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Shaping the Future: An Introduction
of China's Digital Ambitions

Sihan ZHANG¹

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Abstract

This paper examines the role of government policy in shaping China's digital economy, with a focus on the Made in China 2025 and Digital Silk Road initiatives. It provides an overview of the digital economy and China's position in the industry, followed by an analysis of the government policies that have driven China's digital economy development. The Made in China 2025 initiative and the Digital Silk Road program are explored in depth, including their objectives, strengths, weaknesses, and impact on China's domestic industries and global positioning. The paper also compares China's digital economy with those of other countries and analyses the similarities and differences in government policy. Based on the findings, the paper provides recommendations for policymakers and businesses looking to engage with China's digital economy and discusses potential future developments in the industry and government policy.

Keywords: Digital Economy, China's Government policy, Made in China 2025, Digital Silk Road.

JEL Classification: F01, O33, O38, O53.

1. Introduction

The digital economy, a concept encompassing diverse economic activities facilitated by digital technologies (Tapscott, 1996), has evolved into an essential driver of global economic growth, innovation, and productivity. It contributes significantly to global GDP and offers substantial social advantages, such as enhanced access to information (Miao, 2021; Moşescu et al., 2022), education, and healthcare services, as well as promoting social inclusion (Tiwasing et al., 2022) and flexible work arrangements (Nambisan et al., 2017).

The digital economy has emerged as an indispensable catalyst for economic growth and innovation in the 21st century, with China swiftly rising as a dominant

¹ Universität Ulm, Ulm, Germany, sihan.zhang@uni-ulm.de.

force in this domain, as shown in Figure 1. China's digital economy has exhibited remarkable growth, propelled by its vast population, swift technological advancements, and government backing (CAICT, 2022). It spans various sectors, such as e-Commerce, online payment, digital entertainment, online education, and cloud computing, with key players like Alibaba, Tencent, and Baidu dominating the market. The Chinese government has played a crucial role in shaping the nation's digital economy through top-down planning and market-orientated reforms.

The Chinese government's strategic policies, such as the Made in China 2025 and Digital Silk Road programs, have significantly contributed to the rapid development and expansion of the nation's digital economy. The Made in China 2025 initiative seeks to position China as a global leader in advanced technologies by focusing on ten key industries, fostering innovation, enhancing infrastructure, and augmenting the competitiveness of Chinese firms (Zenglein, Holzmann, 2019). The Digital Silk Road program aims to solidify China's role as a critical stakeholder in the global digital economy by fostering connectivity and collaboration with countries along the Belt and Road Initiative (BRI) (Shen, 2018).

In this paper, we analyse the influence of government policy on the development of China's digital economy, concentrating on the Made in China 2025 and Digital Silk Road initiatives. We explore the evolution of these policies, the tactics and measures instituted by the Chinese government, and their impact on the growth of China's digital economy. Through this analysis, we identify policy drivers, challenges, and risks associated with these policies, providing valuable insights for policymakers, businesses, and investors engaged in China's digital economy.

Figure 1. Digital economy as a percentage of total GDP by major countries in 2021



Source: The Chinese Academy of Information and Communication Technology, World Bank (2022).

2. China's Digital Economy and Government Policy

2.1 Objectives and Goals

The Made in China 2025 (MIC2025) initiative and the Digital Silk Road (DSR) program are two comprehensive plans launched by the Chinese government to

promote the development and upgrading of the country's manufacturing sector and digital infrastructure, respectively. Both initiatives aim to transform China's economy into a leading global force and facilitate the transition from an export-driven model to an innovation-driven model.

MIC2025 seeks to address issues such as lack of competitiveness, low technological sophistication, and overreliance on foreign technology in China's manufacturing sector. Its goals include enhancing innovation, upgrading manufacturing capabilities, optimising industry structure, and strengthening international competitiveness. The initiative aims to increase R&D spending, promote the adoption of advanced technologies like AI, robotics, and IoT, develop strategic emerging industries, and foster globally recognised brands and SMEs (Zenglein, Holzmann, 2019).

The DSR, a significant aspect of China's ambitious Belt and Road Initiative (BRI), aims to expand China's digital infrastructure and technological prowess beyond its borders, fostering global cooperation in various domains. Its main objectives include expanding digital infrastructure, fostering technological collaboration, enhancing China's digital exports, strengthening international digital governance, and promoting China's digital diplomacy. By financing and constructing projects such as fibre optic networks, data centres, and satellite systems, the DSR seeks to bridge the digital divide between nations and create a more interconnected world (Shen, 2018).

Both MIC2025 and the DSR program underscore China's commitment to establishing itself as a dominant force in the global manufacturing and digital landscape. The MIC2025 initiative represents a significant effort to promote the development of a more innovative and technologically advanced economy, while the DSR program highlights China's commitment to advance its global digital ambitions.

2.2 Judgement and Impact

The Made in China 2025 Initiative aspires to transform China's manufacturing sector through the adoption of advanced technologies such as artificial intelligence, robotics, and big data. This ambitious plan aims to climb the value chain, fostering innovation and global competitiveness. It aligns with China's broader economic goals of transitioning toward a consumption-driven economy, intending to stimulate domestic consumption and decrease reliance on exports, which have historically driven its growth.

Despite its potential benefits, the Made in China 2025 initiative faces several challenges. Its protectionist nature and perceived discrimination against foreign companies have drawn criticism, leading to concerns over unfair trade practices and strained international relations (Buysse, Essers, 2019). Implementing the initiative requires considerable investment and expertise, which many Chinese firms are still in the process of acquiring. This challenge is further compounded by the rapid pace of technological change, making it difficult for companies to keep up with evolving industry standards and best practices.

The Digital Silk Road program, on the other hand, is designed to expand digital infrastructure and foster economic development in countries of the Belt and Road Initiative (BRI) (Naughton, 2020). It aims to integrate these nations into global supply chains, boosting trade and investment. The program offers opportunities for technological leapfrogging, allowing participating countries, particularly those in the developing world, to embrace advanced technologies without going through intermediate stages of technological development.

However, the Digital Silk Road program has also raised concerns, particularly in terms of geopolitics. Critics argue that the program could lead to an increased dependency on Chinese technology, allowing China to exert political influence and control over participating countries, potentially compromising their sovereignty and exacerbating regional tensions (Cheney, 2019). Data privacy and cybersecurity are also major concerns, as the program's expansion of China's digital footprint raises questions over the protection of sensitive information and the potential for cyberattacks (Ly, 2020).

The Made in China 2025 Initiative and the Digital Silk Road program have had notable impacts on the Chinese economy and the global landscape. The Made in China 2025 Initiative has spurred investment in research and development, leading to the growth of new technologies and products, as well as the establishment of new industry clusters (Li, Lyu, Fan, 2020). This has bolstered China's manufacturing sector and its global competitiveness. However, the initiative has also faced domestic and international criticism over its favoritism towards state-owned enterprises and the potential exacerbation of income inequality (Levine, 2020).

In contrast, the Digital Silk Road program has expanded China's digital economy, presenting opportunities for Chinese tech companies to access new markets and revenue sources. However, this expansion carries risks, as an overreliance on foreign markets makes the Chinese economy vulnerable to fluctuations in global demand and geopolitical tensions (Ly, 2020).

In conclusion, both the Made in China 2025 Initiative and the Digital Silk Road program present a complex interplay of strengths and weaknesses. While they hold the potential to foster innovation, growth, and global connectivity, they also face criticism and concerns surrounding protectionism, discrimination, geopolitics, and data privacy. Policymakers, businesses, and investors must navigate these complexities as they engage with China's digital economy and manufacturing industry, and the broader global context.

3. Comparison with Other Countries

In order to better understand the development and status of China's digital economy, it is useful to compare it with the digital economies of other major players, such as the United States and Japan. This section will examine the similarities and differences in the digital economies of these three countries, focusing on the key sectors, market dynamics, and levels of technological innovation.

3.1 Digital Economies of China, the United States, and Japan

China's digital economy has experienced rapid growth in recent years, fueled by its vast population, advancements in technology, and strong government support. This growth has led to the emergence of various sectors, including e-Commerce, online payment, digital entertainment, and online education. While these sectors are also prevalent in the United States and Japan, the scale of China's market and the level of government involvement distinguish it from its counterparts.

The United States, often regarded as a global leader in technology and innovation, has a well-established digital economy, driven by companies such as Amazon, Google, and Facebook. The United States excels in areas like software development, social media, and cloud computing (Yang et al., 2017). Meanwhile, Japan's digital economy is characterized by its strength in consumer electronics, robotics, and advanced manufacturing (Kovacic, 2018). Companies like Sony, Panasonic, and Toyota have played significant roles in Japan's digital development.

However, despite these differences in focus, all three countries share a common emphasis on the importance of technological innovation, research and development, and entrepreneurship. This has led to the creation of dynamic ecosystems that foster the growth of start-ups and the development of cutting-edge technologies.

One key contrast between China's digital economy and those of the United States and Japan lies in the level of market concentration. While the United States and Japan both have highly competitive digital markets, China's digital economy is dominated by a few large players, such as Alibaba, Tencent, and Baidu. This has resulted in a more concentrated market, with these companies exerting significant control over their respective sectors.

Another noteworthy difference is the regulatory environment in which these digital economies operate. While the United States generally favors a market-driven approach with limited government intervention, Japan and China both feature more prominent government involvement in shaping their digital economies. However, China's approach is particularly characterized by its top-down planning and stringent control, which has led to the development of policies and regulations aimed at promoting domestic industries and limiting foreign competition.

In conclusion, the digital economies of China, the United States, and Japan exhibit both similarities and differences in terms of key sectors, market dynamics, and technological innovation. While all three countries recognise the importance of fostering digital development, their approaches to regulation, market concentration, and government involvement vary considerably. A thorough understanding of these nuances is essential for policymakers, businesses, and investors seeking to navigate the complexities of the global digital economy.

3.2 Government Policies and Their Influence

China's approach to digital economy policymaking can be characterised by a combination of top-down planning and market-orientated reforms. The Chinese government is known for its active role in shaping the development of the digital

economy, implementing initiatives like the "Made in China 2025" and the "Digital Silk Road." These programs aim to promote innovation, competitiveness, and international cooperation while maintaining social stability and control. However, some critics argue that China's policies are overly interventionist and protectionist, potentially hindering fair competition and trade relations (Davis, 2010).

The United States, on the other hand, largely adopts a market-driven approach with minimal government intervention. Policymaking in the United States focuses on creating a favourable business environment that fosters innovation and entrepreneurship, with an emphasis on free markets, competition, and intellectual property protection. This *laissez-faire* approach has led to the rapid growth of tech giants such as Google, Apple, and Amazon, which are at the forefront of global innovation. However, critics argue that this approach may result in insufficient regulation and oversight, leading to issues such as data privacy violations and the abuse of market power (Newman, 2013; Wu, 2018).

Japan, like China, features more prominent government involvement in its digital economy. The Japanese government has formulated several strategies and initiatives to promote digital transformation, such as the "Society 5.0" initiative, which aims to harness advanced technologies to create a more sustainable, inclusive, and innovative society (Fukuyama, 2018). While Japan's approach is more balanced than China's, it still places considerable emphasis on public-private partnerships, regulatory reforms, and targeted support for key industries. Critics point out that Japan's bureaucratic process and conservative business culture may hamper its ability to adapt quickly to technological changes and emerging trends (Schaede, 2020).

In terms of influence, each of these approaches has had both positive and negative impacts on their respective digital economies. China's active involvement has spurred rapid growth and development, although its policies have raised concerns about protectionism, market concentration, and state control. The United States' market-driven approach has fuelled technological innovation and fostered global tech giants, but it also grapples with issues of regulation and data privacy. Japan's balanced approach has supported steady growth and technological prowess, but the country may face challenges in maintaining its competitive edge in a rapidly changing global landscape.

In conclusion, the government policies of China, the United States, and Japan exhibit different approaches to fostering the growth and development of their digital economies. Each of these approaches carries its own set of advantages and challenges, and the effects of these policies can be observed in the countries' digital industries. A comprehensive understanding of these policy differences and their implications is crucial for stakeholders seeking to navigate the complex landscape of global digital economy policymaking.

4. Conclusion and Recommendations

This paper examined China's digital economy, focusing on the development and growth of its e-Commerce, digital payment, and Internet sectors. China has become

a global leader in these areas due to factors such as large consumer base, widespread internet access, a strong entrepreneurial ecosystem, and supportive government policies. These policies have the potential to foster innovation, competitiveness, and international cooperation, but face criticism for being protectionist, discriminatory toward foreign companies, and encountering implementation challenges.

A comparative analysis of China's digital economy with the United States and Japan was conducted, highlighting differences in government policy approaches. China adopts a more interventionist approach, the United States prefers market-driven policies, and Japan strikes a balance between the two.

These findings provide a multifaceted understanding of China's digital economy, its government policies, and comparisons with other countries. The paper concludes with recommendations for policymakers and businesses that are interested in China's digital economy and discusses potential future developments in China's digital economy and government policy.

4.1 Policy and Business Recommendations

Based on the key findings of this paper, we offer several recommendations for policymakers and businesses looking to engage with China's digital economy. One recommendation is to encourage international cooperation and dialogue, which can address concerns regarding protectionism and discriminatory practices. By promoting transparency and fairness, countries can create a more conducive environment for global economic growth and the exchange of technology and ideas.

Another suggestion is to foster innovation and competition within the digital economy. Policymakers and businesses can work together to support research and development, encourage public-private partnerships, and facilitate access to new markets and technologies for both domestic and foreign companies.

Addressing implementation challenges associated with initiatives like "Made in China 2025" and "Digital Silk Road" is also essential. Policymakers should provide clearer guidelines, ensure equitable access to resources for private enterprises, and facilitate the acquisition of advanced technologies and expertise.

Developing workforce skills and capabilities is crucial for businesses to effectively compete in the digital economy. Companies can invest in employee training programs, establish partnerships with educational institutions, and create innovation hubs to attract and retain talent.

Adapting to local market conditions is vital for businesses engaging with China's digital economy. This may involve tailoring products and services to accommodate local preferences, ensuring compliance with local laws and regulations, and establishing relationships with local partners to navigate the complex business landscape.

Lastly, mitigating potential risks associated with the digital economy is critical. Policymakers and businesses should work together to address issues related to data privacy and security, ensure the ethical use of advanced technologies, and balance the potential benefits and drawbacks of government intervention in the digital sector.

4.2 Future Developments

As we look ahead, a complex interplay of factors will shape the trajectory of China's digital landscape.

China is expected to accelerate digitalisation and technology adoption in various industries. The ongoing integration of advanced technologies, such as artificial intelligence, robotics, and the Internet of Things, is anticipated to drive innovation and transform the country's digital economy. As China's digital footprint expands, so too will its influence on the global economy. With initiatives like the Digital Silk Road, China aims to strengthen its position as a global technology leader, leading to increased competition and cooperation between China and other major economies. Both challenges and opportunities will arise from this dynamic.

As China's digital economy continues to evolve, government policies and regulations will need to adapt to address emerging concerns and facilitate growth. Policymakers will need to strike a balance between promoting innovation and ensuring consumer protection, data privacy, and national security. A proactive and adaptive approach will be crucial in responding to the rapidly changing digital landscape.

Moreover, with an increasing emphasis on sustainable development and environmental protection, China's digital economy will likely see a growing focus on green technologies and solutions. This shift will create new opportunities for businesses and investors in areas such as renewable energy, smart cities, and green transportation.

Addressing digital inequality will become a pressing concern for policymakers as the digital economy continues to expand. Ensuring equitable access to digital resources, infrastructure, and opportunities for all segments of society will be crucial in maintaining social cohesion and stability.

Lastly, the rapid development of China's digital economy will likely give rise to new industries and business models, creating opportunities for both domestic and foreign enterprises. Firms that can quickly adapt to these changes and capitalise on emerging trends will be well positioned for success in this dynamic environment.

In summary, China's digital economy is poised to undergo significant transformations in the coming years, driven by rapid technological advancements, evolving government policies, and a growing global presence. By understanding these trends and developments, businesses and policymakers can better prepare themselves for the opportunities and challenges that lie ahead in China's digital future.

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