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Expanding International Services Trade in Developing Economies: Understanding How Trade in Digital and Technology Services Can Empower Economic Development Opportunities for Global South States in the Indo-Pacific Region.

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Abstract

The expansive globalization and advancements in digital information and communication technologies have facilitated the integration of the global economy and reshaped the conditions of international trade. Enabling the digitalization of cross-border trade through the digital transmission of data and information to facilitate transactions. An emerging proponent of this digitalized economy has been the digital trade in services, which seeks to facilitate the cross-border transfer of knowledge and the global division of labour. Through expanding digital trade in services economies can foster economic growth through increased product efficiency, integrated new business models, and broadening the access of firms able to engage in the global economy. However, due to the uneven development of digital technology infrastructure and integration into the digital economy, technologically advanced high-income economies predominate the digital service trade environment. Thus, as developing economies expand their technological infrastructure, they serve to be the greatest benefactors of this digital economy.

Upon this background, this paper aims to explore the evolving approaches that Global South states of the Indo-Pacific are employing to advance their trade in digital and technology services. Through focusing on the economic digitalization strategy of the Philippines and analyzing the current state of their determinants of comparative advantage in digital service trade. We identify effective digitalization policies currently being adopted and highlight future policy areas that can advance broader economic development.

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List of Acronyms and Abbreviations

ASEAN	Association of Southeast Asian Nations
CPTPP	Comprehensive and Progressive Trans-Pacific Partnership Agreement
GATS	General Agreement on Trade in Services
ICT	Information and communication technology
ITA	Information Technology Agreement
ITU	International Telecommunication Union
LDCs	Least Developed Countries
NRI	Network Readiness Index
PECR	Philippine E-Commerce Roadmap
PTAs	Preferential Trade Agreements
RCEP	Regional Comprehensive Economic Partnership
SME	Small and medium-sized enterprises
UNCTAD	United Nations Trade and Development
WTO	World Trade Organization

Chapter 1: Introduction

In an increasingly globalized economy, the landscape and processes of international trade have been profoundly reshaped through the adoption of modern information and communication technology (ICT). Digitalized flows of communication, information, and data are fuelling innovative means of cross-border trade, broadening the scale and scope for firms to engage across global markets.[1] Shifting the focus of international trade from what goods or services are being exchanged, to how are these goods and services being traded? Digital trade accounts for this newfound "how", reflecting "all international trade transactions that are digitally ordered and/or digitally delivered".[2] Encapsulating both the trade of goods and services that can be exchanged digitally or physically, and across domestic or international settings.

A core proponent in the growth of global digital trade has been the expansive role of digital services trade. The technological integration and increased flows of data throughout the service sectors are revolutionizing the global supply of services, which in turn has played a role in enhancing production, business efficiency and broadening opportunities for small and medium-sized enterprises (SME) to engage in the global economy.[3] Digital services additionally provide broader economic benefits by enhancing the global division of production, expanding the network of global value chains, and offering new transaction methods for trading traditional

[1] Xing, Z. (2018). The impacts of Information and Communication Technology (ICT) and E-commerce on bilateral trade flows. International Economics and Economic Policy. Available at: https://doi.org/10.1007/s10368-017-0375-5

[2] Asian Development Bank. (2022). Asian Economic Integration Report 2022: Advancing Digital Services Trade in Asia and the Pacific. Asian Development Bank. Available at: https://dx.doi.org/10.22617/TCS220041-2.

[3] Hao, S., Chen, Z., Wang, C.-C., Hung, C.-Y. (2023). Impact of Digital Service Trade Barriers and Cross-Border Digital Service Inputs on Economic Growth. Sustainability, 15(19). Available at: https://doi.org/10.3390/su151914547

goods.[4] Through increasing the interconnectivity between goods and services, digital services are further entrenching their value-added component and enabling means of comparative advantage. Due to these vast benefits, global north and global south economies alike are embracing the development of digital services trade to stimulate further economic growth. In 2022, the World Trade Organization (WTO) noted that global exports of digitally delivered services reached US$ 3.82 trillion and accounted for 12% of total goods and services exports.[5] These figures only represent the early days, as continued digitalization and new ICT advancements seek to further expand the trajectory of the digital service trade.

Coinciding with the evolving technologies that foster the digitalized global economy are the expansive changes in country participation across the digital services trade domain. Currently, the U.S., EU, and other high-income economies dominate the landscape of digital service exports, accounting for 82% of global exports in digitally delivered services.[6] This environment can be attributed to a variety of enabling factors such as early adoption of ICT and digital network infrastructure, well-established service sectors, highly skilled labour markets, liberalized domestic regulatory regimes, and digital trade provisions within preferential trade agreements.[7] [8] However, many developing economies have also begun establishing these factors

[4] Gao, Y., Li, M., Yu, A., Pan, H. (2023). Digital global value chains: An analysis from the perspective of a value-added decomposition. Journal of Digital Economy. Available at: https://doi.org/10.1016/j.jdec.2023.12.003

[5] World Bank. (2023). Digital Trade for Development (Vol. 1, pp. 1–52). Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/099633201042411300/IDU17527e81d18c98144be18acb1c9fc0691b3c8.

[6] Ibid.

[7] Roy, M. (2016). Charting the evolving landscape of services trade policies: Recent patterns of protection and liberalization. Research Handbook on Trade in Services. pp. 25-41. Edward Elgar Publishing. Available at: https://doi.org/10.4337/9781783478064.00007

[8] van der Marel, E. (2021). Digital-based Services Globalization and Multilateral Trade Cooperation. Global Policy. pp. 392-398. Available at: https://doi.org/10.1111/1758-5899.12941

to better facilitate their digital economies, and set forth the grounds to export digital and technology services.

In many cases, developing economies serve to be greater benefactors of digital service trade, rather than high-income economies. This is due in large part to the greater impacts that developing economies are likely to experience, particularly regarding the vast array of economic and social development benefits associated with economic digitalization and digital trade growth.[9] These benefits are conditional on establishing ICT infrastructure, stable internet networks, and readily available consumer electronic devices throughout the country. In many ways, these structural and digital infrastructure factors serve to be the foundation, enabling developing economies to then advance their digital economy or expand their digital service trade. Integrating technology infrastructure across a country equally yields broader social benefits, such as connectivity between urban and rural environments, inclusive opportunities for women entrepreneurs, and access to learning opportunities and means of developing personal and professional skills.[10]

Amidst the array of global south states that are advancing their digital infrastructure and fostering environments for digital trade, developing economies throughout the Indo-Pacific show the highest potential to advance their participation in the global economy. As a region that has strategically prioritized expansive technological and digital development, there has been rapid

[9] Dahlman, C., Mealy, S., Wermelinger, M. (2016). Harnessing the digital economy for developing countries. OECD Development Centre Working Papers. No. 334. OECD Publishing, Paris. https://doi.org/10.1787/4adffb24-en.

[10] World Bank. (2023). Digital Trade for Development (Vol. 1, pp. 1–52). Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/099633201042411300/IDU17527e81d18c98144be18acb1c9fc0691b3c8.

regional adoption of ICT infrastructure and digital services such as e-commerce platforms.[11] Establishing a strong digital foundation in this way has increasingly broadened opportunities for regional interconnectivity and digital trade. Supporting the structural factors associated with regional development has been increased digital integration through varying regional agreements. Many regional preferential trade agreements (PTAs) and digital-only agreements such as the Comprehensive and Progressive Trans-Pacific Partnership Agreement (CPTPP), the ASEAN E-Commerce Agreement, and the Indo-Pacific Economic Framework (IPEF) are building regional alignment on digital regulations, standards and norms.[12] An additional component is the regional investment, collaboration, and digital trade models that developing economies can embrace from leading digital trade exporting economies such as China, Japan, the Republic of Korea, and Singapore. These offer integrated means to build up and engage in regional digital service trade.

However, as global south states of the Indo-Pacific seek to expand their trade of digital and technology services, they must navigate ongoing international frictions and challenges associated with digital trade. Issues of growing foreign market access barriers have increasingly emerged as difficult variables to navigate. Their existence can be attributed to the domestic regulatory landscape that oversees political, economic and security sensitivities within service sectors. Specifically, ongoing issues related to cross-border data privacy, consumer protection, digital service taxation, and digital ICT platform restrictions are complicating the flow of digital

[11] Mishra, N., & Valencia, A. M. P. (2023). Digital services and digital trade in the Asia pacific: an alternative model for digital integration? Asia Pacific Law Review, 31(2), 489–513. https://doi.org/10.1080/10192557.2023.2216058

[12] Mishra, N., & Valencia, A. M. P. (2023). Digital services and digital trade in the Asia pacific: an alternative model for digital integration? Asia Pacific Law Review, 31(2), 489–513.

trade.[13] [14] These matters are being addressed in varying methods via domestic regulations and/or multilaterally through PTAs.[15] Collectively contributing to an increasingly fragmented and regulatory complex environment for digital service trade. Domestic issues equally challenge developing Indo-Pacific economies, despite regional progress in establishing ICT and internet infrastructure. Many limitations related to human capital, technological infrastructure, and institutional regulations still exist.[16] Finding means of addressing these shortcomings will prove to be paramount as these developing economies seek to expand their digital and technology services trade.

1.1 Purpose, Research Question

Through the increasingly interconnected relationship between economic globalization and advanced ICT and digital technologies, the digitalization of trading goods and services has rapidly expanded. This evolving environment and the economic growth opportunities associated with digitalization have attracted the attention of countries around the world. Many developing economies seek to benefit greatly, due to the impact digital and technology services have in expanding market access, fostering innovative practices, and increasing sectoral productivity.

[13] van der Marel, E. (2021).

[14] Hufbauer, G. C., & Lu, Z. (2019). Global E-Commerce Talks Stumble on Data Issues, Privacy, and More. In Policy File. Peterson Institute for International Economics.

[15] Hao, S., Chen, Z., Wang, C.-C., & Hung, C.-Y. (2023). Impact of Digital Service Trade Barriers and Cross-Border Digital Service Inputs on Economic Growth. Sustainability, 15(19), 14547-. https://doi.org/10.3390/su151914547

[16] ESCAP, U. (2023). Asia-Pacific Trade and Investment Report 2023/24: unleashing digital trade and investment for sustainable development.

This research seeks to expand on the growing landscape of digital trade by analyzing the economic development opportunities associated with digital and technology service trade. Specifically, we ask the question of what policy approaches are global south states of the Indo-Pacific pursuing to advance their digital and technology services trade? And how do these policies support their economic and social development, considering the region's recent expansive growth in ICT infrastructure, e-commerce, and regional efforts on digital regulatory convergence?

1.2 Structure

The overall structure of this paper is divided into five chapters. The first chapter is the introduction itself. The second chapter defines trade in services, explains the influence of domestic regulatory regimes, and concludes with an overview of trade theories and their application to service trade. Chapter 3 focuses on the global digitalization of trade and highlights means of development fostered through digital trade. It then shifts to discussing the current diverging issues that have emerged from digital trade and then ongoing forms of multilateral cooperation that are emerging. Chapter 4 then delves into the state of digital service trade within the Indo-Pacific region. Providing an in-depth analysis of the Philippines' ongoing economic digitalization process while drawing upon the previously discussed theories and the global Network Readiness Index assessment of the nation's economic digitalization. Chapter 5 concludes the paper and offers insight into the current digital trade environment and what could be next.

Chapter 2: The Trade in Services Regime

2.1 Defining Trade in Services

The concept of international services trade revolves around the process of exchanging ideas, know-how, and technologies between residents and non-residents of an economy.[17] Services are very heterogeneous and can encapsulate a vast range of economic activities and industries. They are equally dynamic and ever-changing due to innovation and information sharing. Their tradability can be reflected through the four modes of supply that were initially established by World Trade Organization (WTO) members under the General Agreement of Trade in Services (GATS). Through which, service transactions could be categorized according to the territorial presence of the supplier and consumer during the time of transaction:[18]

- *Cross border (mode 1):* services supplied from the territory of one country into the territory of another country.
- *Consumption abroad (mode 2):* services supplied in the territory of one country to consumers of another country.
- *Commercial presence (mode 3):* services supplied to an established enterprise through foreign direct investment of one country to consumers in the territory of a different country.
- *Presence of natural persons (mode 4):* services supplied by a national of one country or on behalf of an employer in that country in the territory of another country.

[17] Organization for Economic Co-operation and Development. (2024). International Trade – trade in goods and services – OECD Data. Trade in Services Indicator. https://data.oecd.org/trade/trade-in-goods-and-services.htm

[18] The General Agreement on Trade in Services (GATS). (1996). Industry Canada/Industrie Canada.

Unlike with trading goods, services are an intangible and invisible commodity that usually requires simultaneous production and consumption. Historically, trading services had remained a highly localized process, due to the requirement for consumer and producer to directly engage in transacting the service.[19] However, the globalization of ICT technologies has drastically altered the means of trading services, enabling digital means for transactions and delivery that reduce the traditional market entry costs associated with exchanging services.[20] This has resulted in an immense increase of opportunities and competition for service providers across the globe and in itself established new innovative digital service sectors.

At this moment, trade in services plays a significant role in the multilateral trading system and the economic and social development of nation-states. This growth in importance can be attributed to the essential role services play as intermediate inputs towards the production of goods and additional services.[21] Functioning as vital components in the coordination of production and contributing to the economies of scale and specialization of other industries.[22] In the current globalized economy, the transition towards multinational production and utilizing value chains prioritizes intermediate services as essential components in every step of the journey. Thus, a nation's competitiveness in manufacturing and exporting goods can in many ways be attributed to the effectiveness of their service sectors and the value added they bring.

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[19] Copeland, B., Mattoo, A. (2007). The Basic Economics of Services Trade. Handbook of International Trade in Services. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199235216.003.0003

[20] Tamirisa, N., Lehmann, A., Wieczorek, J. (2003). International Trade in Services: Implications for the Fund. International Monetary Fund.

[21] Delimatsis, P. (2007). International Trade in Services and Domestic Regulations: Necessity, Transparency, and Regulatory Diversity. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199533152.001.0001

[22] Hoekman, B. M. (2006). Liberalizing trade in services a survey. World Bank.

Fundamental to the participation of nation-state economies in global services trade has been their successful adoption of liberalization practices and targeted service policies. As the effective development of trade policies serves to function as the "science in finding the efficient point of import and export policies across a spectrum of total state intervention and complete free trade".[23] This range reflects the need for trade policies to best suit the particular domestic needs while functioning with the legal, political, and economic environments of a state.

However, the approaches countries undertake when implementing trade policies drastically differs between goods and services. This can be directly associated with the intangibility and invisibility of services compared to goods. In particular, trade policies targeted towards importing and exporting goods address quantifiable metrics such as price or quantity, resulting in nation-states adopting a mix of policy instruments such as import tariffs, quotas, export taxes, and subsidies.[24] The realm of service trade reflects a much more dynamic and complex system, where service policies are behind the border and involve less transparent domestic regulations.[25] Thus, efforts to liberalize economies service sectors requires greater time and wide-reaching structural change, as domestic institutions and policy regulations must be altered. As such, the liberalization of services trade has been a lengthier process, reflective of the current landscape where a wide degree of trade barriers still exists.

[23] Lima-Campos, A. de, Gaviria, J.A. (2017). Introduction to trade policy. Routledge. https://doi.org/10.4324/9781315559896
[24] Suranovic, S. (2010). International trade: theory and policy. Saylor Foundation.
[25] Chen, W.-C. (2024). The impacts of policy restrictuions on trade in services. Applied Economics. https://doi.org/10.1080/00036846.2024.2381835

2.2 Regulating Service Trade

The direct linkage many service sectors have in relation to politically sensitive economic, infrastructure, and resource sectors contributes to the longstanding challenges associated with market liberalization, as ensuring the stability and universal supply of public goods services such as banking, insurance, transportation, and communication infrastructure services are of primary importance. Thus, despite structural reforms undertaken by many developed and developing economies to reduce the degree of direct or non-direct government control in service sectors, there remains high degrees of regulation.[26] These regulatory patterns vary according to sectoral risk, industry needs, and domestic market conditions, contributing to the dynamic range of economic and social costs that can be incurred by service sectors, domestic consumers, and foreign service providers.

Domestic regulatory constraints on service sectors can encapsulate a vast array of means and seek to address objectives that domestic governments exercise as a priority. This may include direct service trade priorities to address market failures or broader domestic inefficiencies resulting in requirements for firms and citizens.[27] Furthermore, each country's regulatory capacity and approaches drastically differ according to their regulatory knowledge, domestic institutions, and enforcement mechanisms. These conditions shape the choices of regulatory instruments available to policymakers when seeking to address government objectives.[28] Service trade regulations can equally take many forms, although they can be organized through two set

[26] Delimatsis, P. (2007).
[27] Ibid.
[28] Molinuevo, M., Sáez, S., Saez, S. (2014). Regulatory Assessment Toolkit: A practical Methodology for Assessing Regulation on Trade and Investment in Services. World Bank Publications. https://doi.org/10.1596/978-1-4648-0057-3

distinctions.[29] Firstly, regulatory service barriers can be classified by their impact on entry and establishment and may include market access conditions or competition regulations for service providers. Secondly, social-focused regulations can target the means of service operations, ensuring that foreign service providers meet hiring quotas or ensuring domestic health and wellbeing, public safety, and environmental standards. When domestic institutions adopt these regulations, it frequently requires a mixed combination of both types to meet the country-specific objectives and service sector needs.[30]

Identifying and measuring the extent of domestic regulatory restrictions on services has remained a difficult process that is conditional on regulatory information sharing and quantifying the economic impact of regulations. The historical lack of transparency towards regulatory information sharing has challenged the effectiveness of analysing reform changes and advancing multilateral negotiations.[31] However, the gradual progression in information sharing amongst countries through international and regional organizations has led to a range of new resources that encapsulate data on services regulations. Tools and resources such as the UN, EU, and WTO jointly developed Manual on Statistics of International Trade in Services, the OECD International Trade in Services Statistics database, and the OECD Service Trade Restrictiveness Index have synergized available information on service sector regulations. Although disparities do still exist with regard to information sharing, nation-states with higher levels of economic development and global trade involvement tend to exhibit better data coverage.[32] By improving

[29] Deardorff, A. V., Stern, R. M. (2007). Empirical Analysis of Barriers to International Services Transactions and the Consequences of Liberalization. A Handbook of International Trade in Services. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199235216.003.0005
[30] Tamirisa, N., Lehmann, A., Wieczorek, J. (2003).
[31] Roy, M. (2016). Charting the evolving landscape of services trade policies: Recent Patterns of protection and liberalization. Research Handbook on Trade in Services. Edward Elgar Publishing.
[32] Deardorff, A. V., Stern, R. M. (2007).

data participation for developing economies to share regulations and trade patterns, a more complete picture of the global trade of services regime could be captured.

However, despite the advancements in international information sharing, regulatory standardization, and increased liberalization through trade agreements, high degrees of regulations still exist. This is due to the fundamental processes in which economies simultaneously adopt a series of liberalizing and restrictive policies to construct their domestic services sector, as initial strides towards deregulating regulatory regimes to advance sectoral growth and market liberalization require constructing new regulations and service standards.[33] These protective domestic regulations are often adopted by governments in response to changing global economic realities and to compensate for market vulnerabilities tied to over-liberalization. Much like the vast heterogeneity of the service sectors, the impacts of sectoral regulations provide differential effects according to the industry.[34] Depending on the service sector, moderate policy restrictions that ensure market stability and service standards can promote trade in services, but harsh regulatory regimes tend to discourage global trade.[35] Therefore, the current global service trade regime reflects an ever-evolving mix of liberalizing and restrictive approaches to coordinate services trade ambition with broader government interests.

[33] Borchert et Al. (2020). The evolution of services trade policy since the Great Recession. The World Bank. pp 1-41. https://doi.org/10.1596/1813-9450-9265.
[34] Gooris, J., Mitaritonna, C. (2015). Which Import Restrictions Matter for Trade in Services?. Policy File. Centre d'Etudes Prospectives et d'Informations Internationales.
[35] Chen, W.-C. (2024).

3.2 Applying Trade Theories to Services

Foundational to international trade is the classical theory of comparative advantage theory developed by David Ricardo in the 19th century. This static and simplistic model introduces the basic rationale of international trade through the mutually beneficial principle of comparative advantage between two countries.[36] Asserting that a given country should, under competitive market conditions, specialize in the export of a good that they can produce at the lowest relative cost. [37] Coinciding with this notion is the introduction of technological capabilities as a key labour factor, which amidst variation between trading nations would create differences in relative prices and enable advantageous trade. However, Ricardo's model is grounded by its market simplicity as not all assumptions hold true in the complex landscape of international trade. Including the notions of perfect competition, fully employed factors of production, full mobility of labour and capital within both countries, and that neither variable moves across state borders.[38] As such, this static and ideal environment of bilateral trade serves as the basis but underplays the real complexities of disproportionate economies and the vast variation of modern productive factors.

Building upon some of the simplistic limitations in Ricardo's classical comparative advantage model, Eli Heckscher and Bertil Ohlin introduced the factor endowment trade theory. They would bring forth a second source of production within a national economy to analyze the impact of bilateral trade amidst differential labour and capital as factors of production.[39]

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[36] Todaro, M.P., Smith, S. C. (2014). Economic Development. Chapter 12: International Trade Theory and Development Strategy. Twelfth Edition. Pearson. ISBN 13: 9780137614813

[37] Suranovic, S. (2010). International Trade: Theory and Policy. Chapter 2: The Ricardian Theory of Comparative Advantage. Saylor Foundation. ISBN 13: 9781936126446

[38] Siddiqui, K. (2018) David Ricardo's Comparative Advantage and Developing Countries: Myth and Reality. International Critical Thought. 8(3). pp. 426-452. https://doi.org/10.1080/21598282.2018.1506264

[39] Leamer, E. E. (1995). The Heckscher-Ohlin model in theory and practice.

Assuming that they both employed identical technological conditions to produce goods, the disproportionate factors of production amongst states would lead to specialization in the production of goods that rely upon the most abundant factor. This would in turn lead nations to import the goods from trading partners that require greater inputs from scarce factors of production.[40]

The impact of the industry production choices generates improved economic efficiency through the redistribution of production factors and engaging in bilateral trade. However, the redistribution of production factors adjusts domestic income amongst the sectors tied to the specialized factors of production and establishes direct short-term winners and losers from trade, unlike the Ricardian model, in which trade would be mutually beneficial.[41] Although in the long run, the Heckscher-Ohlin model notes that broader economic development is attained through specialization, as economic gains can be attained through exporting the specialized goods.

By accounting for variation between economies in production factors, the Heckscher-Ohlin model begins to reflect a more realistic international trade landscape. Yet, this model equally undermines the discrepancies in technological advances and still doesn't account for the fact that multiple countries still choose to specialize in similar goods. As such, more recent theories such as the New Trade Theory developed by Paul Krugman have accounted for such factors. The primary component of New Trade Theory is the aspect of scale economies and the benefit increased inputs bring forth to certain industries.[42] Through differential specialization and

[40] Davidson, W.H. (1979). Factor Endowment, Innovation and International Trade Theory. Kyklos (Basel). 32(4). pp 764-774. https://doi.org/10.1111/j.1467-6435.1979.tb01144.x
[41] Suranovic, S. (2010). International Trade: Theory and Policy. Chapter 5: The Heckscher-Ohlin (Factor Proportions Model). Saylor Foundation. ISBN 13: 9781936126446
[42] Chandra, R. (2021). Paul Krugman, New Trade Theory and New Economic Geography. Endogenous Growth in Historical Perspectives. Springer International Publishing AG. https://doi.org/10.1007/978-3-030-83761-7_8

increased inputs towards the production of goods and services, there are opportunities to increase trade returns and expand one's shares of the global market.[43] Additionally, as each manufacturer specializes and creates a differentiated good, there is an opportunity for greater intra-industry trade due to the variation in products. This enables greater participation within international trade due to the differentiation of goods, and increased returns for specialization.

However, by broadening the application of New Trade Theory and its varying notions, there are a range of implications towards uneven regional development that are induced by international trade. The focus on economies of scale and product differentiation to achieve greater market shares gives way to oligopolistic competition, which hinders the potential for emerging economies and infant industries to match international prices. A conditionality of Krugman's intra-industry trade is the requirement for economies to be at similar stages of economic development. As if not, they then revert back to comparative advantage and factor ratios related to capital-labour inputs to trade.[44] These conditions highlight entry challenges developing economies may face in relation to competing in similar export-based industries as developed economies.

The concepts of New Trade Theory are further applied in Krugman's geographical economics, where economies of scale can capitalize on imperfect competition to evolve into external economies.[45] This fosters production concentration and geographic pockets that maximize the economic scale and reduce transactional and transportation costs associated with trade, and in turn enables regional and localized industries to benefit from additional factors of

[43] Krugman, P. (2009). The Increasing Returns Revolution in Trade and Geography. The American Review. https://doi.org/10.1257/aer.99.3.561
[44] Chandra, R. (2021).
[45] Martin, R., Sunley, P. (1996). Paul Krugman's Geographical Economics and Its Implications for Regional Development Theory: A Critical Assessment. Economic Geography. https://doi.org/10.2307/144401

knowledge spillover, labour market pooling, and specialized suppliers.[46] However, these conditions of specialized external economies disproportionately advantage early developed economies via regional resource accumulation, while reducing the access developing economies have to certain technologies, labour markets, and supplier resources. [47] In this context, developing economies are required to develop these inputs independently and play a catch-up game against developed industries and economies, resulting in an economic disparity and independent sectoral trade development amongst developed and developing economies.

Through expanding upon the theoretical ideas of comparative advantage, factor-endowment theory, and new trade theory, we are introduced to a series of determinants and factors associated with industry specialization, economies of scale and broader interactions between developed and developing economies. Yet we're still left with the major question of how do these theories apply to service trade?

This question can be addressed through the service model that is constructed by Erik van der Marel, which expands the application of traditional determinants of comparative advantage and Heckscher-Ohlin endowment factors to trade in services. The model additionally integrates newfound comparative advantage factors of geographic and institutional determinants, while adopting a service-specific factor of domestic regulatory regimes.[48] Given the importance of regulatory policies on trade in service that was discussed earlier, their inclusion assures a more complete picture of domestic comparative advantage factors that shape international trade in

[46] Krugman, P. (1999). The Role of Geography in Development. International Regional Science Review. https://doi.org/10.1177/016001799761012307
[47] Chandra, R. (2021).
[48] Van der Marel, E. (2011). Determinants of comparative advantage in services. IDEAS Working Paper Series from RePEc. http://eprints.lse.ac.uk/38993/

services.[49] This is equally the case for domestic institutions as determinants of comparative advantage. As good governance and a strong rule of law are key to ensuring product patent rights and protecting labour regulations.[50] While the inclusion of geographic barriers, accounts for physical distances, linguistic and cultural linkages between economies. Reflecting factors associated with the ease of facilitating service transactions.[51]

A further component that van der Marel integrates is the influence of ICT-employed capital as an independent factor of endowment, in which economies with more abundant technological capital and high-skilled labour forces can establish comparative advantages across service sectors.[52] Amidst the growing globalization of ICTs and the rise in digital trade, higher ICT capital improves service efficiencies, increases data access, and reduces the impact of physical distances in enabling service trade. Similar to other determinants of comparative advantage, ICT factors of service trade are heavily intertwined with other determinants such as institutions and regulatory policies. As strong ICT capital synergized with other determinants is a key ingredient amongst high-income economies that dominate the exporting of digital services.[53] Enabling multi-sectoral service providers ample opportunity to engage in international trade with domestic good governance support.

To conclude, in this paper, we seek to integrate the five determinants of comparative advantage in services that are established by Erik van der Marel's model towards our analysis of

[49] Kox, H., Nordås, H. K. (2007). Services Trade and Domestic Regulation. OECD Publishing.
[50] Chor, D. (2010). Unpacking sources of comparative advantage: A quantitative approach. Journal of International Economics. https://doi.org/10.1016/j.jinteco.2010.07.004
[51] Eaton, J., Kortum, S. (2002). Technology, Geography, and Trade. Econometrica. https://doi.org/10.1111/1468-0262.00352
[52] Van der Marel, E. (2010).
[53] Van der Marel, E., Shepherd, B. (2013). International tradability indices for services. Policy Files. The World Bank.

means for Indo-Pacific developing economies to advance trade in digital and technology service sectors. While also accounting for Paul Krugman's new trade theory concepts of economies of scale and external economies when examining the scale of digital trade in service sectors throughout the Indo-Pacific region.

Chapter 3: Digitalizing Trade in Services

3.1 The Emerging Digital Economy

The digitalization of the global economy hasn't been an instantaneous phenomenon, rather it's reflective of a gradually increasing process that began amidst the emergence of the internet in the 1990s.[54] Its expansive evolution can be attributed to continual advancements in ICTs and increasingly globalized access to mobile devices, information and data analytics, and digital networks.[55] All of these have permeated multiple aspects of modern life to digitalize, including commercial exchange, transportation, healthcare, education, and which benefits consumers, businesses and governments.[56] Broad-reaching trends of greater access and diffusion of digital technologies have further increased the depth of effect that technologies are having on the global economy. In turn, this depth has shifted the dynamic nature of each national economy, as amidst greater digitalization each country's economy is itself becoming digitalized.[57]

Encapsulating this vast degree of digitalization is inherently difficult, as economic, social, and cultural activities are all now influenced by the digital economy. The ever-evolving reach of digitalization is in many ways blurring the boundaries of what the digital economy fully encompasses. Conceptualizing the digital economy environment is immensely daunting, however, Bukht and Hicks digital economy definition effectively encapsulates its evolving nature. They define the digital economy as the "parts of economic outputs derived solely or

[54] Bucht, R., Hicks, R. (2018). Definition, concept and measurement of the digital economy. Bulletin of international organizations.

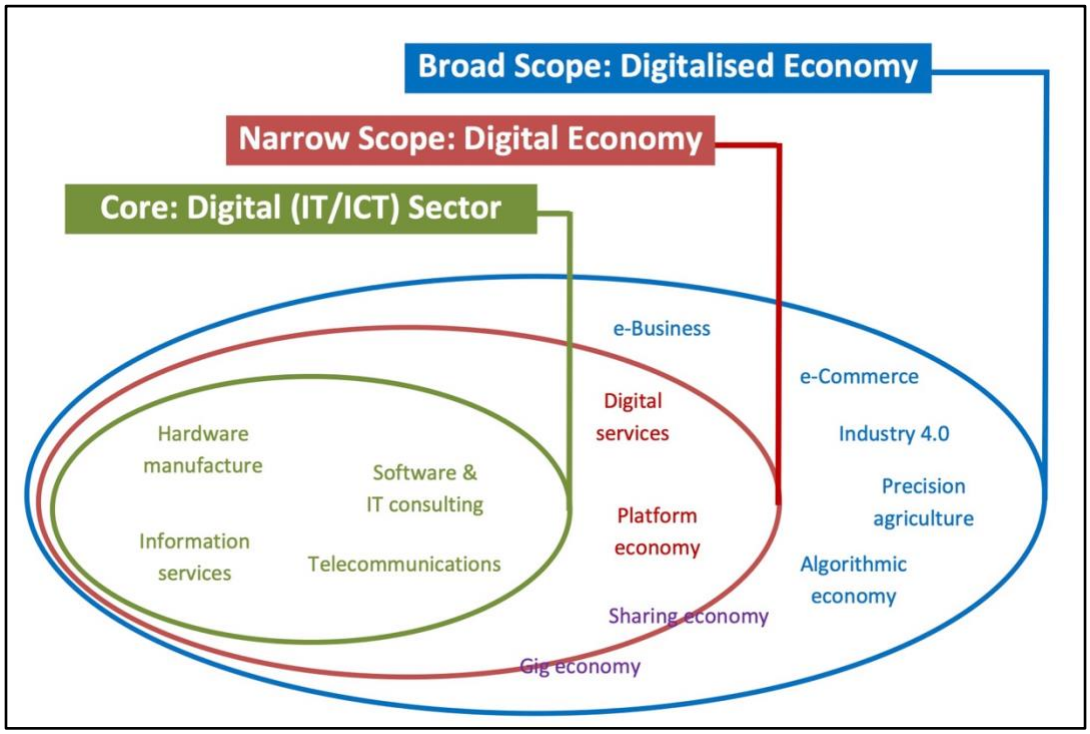
[55] Xia, L., Baghaie, S., & Sajadi, S. M. (2024). The digital economy: Challenges and opportunities in the new era of technology and electronic communications. Ain Shams Engineering Journal, 15(2), 102411.

[56] Dahlman, C., S. Mealy and M. Wermelinger (2016). Harnessing the digital economy for developing countries. OECD Development Centre Working Papers. No. 334. OECD Publishing. https://doi.org/10.1787/4adffb24-en.

[57] Di, Y., Zhi, R., Song, H., & Zhang, L. (2022). Development and influencing factors of international trade in digitally deliverable services. Frontiers in Psychology, 13, 908420.

primarily from digital technologies with a business model based on digital goods or services".[58] Highlighting the intensive and extensive applications that digital ICTs have on existing economic outputs, as well as how they influence the creation of new markets and business models.

Figure 1: Bukht and Hicks Scoping of the Digital Economy



(Source: Bucht, R., Hicks, R. 2018.)

The scope of ICT integration within the realm of economic outputs is further reflected through their scaled model (Figure 1) of digital integration. In which, an outward flow of influence occurs from the central Digital Sector core, towards the intensive digital economy, and

[58] Bucht, R., Hicks, R. (2018). pp 13.

then again to the broader digitalized economy. Collectively, these tiered scopes highlight sectors and industries of critical importance during this economic digitalization.

Despite the immense expansion of the digital economy, the process of economic digitalization hasn't occurred at equal rates of progression. Contributing to the emergence of a digital economic divide throughout the world. As Global North economies with well-established ICT infrastructure and technological advances have embraced the digital economy, developing economies of the Global South are still poised to further integrate ICTs and digital infrastructure within their economies. These disparities were further reinforced during the COVID-19 pandemic, as high-income countries' digital business adaptation was unable to be equally replicated by the developing countries.[59] Limiting the digital economic recovery opportunities available for developing economies. Issues of accessibility to the digital economy equally exist within domestic borders have also been raised, creating sub-national digital divides between generations and urban-rural divides. Addressing the technological diffusion within countries remains the next challenge to furthering the digital integration in developing economies and to realizing the beneficial economic and social impacts of digital and technology trade in services.

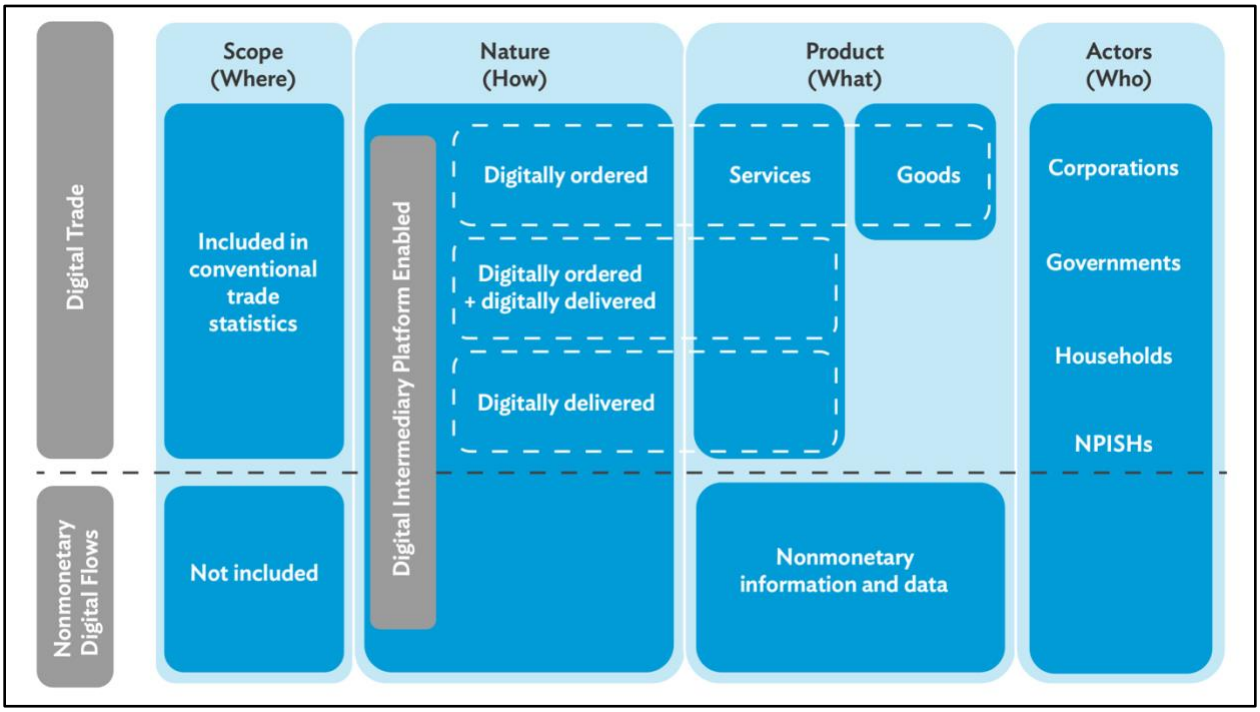
3.2 Defining Digital Trade

A foundational component within the digitalized global economy has been the rapid expansion of digital cross-border trade, known as digital trade, as a driving force of global economic activity. Enabled by the globalized adoption of digital ICTs as a carrier for fast-flowing

[59] Di, Y., Zhi, R., Song, H., & Zhang, L. (2022). Development and influencing factors of international trade in digitally deliverable services. Frontiers in Psychology, 13, 908420.

communication between consumers, firms, and economies at large. Digital trade has been defined by the OECD, WTO, and IMF as "all international trade transactions that are digitally ordered and/or digitally delivered".[60] This broad scope of digital trade is reflected in the diagram below (Figure 2), and accounts for the digital exchange of service products and the exchange of physical goods and services that are traded through digital means.

Figure 2: OECD-WTO-IMF Conceptual Framework for Digital Trade



(Source: OECD-WTO-IMF 2019.)

Amidst the array of economic activities that encapsulate digit trade, trade in digital and technology services has been the fastest-growing area of international trade.[61] Digital service trade reflects a new operational mode to traditional service trade that relies upon data

[60] Asian Development Bank. (2022). pp 186.
[61] Asian Development Bank. (2022).

transmission and digital networks to facilitate international transactions. While predominantly reflecting trade that occurs through a digitally ordered and digitally delivered nature, this has in many ways disrupted the traditional challenges services trade endured through the transaction stage of trade. While expanding the opportunity for globally reaching cross-border supply (Mode 1) of services.

Much like the digital economy, digital trade is itself an ever-evolving domain that embraces advancements in ICTs to broaden its capabilities and that of physical goods and service trade.[62] This dynamic nature impedes the ease of constructing a static definition of digital and technology services, as the digitalized nature of service products is ever-evolving. Accounting for many service sub-sectors that can adopt a digital nature, such as health services, and heritage and recreational services. In this paper, we seek to focus upon inherently digital and technology-based services that fall under the WTO classification of telecommunications, computer and information services, as they're the foundational service sector that fosters broader digital trade.[63] Their critical importance to the digitalized economy can be acknowledged through Bukht and Hicks digital economy model (Figure 1). Where technology and information services are positioned as part of the core intensive digital sector, enabling the broad array of digital services in the digital economy.

[62] Lee, J., Han, S. (2021). "The future of Services Post-COVID-19 Pandemic". Rapid Adoption of Digital Services Technology. Volume 1. Springer. Available at: https://doi.org/10.1007/978-981-33-4126-5

[63] World Trade Organization, Organization for Economic Co-operation and Development, International Monetary Fund, & United Nations. (2023). *Handbook on Measuring Digital Trade*. USA: International Monetary Fund. https://doi.org/10.5089/9789287073600.071

3.3 Development Through Digitalization

The globalized implementation of ICT infrastructure has been presented as a key piece in supporting the promotion of economic growth and development and social advancements of Global South states. This notion can be attributed to the influence technological advancements are having on determinants of production and means of comparative advantage. Firstly, the increased reach of digital networks has broadened firms' access to digital data and information, enabling product developers with a vast array of new approaches, business models and means to improve and specialize their production.[64] Digital information networks and e-commerce platforms have additionally reduced information disparities for SME service providers, with growing accessible information on foreign markets' regulatory regimes. Enhancing economic opportunities through guides on how to navigate new markets and providing means to foster economies of scale through ICT capital and newfound knowledge.[65] These approaches can equally be adopted within domestic goods markets, as search engines and web-based information services can standardize information access to reduce market frictions and information asymmetries.[66]

Secondly, digital platforms have broadened the array of opportunities for human development and inclusive trade. Amidst the vast flows of data and information that are available around the globe, ample opportunities are available for educational skill development, especially

[64] Chen, Z., Lin, J., Li, J., & Chen, Z. (2022). Digital trade: Definition, measurement and development. Scientific and Social Research, 4(1), 112-118.
[65] World Bank, World Trade Organization (WTO). (2023). "Trade in Services for Development – Fostering Sustainable Growth and Economic Diversification. World Bank Group. Available at: http://documents.worldbank.org/curated/en/099258110092319807/IDU0be37875e0bee10474f0907a043151e283794
[66] ESCAP, U. (2023). Asia-Pacific Trade and Investment Report 2023/24: unleashing digital trade and investment for sustainable development.

pertaining to ongoing digital technology skill gaps. This had been an issue identified amongst SMEs within ASEAN countries, where integration of digital tools had only been applied at basic levels. Higher integration of e-commerce platforms and digital business models had only been adopted by 34% and 10% of respondents.[67] Furthermore, broadening digital resources enables a range of inclusive opportunities for women entrepreneurs, rural producers and informal service sector workers to enter the digital economy. [68] Opening pathways for traditionally limited groups to join the formal economy through digital services enabled networks and e-commerce platforms.

However, for developing economies to capitalize upon the information and market access factors that digital networks enable, they require stable digital infrastructure. As mentioned earlier, the current digital divide of ICT infrastructure challenges the application of this. Although increasingly available and affordable communication infrastructure offers developing economies an easier path to meeting these requirements.[69] Therefore, due to the array of socio-economic benefits of ICT dissemination and digital technology services, advancing these areas has been a major priority for many developing economies.

3.4 Diverging Issues of Digital Trade

[67] ERIA (2020) Study on MSMEs Participation in the Digital Economy in ASEAN. pp.4 .Jakarta: ERIA. https://www.eria.org/uploads/media/Books/2019-October-ERIA-ASEAN-Study-On-MSMEs-Participation.pdf.
[68] World Bank. (2023). Digital Trade for Development (Vol. 1, pp. 1–52). Washington, D.C.: World Bank Group. http://documents.worldbank.org/curated/en/099633201042411300/IDU17527e81d18c98144be18acb1c9fc0691b3c8.
[69] Dahlman, C., S. Mealy and M. Wermelinger. (2016).

Despite the expansive growth digital trade continues to exhibit, a range of barriers and divergence over digital standards are beginning to obstruct further development. In many ways, these trade barriers and issues can be attributed to the rapid acceleration of technological advances within the global economy and the unknown application of the technologies. This has resulted in governments adopting a range of digital trade-related policies to regulate this expansive domain. These protective regulations occur in domestic and PTA settings and introduce a variety of barriers to clarify the domain and accommodate for seamless digital trade.[70] Much like traditional trade in services, these domestic regulations and varying multilateral rules seek to regulate consumers' and firms' behaviours to ensure select government interests. As a result, the landscape is highly complex and fragmented, with various overlapping regulations and low degrees of coherency amongst countries' regulatory approaches. [71]

The range of regulatory barriers to digital trade spans multiple major issues encompassing domestic economic and security concerns. This includes data and privacy protection provisions, where a growing number of countries have applied limits on the cross-border transfer of data. These regulations tend to follow approaches of self-assessment schemes, conditions-based regulatory safeguard models, or stringent and direct data transfer bans.[72] Regardless of approach, they all inhibit the flow of digital service trade by seeking to address potential information asymmetries, personal data, and intellectual property theft.

Growing disagreement has also emerged surrounding the taxation of cross-border digital services. Launched by the EU, digital service taxes seek to address multinational big-tech firms

[70] Burri, M., Polanco, R. (2020). Digital Trade Provisions in Preferential Trade Agreements: introducing a New Dataset. Journal of International Economic Law. Available at: https://doi.org/10.1093/jiel/jgz044
[71] Hao, S., Chen, Z., Wang, C.-C., Hung, C.-Y. (2023). Impact of Digital Service Trade Barriers and Cross-Border Digital Service Inputs on Economic Growth. Sustainability, 15(19). https://doi.org/10.3390/su151914547
[72] Van der Marel, E. (2021).

that evolved into external economies and tend to originate from the US.[73] Countries such as India and Turkey have followed suit with these taxes, and equally seek to generate revenue from foreign monopolistic corporations that reside in their country. A concern of these taxes highlighted by van der Marel, is that they may be discriminatory in nature towards existing trade agreements due to agreed-upon free market access.[74]

Besides the digital service tax, there is also the 1998 WTO Declaration on Global Electronic Commerce that establishes the practice of zero customs duties on electronic transmissions. Renewed every two years, this declaration encourages digital technological innovation by ensuring zero customs duties on digital services such as software.[75] It is an inclusive declaration that supports emerging digital and technology services sectors in developing economies, reducing initial costs they may incur when advancing digital sectors. However, a growing number of countries including India and South Africa have begun to question its purpose and to recognize the opportunity that customs duties pose to generate revenue from the increased digitalization of the economy.[76] Therefore, the declaration's existence fuels debate amongst the economic opportunities between digital trade and traditional trade. Fortunately, on March 1st, 2024, the moratorium on customs duties was extended again for another two years, ensuring developing and least-developed economies have affordable opportunities to integrate ICT and advance digital trade. [77]

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[73] Hufbauer, G. C., Lu, Z. (2019). Global E-Commerce Talks Stumble on Data Issues, Privacy and More. Policy File. Peterson Institute for International Economics.
[74] Van der Marel, E. (2021).
[75] Hufbauer, G. C., Lu, Z. (2019).
[76] Ibid.
[77] Ciofu, S. (2024). WTO extends customs duties moratorium for another two years. The UK's technology trade association. https://www.techuk.org/resource/wto-extends-customs-duties-moratorium-for-another-two-years.

Lastly, there are security-driven domestic market access and infrastructure barriers, such as data localization and ICT infrastructure and network measures. Data localization relates to the process of requiring foreign firms to establish local ICT infrastructure in the country they wish to do trade in. It's a security-driven regulation, that seeks to address issues of cross-border data flows. Yet it effectively shifts the nature of the cross-border supply of services (Mode 1), while undermining the service principles of GATS. However, due to security exceptions within the GATS agreement, these regulations are able to exist.[78] Security prioritization is not without costs, as this barrier reduces economic growth opportunities. ICT infrastructure and network measures, on the other hand, are reflective of countries' policies on digital network access and uses and regulating the acceptable activities and digital service platforms available for use. These policies are security and culturally driven and impose a range of limitations on market access and domestic opportunities in digital trade.

Collectively, these ongoing regulatory issues tend to disproportionately affect developing economies, and impede their effective integration into the global digital trade regime. The repercussions of this fragmented regulatory landscape can lead to reduced efficiency, information sharing, and increased trading costs.[79] Developing economies with limited digital and technology service capacity and economies with high degrees of regulatory barriers are bound to endure greater hardship.

[78] The General Agreement on Trade in Services (GATS). (1996). Industry Canada = Industrie Canada.
[79] Hao, S., Chen, Z., Wang, C.-C., Hung, C.-Y. (2023).

3.5 Growing Multilateral Cooperation

Despite the fragmented nature of regulating digital trade, multilateral venues have played important roles in harmonizing standards, norms, and practices within the digital economy. Members of the WTO were early to recognize the implications of technological innovation on international trade by establishing the Information Technology Agreement (ITA) in 1996 and the Work Programme on E-Commerce and Declaration on Global Electronic Commerce in 1998.[80] However, the lack of multilateral progress through this multilateral venue ensued, hindering progress in regulating the digital trade domain. Stagnation within the WTO digital trade environment would be met with sweeping technological-induced transformations to the digital trade domain, establishing a vast gap between the outdated international regulatory environment and the ever-evolving digital trade landscape. Amidst the changing trade environment, a new wave of multilateral discussions would emerge in 2017 amongst WTO member countries to explore future WTO plurilateral negotiations on defining acceptable conduct for digital trade and commerce.[81] Following early rule proposals by leading WTO members, a formalized Osaka track was developed in 2019 amongst 76 WTO members to formulate set rules covering digital trade.[82]

Expanded upon by Hufabuer and Lu, reaching consensus amongst these members proved to be a challenging process, as diverting interests from China, the EU, and the US limited progress over cross-border data transfer, digital infrastructure access, and digital taxation.[83] Despite these initial disagreements, varying degrees of agreement do exist between these major

[80] Elsig, M., & Klotz, S. (2021). Digital Trade Rules in Preferential Trade Agreements: Is There a WTO Impact? Global Policy, 12(S4), 25–36. https://doi.org/10.1111/1758-5899.12902
[81] World Trade Organization (WTO). (2024). Joint Statement Initiative on E-commerce. World Trade Organization. Available at: https://www.wto.org/english/tratop_e/ecom_e/joint_statement_e.htm#
[82] Hufbauer, G. C., Lu, Z. (2019).
[83] Hufbauer, G. C., Lu, Z. (2019).

actors, although collectively attaining member consensus proved doubtful. A major issue highlighted by van der Marel pertaining to these WTO negotiations was the lack of presence developing economies had during discussions, reinforcing the vast disparity dynamics between developed and developing economic and technological states in the digital economy. [84]

Despite these challenges, major progress was recently reached on July 26, 2024, when 91 WTO members agreed on the first Agreement on Electronic Commerce.[85] This trade agreement serves to establish a set of modern international norms that pertain to digital trade conduct. Core focus areas of the agreement include means of enabling electronic commerce, ensuring digital openness and electronic commerce, facilitating consumer trust, establishing regulations for telecommunication services, building multilateral collaboration towards transparency, cooperation and development, and establishing new institutional arrangements.[86] Although many steps remain in terms of ratifying and implementing the articles of this agreement, there is unparalleled potential to establish a new baseline for the fragmented regulatory landscape of digital service trade. The inclusion of multilateral collaboration mechanisms and support means for developing economies may serve to be instrumental pieces in bridging digital trade disparities.

Integrating the new Electronic Commerce Agreement into the complex landscape of preferential trade agreements remains a factor to be seen. Amidst the stagnation and diverting interests in multilateral settings, many nations and regional organizations have pursued their agreements. In ways, the regionalization and alignment of countries within PTAs can be

[84] Van der Marel, E. (2021).
[85] World Trade Organization (WTO). (2024
[86] World Trade Organization (WTO). (2024). Joint Statement Initiative on Electronic Commerce – Agreement on Electronic Commerce. Doc #: 24-5377. 1-25.

reflective of the data-based digital divide that Aaronson and Leblond establish.[87] Where alignment in cross-border data regulatory approaches fosters concentration within PTA clusters. This complicates future digital trade-inclusive PTAs due to existing regulatory commitments and misalignment they have with other regulatory approaches.

Underscoring this diversity and depth of digital trade in preferential trade agreements is the research and dataset constructed by Burri and Polanco (2020). Their analysis identifies that 61% of all preferential trade agreements concluded between 2010 and 2018 involved digital trade provisions, while also highlighting that agreements involve more targeted provisions that support digital and technology service trade. [88] This includes preferential provisions pertaining to facilitating digital trade opportunities for SME access to technology services abroad and supporting the free flow and development of services utilizing electronic means.[89] The market access and benefits associated with digital trade proponents will greatly benefit those involved in the preferential trade agreements. However, much like the cross-border data regulatory alignment concerns, preferential market access will likely increase market access barriers between members and non-members, leading to cases of trade diversion.

Therefore, dissecting the benefits of digital trade agreements remains a challenging task. In particular, the growing framework of PTAs has addressed longstanding gaps in digital trade norms, standards, and regulatory consistency, but requires countries to be signatories of said agreements and engage in levels of multilateral cooperation that are not always guaranteed. However, the recently agreed upon WTO Agreement on Electronic Commerce integrates an

[87] Aaronson, S. A., & Leblond, P. (2018). Another Digital Divide: The Rise of Data Realms and its Implications for the WTO. Journal of International Economic Law, 21(2), 245–272. https://doi.org/10.1093/jiel/jgy019
[88] Burri, M., Polanco, R. (2020). Digital Trade Provisions in Preferential Trade Agreements: introducing a New Dataset. Journal of International Economic Law. Available at: https://doi.org/10.1093/jiel/jgz044
[89] Burri, M., Polanco, R. (2020).

updated set of widely accepted international digital trade rules that may be promising. The interaction between both domains of international trade rules remains to be seen but poses further questions regarding how well they will coexist.[90] One certainty amidst the evolving international domain of digital trade is that the embracement of multilateral cooperation remains a conditional prerequisite if countries seek to truly advance their digital and technology services sectors.

[90] Elsig, M., & Klotz, S. (2021).

Chapter 4: The State of Digital and Technology Service Trade in The Indo-Pacific Region

4.1 Digitalization Throughout the Indo-Pacific

The evolving landscape and economic growth opportunities tied to the digital economy have encouraged many nations to adopt digitalization strategies to advance their ICT infrastructure, digital skill development, and industry alignment to maximize their digital trade capacity. The Indo-Pacific region is no different, as regional developed and developing economies continue to be at the epicenter of enormous digital growth and transformation, with many rapidly implementing new digital technologies and services.[91] Despite the region's efforts to broaden ICT infrastructure, digital network adoption, and further regional convergence towards digital regulatory policies. The digital landscape of this region remains quite divisive, reflected by a range of differences in ICT infrastructure capacity, digital networks, device usage, and varying degrees of digital skill adoption in labour forces.

These disparities within regional technological integration can be observed in a comparative approach by utilizing the global Network Readiness Index (NRI). Developed by the Portulans Institute and the Saïd Business School, University of Oxford, to assess the state of ICT and digitalization adoption throughout the region.[92] It also encapsulates a range of factors related to the technological, population, governance, and impact dimensions that shape an economy's

[91] Sedik, T. S. (2018, September). Asia's Digital Revolution – IMF Finance & Development Magazine: September 2018. IMF. https://www.imf.org/en/Publications/fandd/issues/2018/09/asia-digital-revolution-sedik

[92] Portulans Institute. (2023). (S. Dutta & B. Lanvin, Eds.). Network Readiness Index 2023 Trust in a Network Society: A crisis of the digital age (pp. 1–280). Washington: Portulans Institute.

digital readiness in the cumulative NRI score. The 2023 score results of the NRI (Figure 3) reinforce the current discrepancies between technologically well-endowed developed economies and technologically limited developing economies across the Indo-Pacific region. While the in-depth comparative nature of ICT factors highlights differences related to the conditions of dimensions required to effectively participate in digital trade.

Figure 3: 2023 Indo-Pacific Region Network Readiness Index Scores

Rank	Economy	Score	Income	Region
2	Singapore	76.81	High income	Asia & Pacific
7	Republic of Korea	74.48	High income	Asia & Pacific
13	Japan	71.06	High income	Asia & Pacific
14	Australia	70.36	High income	Asia & Pacific
20	China	67.31	Upper middle income	Asia & Pacific
23	New Zealand	65.96	High income	Asia & Pacific
25	Hong Kong, China	65.01	High income	Asia & Pacific
40	Malaysia	56.72	Upper middle income	Asia & Pacific
42	Thailand	55.73	Upper middle income	Asia & Pacific
56	Viet Nam	51.19	Lower middle income	Asia & Pacific
59	Indonesia	50.26	Upper middle income	Asia & Pacific
60	India	49.93	Lower middle income	Asia & Pacific
69	Philippines	47.24	Lower middle income	Asia & Pacific
80	Sri Lanka	44.14	Lower middle income	Asia & Pacific
83	Mongolia	43.52	Lower middle income	Asia & Pacific
87	Iran (Islamic Republic of)	42.83	Lower middle income	Asia & Pacific
90	Pakistan	41.26	Lower middle income	Asia & Pacific
91	Bangladesh	41.04	Lower middle income	Asia & Pacific
108	Cambodia	35.64	Lower middle income	Asia & Pacific
109	Republic	34.72	Lower middle income	Asia & Pacific
114	Nepal	33.73	Lower middle income	Asia & Pacific

(Source: Network Readiness Index Database, Portulans Institute, 2023.)

The current regional digitalization differences noted in the NRI scores are even more evident when looking at the accumulation of regional digital exports. High-income economies with a greater endowment of advanced technologies and digitally skilled labour forces account

for 85% of the region's digital exports.[93] In spite of this, further progress towards ICT infrastructure capacity, digitally skilled labour forces, and industry digitalization amongst developing economies will gradually reduce the service export market dominance. Highlighted by Andrii Oliinyk, developing economies with lower market shares of digital and technology services exports and reduced GDP per capita have a more accelerated economic growth path.[94] However, shifting the domestic capacity to increase digital service exports is a gradual process, and requires that many domestic and international determinants of service trade be established and continuously built upon.[95] This includes enhancing the regulatory policies for market liberalization, offering digital skill training, ICT infrastructure investment and expanding institutional capabilities.

In the context of the Indo-Pacific region, as multiple developing economies seek to expand their digital service trade sectors, enhancing the conditions of their comparative advantage determinants are paramount to further economic growth potential. A magnitude of policy approaches is available to each nation that builds upon their existing digital trade determinants, unique domestic contexts and available resources. Making the digital service development process unique and specialized for each nation. Therefore, to expand on the digital transformation approaches Indo-Pacific states are adopting, we will further analyze the digitalization strategy being employed by the Philippines in relation to digital and technology sector growth. The focused analysis of the Philippines provides a unique but applicable case of a

[93] ESCAP, U. (2023). Asia-Pacific Trade and Investment Report 2023/24: unleashing digital trade and investment for sustainable development.
[94] Oliinyk, A. (2023). The Impact of Countries' Participation in the ICT Services Market on Economic Growth, CPI, and Exchange Rates. Economics (Bijeljina.), 11(1), 269–287.
[95] Lechman, E., & Anacka, H. (2022). Digitalization Process and Its Impact on Economic Growth: A Panel Data Study for Developing Countries. In Digitalization and Economic Development (1st ed., Vol. 1, pp. 28–46). Routledge. https://doi.org/10.4324/9781003198284-2

developing economy that has recently adopted a government-led strategy to increase its socio-economic digitalization. By highlighting the effect of current policies and priorities of the Philippines government, we can identify the policy's impact and where current gaps reside. Unlike adopting a high-income developed nation such as Japan, whose economic digitalization has spanned many decades and undergone many policy and regulatory changes. The early stage of the Philippines' progress and digitalization provides a comparable case for other developing economies to adopt similar trade and digitalization policies. Although the conditions of each economy's service trade determinants are different, this analysis seeks to highlight effective general policies undertaken by the and means of addressing current gaps which likely exist in other nations.

4.2 Digital and Technology Service Landscape of the Philippines

The basis of the Philippines' digital trade governance and landscape can be traced to their initial Electronic Commerce Act in 2000. In which the Philippines government acknowledges the importance of ICT in nation-building, assigns departmental responsibilities, and establishes regulations on digital messages, documents, and contracts.[96] However, the Philippines' government made major strides in progressing its digital integration in 2016 through the development of the Philippine E-Commerce Roadmap (PECR).[97] Amidst a growing understanding of the economic benefits digital trade offered, the roadmap established six

[96] ELECTRONIC COMMERCE ACT OF 2000, Republic Act no.8792 (2000). https://www.bsp.gov.ph/PaymentAndSettlement/RA8792.pdf

[97] Quimba, F. M. A., Calizo, S. C., & Carlos, J. C. T. (2021). How Ready Are We? Measuring the Philippines' Readiness for Digital Trade Integration with the Asia-Pacific. In Policy File. Philippine Institute for Development Studies.

determinants to enhance if the nation sought to expand its digital trade. This includes improving ICT infrastructure, enhancing capital flows of FDI, fueling domestic digital innovation, boosting digital skill training to improve human capital, securitizing data and information flows, and integrating domestic service and goods industries into the digitalized economy.[98] The development of these targeted roadmap objectives parallelled the Asia-Pacific Economic Cooperations Digital Prosperity Checklist, reinforcing the New Asian Regionalism approach that Mishra and Valencia identified Indo-Pacific economies were pursuing towards digital integration.[99]

Reflecting on the objectives of the Philippines' first e-commerce roadmap, it can be observed that many progressive strides have been taken. Firstly, it can be noted that through early investment in ICT capital and digital service sector growth, in 2018 the digital service economy of the Philippines was able to account for 5.4% of the country's total export value and digital trade amounted to US$3.7 billion.[100] Secondly, following the roadmap's introduction, the Philippines had expansively broadened their digital trade market access by signing multiple PTAs that involved digital properties. The three major agreements included the Philippines-European Free Trade Association Free Trade Agreement in June 2018, the ASEAN Agreement on Electronic Commerce and the Regional Comprehensive Economic Partnership (RCEP) which

[98] Phillippines Department of Trade and Industry. (2022). Market Access, Digitalization, and Logistics Integration 2022 Roadmap. Department of Trade and Industry. https://ecommerce.dti.gov.ph/madali/the_need.html

[99] Mishra, N., & Valencia, A. M. P. (2023). Digital services and digital trade in the Asia pacific: an alternative model for digital integration? Asia Pacific Law Review, 31(2), 489–513. https://doi.org/10.1080/10192557.2023.2216058

[100] Ferracane, M. (2021). National action plan: Promoting the Philippines's digital trade integration in the Asia-Pacific region.

were both signed in November 2020.[101] The RCEP agreement was monumental in that it immensely bolstered regional trade integration within the Indo-Pacific region, while also including a subchapter of ICT services regulations and an e-commerce chapter. The e-commerce chapter focused on regional cooperation and standards for online consumer and data protection.[102] Similarly, the ASEAN E-Commerce Agreement further entrenched regional cooperation and standards for cooperation on digital trade means. A unique component of this agreement was the creation of a coordinating committee on electronic commerce to further strengthen regional cooperation on e-commerce initiatives.

However, through the immense economic and social challenges brought forth by the COVID-19 pandemic, the Philippines endured harsh economic challenges and much like the rest of the world sought to further entrench their economic digitalization. Reflective of this objective and to foster economic recovery, an updated e-commerce roadmap known as Madali 2022 (Market Access, DigitAIization, and Logistics Integration) would be introduced in 2022 and establish 12 core processes to empower online consumers, enhance digital skills amongst the labour market and further digitalized domestic industries. A driving ICT policy component of this roadmap was the new 5-stage National Broadband Plan to establish an ICT infrastructure backbone throughout the Philippines. Currently in stage 1, this initiative is being led by the Department of Information and Communications Technology and seeks to broaden national access to high-speed servers, while increasing public and government ICT infrastructure.[103]

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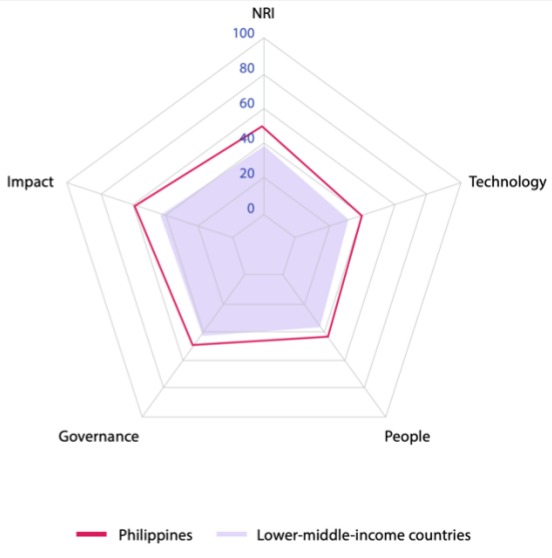
[101] Serafica, R. B., Quimba, F. M. A., & Cuenca, J. S. (2020). Costs and Benefits of New Disciplines on Electronic Commerce. In Policy File. Philippine Institute for Development Studies.
[102] Regional Comprehensive Economic Partnership. (2020). pp. 8B1 - 8B17,12-1 - 12-12. https://www.dfat.gov.au/trade/agreements/in-force/rcep/rcep-text
[103] Bacelonia, W. (2022). *Phase 1 of ph broadband plan operational next year: DICT*. Philippine News Agency. https://www.pna.gov.ph/articles/1188796

4.3 Determinants of Service Trade Comparative Advantage

Drawing upon the immense recent progress the Philippines has made towards digitalizing it's economy and broadening the array of exportable digital goods and services. We seek to delve into the state of their service trade determinants to identify shortcomings and future opportunities for improvement. Utilizing Erik van der Marel's five key determinants of service trade comparative advantage (ICT-Capital, Institutions, Regulations, Geography, and Labour), we then draw upon the overlapping categorical dimensions of the Philippines profile (Figure 4) from Portulans Institutes NRI to highlight areas due for improvement within their digital service trade landscape. An important factor to note within the NRI framework is that network dimension pillars are scaled up to 100 and each sub-pillar integrates a variety of factors. As such, extracting select sub-pillar factors will be essential to grasping the implications pertaining to digital and technology services, as the NRI itself is more broadly encompassing the digital economy.

Figure 4: Philippines 2023 Network Readiness Index Profile

Network Readiness Index	69	47.24
Pillar/sub-pillar	Rank	Score
A. Technology pillar	84	36.81
1st sub-pillar: Access	93	54.17
2nd sub-pillar: Content	72	22.09
3rd sub-pillar: Future Technologies	62	34.17
B. People pillar	59	45.64
1st sub-pillar: Individuals	23	57.12
2nd sub-pillar: Businesses	79	41.31
3rd sub-pillar: Governments	68	38.50
C. Governance pillar	85	49.09
1st sub-pillar: Trust	70	42.18
2nd sub-pillar: Regulation	88	60.91
3rd sub-pillar: Inclusion	105	44.18
D. Impact pillar	48	57.41
1st sub-pillar: Economy	14	54.33
2nd sub-pillar: Quality of Life	69	67.76
3rd sub-pillar: SDG Contribution	113	50.15



(Source: Network Readiness Index Database, Portulans Institute, 2023.)

The most foundational component towards economic digitalization is the establishment of well-endowed ICT-Capital, it is equally an important component towards means service trade comparative advantage. Establishing reliable, accessible, and affordable ICT infrastructure is essential to the economic scale of digital trade, with both market access and participation contingent on this factor. In the case of the Philippines, their technology index scores reflect the lowest cumulative total amongst all index pillars. The major issues associated with the access sub-pilar are related to the affordability of digital devices amongst consumers and the affordability of consumer data usage costs which scored 3.71 and 63.63.[104] In both cases, this can be attributed to telecommunications infrastructure and the lack of foreign market access keeping costs high. As despite the Philippines having a deregulated telecommunications sector, there are hefty behind-border barriers tied to foreign licensing conditions.[105] Reducing the regulatory conditions for foreign firms can directly increase domestic competition and reduce consumer costs. However, ensuring some regulation is inevitable to ensure stable infrastructure. Thus, an alternative is to utilize the multilateral setting to inform foreign governments of the licensing process as a means of increasing transparency and market preparation for foreign firms.

In terms of content production as a factor towards the determinant of ICT capital. Content production is heavily tied to a skilled labour force and the production of services that emerge from the digital and technology service sectors. In many ways, this is tied to the existing labour market and the degree of skill development available.[106] As part of the Philippines' Madali 2022 roadmap, labour market upskilling was identified as a core process for digital growth.[107] To

[104] Portulans Institute. (2023).
[105] Ferracane, M. (2021). National action plan: Promoting the Philippines's digital trade integration in the Asia-Pacific region.
[106] Asian Development Bank. (2022).
[107] Philippines Department of Trade and Industry. (2022).

further this goal, the Philippines' government established the Philippine Digital Workforce Competitiveness Act in 2023 to create an institutional committee of government departments to coordinate future digital workforce programs.[108] Although limited program progress has occurred, establishing an institutional framework and body to coordinate the digital skill development labour market is a stable start. Progress takes time and developing the proper institutional structures is key for effective policies to have an effect.

The factor of future technology adoption is essential to ensuring efficiency in an ever-evolving technological landscape. Growing efforts to increase FDI-based capital was a previous priority of the Philippines' digital strategy, by expanding PTAs and regional agreements increased opportunities to expand regional investment have emerged. The Philippines' signing of the recently developed WTO Agreement on Electronic Commerce may even further this, as the focus on ICT development could provide new investment opportunities. However, for FDI to have a greater impact, there needs to be a more friendly domestic regulatory landscape for foreign investment. Regulatory changes to reduce market barriers would be a strong stride to fostering investment and encouraging domestic competition among firms. Yet, in the current regulatory landscape, there are many FDI restrictions related to digital media, advertising, and telecommunications sectors that hinder trade in digital service sector investment and broader export potential.[109]

The institutional determinant of digital service trade is a deeply interconnected and ever-present factor that influences the digital economy at large and the other determinants. Ensuring

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[108] Nation Economic and Development Authority (NEDA). (2023). *Neda releases IRR OF PH Digital Workforce Competitiveness Act - National Economic and Development Authority*. Philippines Nation Economic and Development Authority. https://neda.gov.ph/neda-releases-irr-of-ph-digital-workforce-competitiveness-act/

[109] Ferracane, M. (2021).

strategic alignment and government prioritization is a foundational component towards expanding service sector growth potential. In addition, effective institutions play a key role in regulatory design and implementation. While having strong institutional capacity enables policy designers to develop effective regulations and respond to outdated conditions.[110] Reflective on the government pillar of the NRI, the Philippines received a perfect score on E-commerce legislation and 61.81 on consumer privacy and data protection. However, they did score low on regulating emerging technologies and internet server security.[111] These institutional struggles in regulatory adaptation and institutional infrastructure are equally reflected in the Philippines World Bank Worldwide Governance Indicators, where their regulatory quality and rule of law were ranked in the 53 and 33 global percentile rankings.[112] Strong progress has occurred by granting institutional capacity and cooperation to government departments for designing digital skill programs, yet more can be done. Future domestic institutional work should look to engage more from the multilateral ASEAN and RCEP venues to gain regulatory insight, as well as greater consultation with private sector actors and NGOs. Integrating external and internal perspectives offers different understanding and approaches to regulatory matters and means of addressing emerging issues.[113]

Operating hand in hand with the domestic institutions is the regulatory regime that is established through domestic policies. This evolving environment is driven by domestic government priorities and their ideal regulatory approaches to digital service trade. Reflecting a wide degree of digital regulations that coincide with international commitments and domestic

[110] Molinuevo, M., Sáez, S., Saez, S. (2014).
[111] Portulans Institute. (2023).
[112] Kaufmann, D., Kraay, A. (2023). Worldwide Governance Indicators. www.govindicators.org
[113] Dahlman, C., Mealy, S., Wermelinger, M. (2016).

interests. In many cases, domestic regulations are higher for service trade sectors and developing economies tend to exhibit greater protectionary regulations.[114] Within the Philippines, the regulatory environment for ICTs and related goods and services sectors remains fairly regulated and is globally ranked 109th.[115] Additionally, by assessing the ITUs Regulatory Tracker, which identifies degrees of regulatory control and market competition. The Philippines exhibited means of partial competition in ICT and digital-network-related services, along with moderate regulatory control over foreign participation and ownership in digital and technology service sectors.[116]

This environment reflects a protective domain that is prioritizing the emergence of domestic service sector development. Current emerging industries include digital software development, digital animation, and game development are emerging industries. While the dominant service industry remains contact center and call center services, which accounted for $24.7 billion in revenue in 2018.[117] This digital service landscape supports the low NRI 24.05 rating for knowledge-intensive employment and underscores the growing domestic priority to enhance digital skill development.[118] The regulatory landscape for digital and technology services provides a protective platform for SME service industries to integrate, although access to foreign markets may be limited due to the reciprocal regulatory environment other nations imposed. Further expanding trade relations or updating PTAs to include digital trade chapters, may broaden foreign access, but would also require a reduction in domestic regulatory barriers.

[114] Roy, M. (2016).
[115] Portulans Institute. (2023).
[116] International Telecommunication Union (ITU). ICT Regulatory Tracker. gen5.digital.
[117] Asian Development Bank. (2022).
[118] Portulans Institute. (2023).

The geographical determinant of comparative advantage within service trade has increasingly garnered less influence amidst the digitalization of trade. Growing ease in digital cross-border flows of services, information, and data has rendered the traditional geographic market entry barrier obsolete. [119] However, geographics and trade can be interpreted differently through Paul Krugman's concepts of New Trade Theory. The geographic component of trade has instead shifted to economies of scale and production concentration, which can maximize outputs and reduce transactional costs associated with trade.[120] Adopting this to the context of digital and technology services trade, by expanding regional concentration between complementary ICT-based goods and services there are opportunities to facilitate business-to-business transactions, integrate intermediate products in value chains, and expand economies of scale.

In this context, the Philippines is regionally well positioned amongst the expansive digitalization and growth of ICT goods and service sectors throughout the Indo-Pacific. Due to the regional intensification of ICT sectors, production can be specialized to complement the dynamic regional tech hub and digital technology services can be integrated as intermediate goods within larger value chains. There is also the growing aspect of servicification, through which digital services and e-commerce platforms are enabling traditionally non-digital services and new digital outlets.[121] Digital trade in education and healthcare were once physically exchanged services but can now operate via digital platforms and broaden their market access. An important consideration when adopting Krugman's geographic determinant towards digital service trade is that strategic government objectives, multilateral alignment, and well-endowed service trade determinants are required components.

[119] Tamirisa, N., Lehmann, A., Wieczorek, J. (2003).
[120] Krugman, P. (1999).
[121] Asian Development Bank. (2022).

Lastly, the human capital determinant within service trade comparative advantage integrates a different dynamic to understanding the digitalization of trade. The rapid digitalization of global economies has fundamentally required skilled human capital. Developing new technologies and integrating ICT infrastructure doesn't occur instantaneously, rather it requires skilled and adaptable workforces to effectively utilize and manage these advanced technologies.[122] Equipping a domestic labour market with the skilled workers required to advance digital economies requires institutional coordination, physical resources, and educational service providers. However, digital trade has equally challenged this structure and offers innovative digital service exchange and self-learning opportunities to hone skills. Moreover, digital technologies' influence on human capital development can improve individual labour efficiency and open pathways for informal economy members to join the formal economy.[123]

Adopting this labour capital understanding to the digital service economy of the Philippines supports their strategic digital policy objective to advance digital skill development. A higher-skilled labour force can integrate innovative technologies to then further enhance the state of the digital economy. While also expanding into more high-skilled labour-dependent digital and technology trade sectors. This shift towards high-skilled service sectors brings greater economic returns in addition to means of comparative advantage.[124] However, there is a need to expand inclusive opportunities to foster skill development, this requires the Philippine government to expand funding and programs that offer skill development. An early step in this

[122] Zhang, Z., Madni, G. R., & Naeem, J. (2023). Unleashing the horizons of labor quality, digitalization on upgradation of industrial structure in Asian economies. PloS One, 18(7), e0288866–e0288866. https://doi.org/10.1371/journal.pone.0288866
[123] World Bank. (2023).
[124] Van der Marel, E. (2010).

approach has been through cybersecurity awareness campaigns and digital literacy training programs.[125] Both of these basic programs offer support to a population with limited digital skill development, although more advanced programs should also be developed to provide the next step in digital skill development.

A current shortcoming in the digitalization of the Philippines' economy and efforts to increase digital skill development is the disparity between urban and rural communities. As is the case across most of the Indo-Pacific, disproportionate ICT adoption between urban and rural regions creates domestic digital divides. Currently, there is a 64% internet usage rate within the Indo-Pacific region, with greater disparities existing between geographic settings, age demographics, and gender parity.[126] The Philippines equally has its own concerns of disparities, as an NRI factor on rural gaps in the use of digital payments scored 21.61 and ranked 117th internationally.[127] Highlighting an urban-rural digital divide that can be further worsened by the unaffordability of digital devices and upskilling of the labour force. Ensuring all groups of the Philippines have equal opportunities to embrace the ongoing digitalization ensures that certain regions and groups aren't excluded from the economy.

The current digitalization transition that the Philippines are undergoing has demonstrated immense potential to further their economic and social development trajectory. Fueled through a strategy that embraces means of enhancing determinants of digital comparative advantage. The development of institutional capabilities offers a means to build on good governance practices.

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[125] Rey, W. P., Villaluz, A. C., & Rey, K. W. J. D. (2024). The Impact of Digital Transformation in the Philippines: A Study of the Key Drivers and Barriers. Proceedings of the 2024 7th International Conference on Computers in Management and Business, 107–113. https://doi.org/10.1145/3647782.3647799

[126] International Telecommunication Union. (2022). Measuring digital development: Facts and Figures 2022. International Telecommunication Union. https://www.itu.int/hub/publication/d-ind-ict_mdd-2022/

[127] Portulans Institute. (2023).

Investment in ICT capital through the National Broadband Plan can offer increased digital access to remote regions and improve consumer affordability. While the creation of digital skill programs improves consumer digital safety and offers pathways to higher-income careers. Furthermore, the policies targeted at determinants of comparative advantage look to expand their digital and technology service sector, each targeting service trade determinants in different ways.

However, more time is required to evaluate the exact impact recent economic digitalization policies will have on the socio-economic development and export of digital and technology service sectors.

Amidst the successful policies the Philippines government has implemented towards meeting their Madali 2022 E-commerce Roadmap goals, there are more policies that can be taken to enhance their digital and technology service trade. Firstly, the protective regulatory approach to foreign market access and ownership should be adjusted. Specifically, the regulations of 40% foreign ownership limitations due to its impediment on digital industry investment.[128] This regulatory step-back may also require further digital security requirements for security-sensitive sectors and those that contain personal data. Additionally, the importance of FDI as a source of funding for improving ICT infrastructure cannot be maximized in the current regulatory regime. Increasing foreign ownership opportunities will open new flows of capital to the digital economy and increase competition with domestic producers, leading to improved efficiency and reduced costs for consumers.[129]

[128] Ferracane, M. (2021).

[129] Ahmad, F., Draz, M. U., & Yang, S.-C. (2018). Causality nexus of exports, FDI and economic growth of the ASEAN5 economies: evidence from panel data analysis. The Journal of International Trade & Economic Development, 27(6), 685–700. https://doi.org/10.1080/09638199.2018.1426035

Secondly, the recent strides in reaching an agreement on digitally inclusive PTAs and joining the new WTO Agreement on Electronic Commerce should be continued. Cooperation through multilateral venues is an effective way to standardize regulations and norms within the digital trade domain, while it can also improve exporting efficiency through standard practices. Furthermore, collaborative mechanisms in PTAs such as the cyber security exchange of best practices within the ASEAN E-Commerce Agreement develop collaborative venues to address evolving digital trade issues. Additionally, efforts should be made to standardize digital language and update non-digitally inclusive PTAs. Before making strides forward with new agreements, emphasis should be placed on improving the positive agreements that the Philippines has in place. This could include adding complete digital chapters to the Philippines-European Free Trade Association Free Trade Agreement, that extends beyond the annex on digital payments.[130]

Lastly, expanding the socio-economic benefits of digitalization requires a direct focus on implementing policies that improve individuals living conditions. Current economic digitalization shortcomings include digital affordability, the growing urban-rural digital divide, and digital skill training. Creating localized or rurally targeted policies towards digital devices and network affordability requires investing in areas that have limited immediate economic potential.[131] This may be unappealing if economic growth is the driving priority of the policy, but digital inclusion is an important priority to reduce digital divides and domestic income inequalities. Expanding the array of digital skill training opportunities could also be broadened through existing educational institutions. The current NRI score for internet access in schools was quite low at 31.08. Improving digital literacy early, can foster career ambitions and expand

[130] Serafica, R. B., Quimba, F. M. A., & Cuenca, J. S. (2020).
[131] Rey, W. P., Villaluz, A. C., & Rey, K. W. J. D. (2024).

youths' interest in digital and technology service industries. Through balancing economic growth and infrastructure policies with social policies focused on inclusion and education the expansive ICT network can be utilized to its fullest.

Through the current trajectory of the Philippines' digitalization strategy and the digital and technology policy suggestions noted above. Grasping the gradual nature of developing the digital economy and embracing multilateral cooperation is key, as progress and change take time. Increasing socioeconomic well-being and development goals can be reflected in good policy design and implementation that addresses issues related to shortcomings in the determinants of digital service trade.

Chapter 5: Conclusion

The increasingly digitalized nature of the global economy has vastly restructured the landscape of international trade, with immense economic opportunities having emerged through the growing realm of digital service trade. Global North and Global South states alike are rapidly adapting their trade policy strategies to garner the opportunities available and cherish the economic and social development benefits at hand. However, navigating this fast-moving environment is increasingly turbulent, as growing security concerns are leading nations to pull back on the expansive capabilities of digital trade technologies. Instilling a complex domain where countries are balancing economic interests and security concerns, all while the digital economy further evolves.

This paper has sought to comprehend the growing economic and social development approaches Global South economies are pursuing towards digital and technology service trade. Through analyzing the Philippines' ongoing economic digitalization process and how its strategic policies seek to enhance the comparative advantage determinants for digital service trade. We can observe that they've adopted a dynamic approach that employs a series of targeted overlapping policies. This includes a focus on improving the accessibility and strength of ICT infrastructure through their National Broadband Plan. Building human capital with digital skills programs towards digital literacy and cybersecurity awareness. Expanding the market access opportunities for existing and emerging SME service trade industries by signing PTAs with digital proponents. Establishing government legislation and institutions that are targeted towards future policy adoption and regulatory adjustment.

Collectively, these policies seek to improve each of the service trade determinants of comparative advantage. Improving these factors will build the framework available for digital

and technology service industries to broaden their presence across global markets. These policies additionally present means of improving the socio-economic development of the state. Through investing in physical and digital ICT infrastructure, there are increased job opportunities domestically and more affordable services for consumers. Targeted skill development policies offer steps for career advancement and means to improve individuals' income and spending power. While the signing of the Philippines-European Free Trade Association Free Trade Agreement and the RCEP increases consumers' and businesses' access to affordable goods and services. It also opens export opportunities for domestic goods and service industries that have been developed through this economic digitalization strategy.

Taking a step back, the broader application of the economic digitalization policy approach undertaken by the Philippines is feasible for other developing economies. Investment in human and ICT capital can be applied to best fit domestic needs, while institutional and regulatory development requires an inward look at the capacity of the state. However, some unique factors that differ, such as the state's fiscal capacity, the regional integration and coordination towards digital development, and supportive multilateral alignment through PTAs. In many ways, the digital trade growth paths for developing economies aren't identical, but rather they're reflective of their digital trade determinants and how they seek to improve them. Much in the way that the digital economy is ever-evolving, so too must economies when seeking to participate in digital service trade.

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