. The DSR puts China at the forefront of the international network while promoting domestic technological independence, targeting both the next generation of markets and technologies. By investing in digital infrastructure and promoting advanced technologies, China hopes to reduce its dependence on foreign technology and establish itself as a global technology leader. By expanding its technological footprint around the world, China can not only increase its influence in international markets, but also ensure that its domestic industries can compete effectively without relying on external technology

2. DSR footprint in ASEAN Countries

Southeast Asia has become a fast-growing key market for the DSR, as China has made digital investments in all countries in the region between 2017 and 2023. The region's booming economy, young and tech-savvy population, and favorable geopolitical location make it a prime target market for China's digital influence (Wang, 2024). In countries such as Indonesia, Singapore, and Malaysia, Chinese companies such as Huawei, Alibaba, and ZTE have played a key role in the construction of 5G mobile networks, fiber optic cables, data centers, and e-commerce platforms. Notably, ZTE's data center investment in Indonesia and Huawei's contribution to building ASEAN's first 5G smart hospital in Thailand

demonstrate China's commitment to promoting a digital ecosystem influenced by Chinese governance models and technical standards.

In addition, the DSR has institutionalized regional cooperation through mechanisms such as the ASEAN-China Mechanism, the Digital Economy Partnership, and the Cyber Dialogue, strengthening official frameworks to support cross-border digital interactions (Heydon, 2023). Another hallmark feature of the DSR in Southeast Asia is capacity building initiatives such as Huawei's "Seeds for the Future" program have provided training for thousands of government officials and university students (Mutingwende, 2022), facilitating market penetration and expanding China's influence in technical education.

Growing technological competition between the United States and China, as well as increasing scrutiny of Chinese internet companies' compliance with cybersecurity and data protection regulations, have hampered the development of the DSR. Countries in the region have become increasingly cautious about Chinese digital investments, largely due to concerns about data security breaches and espionage threats. This has led to discussions about national sovereignty over digital infrastructure. This ambivalence is reflected in countries' reluctance to fully embrace Chinese hardware despite adopting Chinese software. At the same time, there are challenges to the region's internal governance models, which occasionally coincide with elements of China's cyber sovereignty strategy, which may jeopardize democratic standards of transparency and accountability. In addition, legal opposition to social media platform regulation and e-commerce in countries such as Indonesia highlights the proxy negotiations that sovereign states engage in in response to Chinese involvement (Harding, 2019).

The technological bifurcation phenomenon poses another economic concern, as Southeast Asian countries must make difficult choices between adopting Western or Chinese technological norms, which may lead to market fragmentation. Continued concerns about China's official control over private enterprises under the National Intelligence Law further exacerbate the long-term sustainability of the DSR. Nevertheless, the DSR still provides Southeast Asia with an opportunity to develop regional digital innovation hubs, promote financial inclusion through fintech, and accelerate digital infrastructure construction. Through professional capacity building and infrastructure investment, partnerships under the DSR, if handled properly, may promote technological sovereignty and economic diversity.

3. Case studies on Regulatory Alignment in ASEAN Countries

In the rapidly changing digital era, digital transformation is critical to the global economy and society. With secure and revolutionary digital services, technologies and ecosystems, the Association of Southeast Asian Nations (ASEAN) Digital Policy lays a good environment to support digital development and coordinate legal, governance and policy frameworks. The ASEAN is rapidly emerging as a major digital community and economic bloc.

Regulatory Harmonization and ASEAN Digital Masterplan 2025 (ADM 2025): The ASEAN Digital Masterplan 2025 seeks to establish a unified regulatory framework among its member states to promote digital transformation. This requires assessing and improving the readiness of governance, legal and policy frameworks for digitalization. To promote a unified approach to regional digital policy and regulation, collaboration between the ASEAN Secretariat and the ITU is critical to this process.

ASEAN Digital Economy 2025 is the third in a series of all-encompassing strategic plans for the region. It assesses the current level of digital development and lays out strategies for the region to increase the use of digital technologies for social and economic development. To make ASEAN member states a preminent digital community and economic bloc, driven by secure and revolutionary digital services, technologies and ecosystems, ASEAN Digital Economy 2025 sets out three requirements (Union, 2024b) :

1. Accessibility to widely available, high-quality connectivity through underlying telecommunications infrastructure.
2. Accessibility to relevant and secure digital services.
3. Remove barriers to the use of digital services by businesses and consumers. For businesses, the focus is on improving productivity through digital skills; for consumers, the focus is on improving basic digital literacy and affordability so that digital services are widely used.

The ITU/ITC framework is part of the fifth generation of collaborative digital regulation (G5 Benchmark), which assesses and guides the development of the digital economy through four pillars (Union, 2024a):

Pillar I (National collaborative governance): This pillar assesses the collaboration between ICT regulators, peer regulators and legislators in various areas such as spectrum management and consumer protection. It assesses official and informal regulatory collaboration activities.

Pillar II (Policy design principles): These principles prioritize rules when designing regulatory frameworks. It encompasses regulatory experimentation, accountability in multi-stakeholder projects and evidence-based decision-making tools.

Pillar III (Digital Development Toolbox): It provides regulators with the means to promote a healthy digital economy. It covers topics such as infrastructure sharing, emergency telecommunications, data protection and cybersecurity. The toolkit supports long-term goals such as sustainable consumerism and youth employment.

Pillar IV (Digital economy policy agenda): This includes measures and policies to support investment, entrepreneurship and the digital economy. It covers innovation frameworks, digital transformation, industry taxation and compliance with international integration initiatives.

Digital Economy Framework Agreement (DEFA): DEFA is an important project that aims to coordinate ASEAN member states and implement high-standard digital economy regulations (Council, 2023). DEFA negotiations were launched in December 2023 and are expected to be concluded in 2025, covering topics such as digital trade, e-commerce, cybersecurity, data flows, digital identity and artificial intelligence (Lee, 2024). By 2030, DEFA hopes to establish a smooth digital business environment throughout Southeast Asia and unlock an additional \$1 trillion to \$2 trillion for the region's digital economy (Tan, 2024).

DEFA aims to improve cybersecurity, promote the participation of MSMEs in the digital economy and increase digital interoperability. It combines aspects of vertical (global interoperability) and horizontal (regional coordination and standardization) integration. DEFA aims to be a principle-based and impact-focused agreement that addresses the difficulties of various legal and socio-economic environments by giving Member States the freedom to choose the governance strategy that best suits their specific circumstances. In addition, DEFA must be future-proof and technology-neutral to support innovation and adapt to new technologies.

Malaysia launches national AI office: The National Artificial Intelligence Office (NAIO) was established in December 2024 to establish Malaysia as a regional leader in AI. NAIO is the lead authority on AI policy, regulation, and cross-sector collaboration in Malaysia to align AI adoption with ASEAN's DEFA goals, such as data governance and digital trade. NAIO intends to complete a comprehensive AI strategy by (Werner, 2024), including ethical standards and regulatory frameworks to promote interoperability across ASEAN markets.

The digital economy is expected to account for 25.5% of Malaysia's GDP by 2030 (M. Tan, 2024), with AI applications being most prominent in public services, agriculture, and disaster relief. Collaborations with Microsoft, Google and Amazon, including multi-billion-dollar investments in data centers and cloud infrastructure (Werner, 2024), have strengthened Malaysia's position as a regional AI and semiconductor hub. The NAIO places a high priority on creating AI solutions tailored to Malaysia's needs (e.g. strengthening agriculture and fisheries) without over-reliance on other systems (Digital & Malaysia, 2024). To address ASEAN-wide concerns about AI responsibility, ethical codes and governance principles are being developed to strike a balance between innovation and societal well-being.

Through its activities, NAIO demonstrates Malaysia's commitment to promoting technological resilience and ASEAN-wide regulatory consistency while driving a sustainable, innovative digital economy.

ASEAN Digital Integration Framework Action Plan (DIFAP): Thailand is vigorously promoting the ASEAN Digital Integration Framework Action Plan, which focuses on enabling seamless digital payments, protecting data while supporting digital

trade, promoting seamless trade, building a digital workforce and encouraging entrepreneurship (Sagar, 2019). Within a specified time frame, the action plan aims to further advance ASEAN's digital integration by addressing key areas necessary for a unified digital economy.

DIFAP focuses on six priority areas to address key barriers and accelerate digital inclusion (A.S.E.A.N., 2019):

1. Promote seamless trade
2. Enhance digital connectivity and affordable access
3. Develop a strong financial ecosystem
4. Facilitate commerce and trade
5. Promote workforce transformation
6. Strengthen the business ecosystem

The main sectoral coordination body for DIFAP implementation is the ASEAN e-Commerce Coordinating Committee. It ensures the successful implementation of digital integration projects and updates the ASEAN Senior Economic Officials Meeting on progress. Regular updates and cross-cutting projects that may not fit easily in some sectoral bodies are also part of the DIFAP. It highlights the need for constant coordination and adjustment to the changing digital ecosystem.

Integrating Digital Payments in ASEAN: In ASEAN, digital payments already account for more than half of all transactions and are expected to grow to \$416.6 billion by 2028 (Mahusin & Prilliadi, 2025). This expansion has boosted the growth of micro, small, and medium-sized enterprises, promoted financial inclusion, and improved e-commerce. ASEAN has launched a series of projects to improve connectivity for cross-border payments.

To facilitate smooth cross-border transactions, Thailand, Singapore, and Malaysia, for example, have effectively connected their domestic instant payment systems. These initiatives are guided by the ASEAN Policy Framework for Cross-Border Real-Time Retail Payments. With the help of the Bank for International Settlements, Project Nexus seeks to standardize cross-border payments by integrating local instant payment systems on a single platform, thereby simplifying bilateral relations (Yusof, 2019). Countries participating in the initiative include Singapore, Malaysia, Thailand, the Philippines, and India. Regional payments connectivity is another initiative aimed at developing cross-border payments, in line with the G20 roadmap for strengthening cross-border payments (Dao, 2024).

4. China's Strategic Interests and Goals

China aims to maintain its leading position in cutting-edge technologies such as blockchain, AI, 5G, and quantum computing. Through initiatives such as the 14th Five-Year Plan and Made in China 2025, China seeks to become self-sufficient in key technologies such as software and semiconductors, thereby reducing its reliance on foreign technology, especially American technology (Meltzer, 2020). The digital economy is a key driver of China's economic growth, accounting for 39.8% of China's GDP (RMB 45.5 trillion) in 2021 (AmCham, 2023). China dominates fintech (mobile payments are 11 times that of the US) and e-commerce (accounting for nearly 40% of global transactions), and promotes global markets through platforms such as Alibaba and Tencent. In addition, China is promoting the export of digital infrastructure through the DSR to integrate countries in the Global South into its ecosystem.

China exports digital infrastructure (e.g. Huawei's 5G networks and undersea cables) to counter Western hegemony, expand influence, and define global standards. The DSR fits

in with the BRI to build a data-centric network and increase network dependency in regions such as Africa and Latin America. China promotes a closed, state-controlled digital paradigm and enacts strict data localization and privacy regulations, viewing data as a strategic resource. It aims to export this governance system by challenging open internet principles and influencing international standards through platforms such as the DEPA. The Chinese Communist Party (CCP) has adopted digital strategies (e.g. “Digital China”) to strengthen cybersecurity, surveillance, and social control. Its goal is to project “techno-totalitarian” values around the world by changing digital systems to suit its goals.

China's strategic goal of developing a digital ecosystem reflects its multifaceted strategy, which includes investing in digital infrastructure, promoting the development of the digital economy, and actively participating in global digital governance. In addition to enhancing China's technological capabilities, these projects are also aimed at consolidating China's position as a major player in determining the future development of the global digital economy.

5. Expansion of Chinese technology companies and services

Despite facing internal obstacles, Chinese technology companies are rapidly expanding their global business through smart internationalization initiatives, improving the global digital ecosystem and seizing emerging markets. Intense competition in the domestic market, economic recession and regulatory restrictions have prompted Chinese IT companies to seek overseas expansion. As a strategic move to cope with "involution", this growth reflects both the need for companies to seek diversified overseas revenue sources and customer bases and the saturation of the domestic market.

Leading the expansion are China's state-owned enterprises and IT giants, which provide infrastructure, services and goods for a wide range of industries. Huawei is a global leader in 5G infrastructure and has contracts with more than 70 countries, mainly in South America, Africa and Southeast Asia. Despite US sanctions, Huawei still accounts for about 30% of the global telecommunications equipment market. More than 700 towns and cities around the world use its cloud services and smart city solutions, such as the "Safe City" program. Alibaba's cloud computing unit, Ali Cloud, ranks third in the world, and its e-commerce sites AliExpress and Lazada dominate Southeast Asia (Liu, 2024) and parts of Europe. Tencent's WeChat, which has more than 1.3 billion users, has expanded from China to Southeast Asia and Africa. Its gaming and banking services, including WeChat Pay, are also widely used in other countries.

Although TikTok is banned in some regions, it remains a cultural and data giant that is influencing the digital content ecosystem, especially in the US, Europe, and India. By 2025, TikTok has more than 1 billion monthly active users in these regions. These companies have expanded the hardware ecosystem; by 2024, Xiaomi will account for 13% of the global smartphone market, competing with Apple and Samsung in Eastern Europe and India. Both ZTE and Huawei support telecommunications infrastructure construction. China's position in the AI and IoT ecosystem is becoming increasingly prominent, thanks to companies such as Sense Time (AI surveillance) and DJI (drones), which dominate in professional technology fields and own 70% of the global consumer drone market.

The Chinese government actively promotes the global expansion of technology companies through policies that simplify financing channels, encourage cooperation between domestic and foreign investors, and promote foreign investment in its technology

industry. This environment contributes to the ability of Chinese technology companies to continue to innovate and expand internationally.

Chinese technology companies are key players in the development of the global digital ecosystem, and they respond to geopolitical barriers and internal market pressures through infrastructure construction, localized innovation, and strategic investment. Due to their global expansion, they have become key players influencing the future of the digital economy, thereby promoting improved digital connectivity, diversification of digital services, and influencing global technology standards.

6. Increasing China's influence in global digital governance and standards-setting

China is planning to shape the laws, practices, and technological framework of the digital ecosystem to make it more consistent with its geopolitical, ideological, and economic goals by expanding its influence in global digital governance and standard setting. This benefits the development of Chinese IT companies by ensuring that their goods and services dominate under a rule that favors China.

The 2024 World AI Conference and the Global AI Governance Summit are two important international conferences hosted and led by China. China issued the Shanghai Declaration on Global AI Governance at the conference, aiming to influence digital governance standards (M. of F. A. of the P. R. of China., 2024). The conference, supported by the UN General Assembly resolution, aims to promote global cooperation in AI capacity building. In addition, China launched the Global Cross-border Data Flow Cooperation Initiative at the 2024 World Internet Conference Wuzhen Summit (D. China, 2025) to promote controllable and secure cross-border data flows, demonstrating its leadership in promoting global digital data governance.

China reiterated its support for multilateral measures led by international organizations, stressed the leading role of the UN in developing digital governance norms, and is willing to work with all parties to create a fair and reasonable digital ecosystem. China will make participation in international technical standards bodies a priority and strive to align global digital standards with its own strategic goals. China's participation in international standard-setting (WTO) has increased significantly, reflecting both its geopolitical ambitions and its rapid technological progress. China's participation covers a wide range of cutting-edge technologies supported by national and local governments, including telecommunications, smart manufacturing, and AI.

With technology competition and global wealth at stake, China's influence in these standard-setting organizations is seen as growing as and more important than commonly recognized. China's slow rise in these organizations is directly tied to its larger geopolitical and economic goals, which include integrating its technology frameworks around the world.

China's influence in global digital governance and standards-setting is growing through strategic and well-planned initiatives such as hosting international forums, proposing governance frameworks, actively participating in international standards bodies, and leveraging infrastructure projects such as the DSR. These initiatives have expanded China's influence in global technology and regulatory fields, but at the same time, the international community is also paying attention to cybersecurity, governance models, and geopolitical competition. China hopes to use targeted alliances and multilateral cooperation to consolidate its leadership in the construction of the future digital order.

D. CONCLUSION

Against the backdrop of a rapidly developing global digitalization process, the booming development of China's DSR in Southeast Asia demonstrates ambition, influence, cooperation and competition, and its significance goes far beyond simple technological progress. From fiber optic cables buried deep under the sea to AI centers and smart cities on land, China's DSR is changing the digital landscape in the ASEAN region and beyond. China has made large-scale investments in data centers, infrastructure and 5G technology to build a digital network connecting businesses, governments and daily life across Asia. In addition, China has exported cloud services and e-commerce platforms.

DSR has created new opportunities and open door for several ASEAN countries. It accelerates financial inclusion and economic digitalization, provides low-cost technology options, and helps narrow the digital divide. Thanks to initiatives such as Huawei's training programs and investments in artificial intelligence, e-commerce, and fintech, emerging economies now have the resources they need to innovate and expand.

As the influence of Chinese companies such as Huawei, Alibaba, Tencent, and ZTE continues to grow, concerns about data privacy, surveillance, and digital sovereignty are growing. Many ASEAN countries are treading a cautious path, appreciating the advantages of Chinese technology while being wary of its potential overreach, especially given China's governance model, which sometimes prioritizes state control over individual freedom. In addition to importing technology, the DSR also exports elements of China's digital mindset, which emphasizes centralized control, surveillance, and regulation.

This growing influence is also closely related to China's grand plan to lead the global digital order. China is gradually integrating its digital genes into the global landscape through

conferences, standard-setting organizations and governance systems. China sees digital infrastructure not only as data and code, but also as a tool to demonstrate soft power, control discourse and reshape influence, especially in areas where the Western has less involvement.

ASEAN's response has been deliberate. The region is working to improve cross-border payments, standardize rules, and promote a strong and inclusive digital economy through projects including DEFA, DIFAP, and the ASEAN Digital Master Plan 2025. Southeast Asia is not passively accepting digital sovereignty initiatives; rather, it is negotiating with them, modifying them, and in many ways aligning them with its digital sovereignty vision, as evidenced by Malaysia's AI strategy, Thailand's efforts to promote digital integration, and expanding multilateral cooperation with partners beyond China.

Ultimately, the Digital Silk Road is about much more than the cable or the project itself. ASEAN countries must make choices that will determine their technological destiny, including who to work with, which standards to follow, and how to strike a balance between rights and growth, innovation and ethics, and control and connectivity. The region has the opportunity not only to benefit from international players such as China, but also to have its own voice in shaping a fair, secure, and inclusive digital future as it further develops into a global digital hub.

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