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A Comparative Study on the International Competitiveness of Digital Trade between China and Malaysia: A Diamond Model Approach

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ABSTRACT

This study examines the international competitiveness of digital trade between China and Malaysia using Michael Porter's Diamond Model. The Diamond Model, which focuses on four key determinants—factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, and rivalry—serves as the analytical framework for this comparative analysis. In assessing factor conditions, the study evaluates the digital infrastructure, human capital, and technological innovation capabilities in both countries. Demand conditions are analyzed through consumer behaviors, market size, and the growth rate of the digital economy. The presence and strength of related and supporting industries, such as e-commerce platforms, fintech, and ICT services, are considered to understand their role in enhancing digital trade competitiveness. The study also examines firm strategies, government policies, and the competitive environment that shape the digital trade landscape in China and Malaysia. Findings suggest that China demonstrates a higher level of competitiveness in digital trade, driven by its advanced digital infrastructure, robust innovation ecosystem, and large, tech-savvy consumer base. Malaysia, while showing significant progress, particularly in regulatory frameworks and digital adoption, faces challenges related to scale and innovation intensity. The study highlights the need for Malaysia to invest in digital skills development and innovation to enhance its competitiveness. The comparative insights derived from this study aim to inform policymakers and business leaders on strategic initiatives to bolster digital trade capabilities and foster sustainable economic growth in the digital era.

Keywords: Digital Trade, Diamond Model, Comparative Research

I. INTRODUCTION

A. Dynamic movement on the Digital Trade

Digital trade has undergone dynamic transformations, significantly reshaping global commerce. Advances in technology, coupled with increasing internet penetration and the proliferation of e-commerce platforms, have facilitated the rapid growth of digital trade. This movement is characterized by the seamless exchange of goods, services, and data across borders, leveraging digital platforms and technologies to overcome traditional barriers to trade. According to the World Trade Organization (WTO), digital trade has expanded at an unprecedented rate, driven by innovations in cloud computing, artificial intelligence, and blockchain technologies (WTO, 2018). These technologies enhance efficiency, security, and transparency in transactions, making digital trade an attractive option for businesses worldwide. Additionally, digital trade supports small and medium-sized enterprises (SMEs) by providing them with access to global markets and reducing entry costs (OECD, 2019). As a result, countries are increasingly focusing on developing robust digital infrastructure and regulatory frameworks to capitalize on the benefits of digital trade and remain competitive in the global market.

B. Current Trend on the Digital Trade in China

China is at the forefront of digital trade, leveraging its advanced technological infrastructure and substantial investment in innovation. The country has seen a surge in digital trade activities, driven by the rapid growth of e-commerce, fintech, and digital services. According to the China Internet Network Information Center (CNNIC), as of 2023, China has over 1 billion internet users, with a significant portion engaging in online shopping and digital transactions (CNNIC, 2023). E-commerce giants such as Alibaba and JD.com have revolutionized retail, while companies like Tencent have expanded digital payment solutions, facilitating seamless cross-border transactions. The Chinese government's supportive policies, such as the "Digital Silk Road" initiative, further enhance digital trade by promoting international cooperation and infrastructure development in partner countries (Ding, 2021). Additionally, China's advancements in technologies like 5G, artificial intelligence, and blockchain are creating new opportunities for digital trade, making the country a global leader in the digital economy.

C. Current Trend of the Digital Trade in Malaysia

Malaysia is rapidly emerging as a significant player in the digital trade arena, driven by robust government initiatives and a growing digital economy. The Malaysian government has implemented several strategic policies, such as the Malaysia Digital Economy Blueprint (MyDIGITAL), aimed at accelerating the nation's digital transformation and enhancing its competitive edge in digital trade (Government of Malaysia, 2021). As part of this blueprint, the government focuses on improving digital infrastructure, fostering innovation, and increasing digital literacy among its population. According to the Malaysia Digital Economy Corporation (MDEC), Malaysia's e-commerce sector grew by 30% in 2022, supported by a rise in online shopping and digital payment adoption (MDEC, 2022). Key players like Shopee and Lazada have significantly contributed to this growth, making digital

trade more accessible to small and medium-sized enterprises (SMEs). Additionally, the country's strategic location in Southeast Asia positions it as a digital trade hub, enhancing its connectivity and trade links within the region and beyond.

II. LITERATURE REVIEW

A. Defining Digital Trade

Digital trade encompasses the trade of goods and services that are either digitally ordered, digitally delivered, or facilitated by digital platforms. It involves a wide range of activities, including e-commerce, digital payments, data flows, and the provision of digital services such as cloud computing and digital content. According to the Organisation for Economic Co-operation and Development (OECD), digital trade is characterized by the digitalization of the economy, which enables businesses to engage in international trade more efficiently and cost-effectively (OECD, 2019). This transformation is driven by advancements in technology, increasing internet penetration, and the proliferation of digital platforms that connect buyers and sellers globally. The World Trade Organization (WTO) further defines digital trade as encompassing both the supply of digital products, such as software and media, and the digitalization of traditional trade processes, enhancing transparency and reducing transaction costs (WTO, 2018). As a result, digital trade is becoming an integral part of the global economy, reshaping traditional business models and creating new opportunities for growth and innovation.

B. Defining International Competitiveness

International competitiveness refers to a country's ability to produce goods and services that meet the test of international markets while simultaneously maintaining and expanding the real incomes of its citizens. This concept encompasses various factors, including productivity, innovation, and the regulatory environment. According to the World Economic Forum (WEF), international competitiveness is influenced by a range of elements such as macroeconomic stability, infrastructure quality, and education systems (WEF, 2019). A competitive nation is typically characterized by efficient markets, robust institutions, and a skilled workforce, which together foster an environment conducive to business growth and innovation. The International Institute for Management Development (IMD) further elaborates that international competitiveness involves the capacity of a country's enterprises to compete successfully in global markets, supported by government policies that enhance economic efficiency and technological advancement (IMD, 2020). Therefore, improving international competitiveness requires comprehensive strategies that address both economic policies and structural reforms to create a favorable business climate.

C. Underpinning Theory to the International Competitiveness

The theory underpinning international competitiveness often draws on Michael Porter's Diamond Model, which provides a comprehensive framework for understanding the competitive advantages of nations. Porter’s

model outlines four key determinants of national advantage: factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, and rivalry. According to Porter, factor conditions refer to a country's resources, such as skilled labor and infrastructure, which are essential for competitive production (Porter, 1990). Demand conditions emphasize the significance of a sophisticated domestic market that drives innovation and quality improvement. The presence of related and supporting industries, such as suppliers and complementary industries, enhances a nation's competitiveness by fostering efficient and innovative ecosystems. Lastly, firm strategy, structure, and rivalry highlight the importance of domestic competition and business strategies that encourage efficiency and innovation. This model has been instrumental in analyzing and formulating policies to enhance a country's international competitiveness by addressing these determinants in an integrated manner (Grant, 1991).

III. CONCEPTUAL DEVELOPMENT

A. International Competitiveness on the Digital Trade

International competitiveness in digital trade is increasingly crucial as countries strive to integrate into the global digital economy. The ability to effectively engage in digital trade hinges on several factors, including technological infrastructure, regulatory frameworks, innovation capacity, and digital literacy. According to the World Bank, countries with advanced digital infrastructure and supportive policies are better positioned to compete in the digital marketplace (World Bank, 2020). These countries can leverage digital technologies to enhance productivity, reduce transaction costs, and access new markets. The European Commission highlights that innovation in digital services and products is a key driver of competitiveness, enabling firms to differentiate themselves and meet the evolving needs of global consumers (European Commission, 2021). Furthermore, digital literacy and skills are essential, as a well-educated workforce can better utilize digital tools and adapt to technological changes. Nations that invest in these areas can foster an environment where businesses thrive in digital trade, contributing to economic growth and international competitiveness.

B. A Study Comparison between Digital Trade on the perspective of International Competitiveness

A comparative study of digital trade from the perspective of international competitiveness reveals significant disparities between countries, shaped by their unique technological, economic, and regulatory environments. For instance, China and the United States are often compared due to their leading positions in the global digital economy. China's rapid growth in digital trade is driven by robust government support, extensive digital infrastructure, and a large, tech-savvy population. According to the World Economic Forum, China's strategic initiatives, such as the Digital Silk Road, bolster its international competitiveness by enhancing connectivity and facilitating cross-border digital trade (WEF, 2020). In contrast, the United States' competitiveness in digital trade is underpinned by its strong innovation ecosystem, dominance in high-tech industries, and favorable business

environment. The European Union, while also competitive, faces challenges related to regulatory fragmentation and varying digital maturity across member states (European Commission, 2020). Comparative studies indicate that countries excelling in digital trade typically exhibit comprehensive strategies encompassing infrastructure development, innovation policies, and digital skills enhancement, thereby reinforcing their competitive advantage in the international arena (OECD, 2019).

IV. DISCUSSIONS

A comparative study on the international competitiveness of digital trade between China and Malaysia using the Diamond Model approach reveals distinct strengths and weaknesses shaped by their respective national contexts. Michael Porter's Diamond Model identifies four key determinants of national competitive advantage: factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, and rivalry (Porter, 1990). In China, advanced digital infrastructure, significant investment in technological innovation, and a large, digitally literate population provide a strong foundation for digital trade competitiveness (CNNIC, 2023). The country's comprehensive e-commerce ecosystem, supported by giants like Alibaba and Tencent, and strategic government initiatives like the Digital Silk Road further enhance its global digital trade position (Ding, 2021).

Conversely, Malaysia has made notable strides in digital trade, particularly through government policies such as the Malaysia Digital Economy Blueprint (MyDIGITAL), which aims to strengthen digital infrastructure and boost digital literacy (Government of Malaysia, 2021). However, Malaysia faces challenges in achieving the scale and innovation intensity seen in China. The Malaysian digital trade environment benefits from a growing e-commerce sector, with key players like Shopee and Lazada, and regional integration efforts within ASEAN that enhance its digital trade network (MDEC, 2022). Despite these advancements, Malaysia must continue to invest in technological innovation and digital skills development to close the competitiveness gap with China.

A. Digital Trade in China

Digital trade in China has become a significant driver of economic growth and innovation, propelled by the country's robust digital infrastructure, burgeoning e-commerce ecosystem, and government support for digital transformation. With over 1 billion internet users, China boasts one of the world's largest and most dynamic online markets (CNNIC, 2023). E-commerce giants like Alibaba and JD.com have revolutionized retail, offering a vast array of products and services to consumers across the country and beyond (Mourdoukoutas, 2021). Moreover, China's dominance in digital payments, led by platforms such as Alipay and WeChat Pay, has facilitated seamless transactions and fueled the expansion of digital trade (Choudhury & Kwan, 2020). The Chinese government's initiatives, such as the "Digital Silk Road" and the "Made in China 2025" strategy, further underscore its commitment to leveraging digital technologies to enhance global trade competitiveness (Ding, 2021).

B. Digital Trade in Malaysia

Digital trade in Malaysia has experienced significant growth, driven by the country's increasing digital adoption, supportive government policies, and growing e-commerce sector. With a rapidly expanding internet user base, Malaysia presents a thriving market for digital trade activities (MDEC, 2022). Key players in the e-commerce sector, such as Shopee and Lazada, have played a crucial role in driving digital trade by providing platforms for businesses to reach consumers both domestically and internationally. Additionally, Malaysia's strategic location in Southeast Asia positions it as a regional hub for digital trade, facilitating cross-border transactions within the ASEAN region (MCMC, 2021). The Malaysian government has recognized the importance of digital trade and has implemented various initiatives to promote its growth, including the Malaysia Digital Economy Blueprint (MyDIGITAL), which outlines strategies to accelerate the nation's digital transformation (Government of Malaysia, 2021). Despite these advancements, challenges such as digital skills gaps and regulatory complexities persist, necessitating continued efforts to further enhance Malaysia's digital trade ecosystem.

V. CONCLUSSIONS AND RECOMMENDATIONS

A. Further research on the Comparative Study on the International Competitiveness of Digital Trade between China and Malaysia.

Further research on the comparative study of the international competitiveness of digital trade between China and Malaysia could delve deeper into several areas to provide a more comprehensive understanding of the dynamics at play. Firstly, exploring the role of regulatory frameworks and government policies in shaping digital trade competitiveness in both countries would be valuable. Comparative analysis of policies related to data governance, cybersecurity, and trade facilitation could uncover differences in approaches and their impacts on digital trade development (Grimmelikhuijsen et al., 2020). Additionally, investigating the digital skills landscape and innovation ecosystems in China and Malaysia would shed light on their capacity to drive digital trade competitiveness (OECD, 2020). Comparative studies could also examine the implications of regional trade agreements, such as the Regional Comprehensive Economic Partnership (RCEP), on digital trade dynamics and competitiveness between the two countries (ADB, 2021). Furthermore, conducting longitudinal studies to track the evolution of digital trade patterns and competitiveness indicators over time would provide insights into trends and emerging challenges in this dynamic landscape (UNCTAD, 2021). By addressing these research gaps, future studies can contribute to a more nuanced understanding of the factors influencing the international competitiveness of digital trade between China and Malaysia.

B. Further research on the Diamond Model Approach.

Further research on the Diamond Model approach could explore its application in different contexts and industries to deepen our understanding of its effectiveness in assessing international competitiveness. One avenue for future research is the examination of how the Diamond Model applies to emerging digital industries and

technologies, such as artificial intelligence, blockchain, and the Internet of Things (IoT). Investigating how these technological advancements influence the determinants of national competitive advantage outlined in the Diamond Model could provide insights into the evolving nature of competitiveness in the digital age (Porter & Stern, 2001). Moreover, comparative studies across countries and regions could help identify variations in the relevance and impact of different Diamond Model determinants, considering factors such as institutional contexts, cultural norms, and economic structures (Ferreira et al., 2019). Additionally, research could focus on refining and adapting the Diamond Model to better capture the complexities of contemporary global value chains and digital ecosystems (Mishra & Gupta, 2020). By addressing these research avenues, future studies can contribute to enhancing the applicability and robustness of the Diamond Model as a framework for analyzing international competitiveness in a rapidly changing economic landscape.

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