hinrich foundation
advancing sustainable global trade

FEBRUARY 2024

Promoting the spread of AI to fuel Asia's trade

BY KATI SUOMINEN
RESEARCH FELLOW, HINRICH FOUNDATION
FOUNDER AND CEO, NEXTRADE GROUP

Contents

Introduction

When OpenAI launched ChatGPT in November 2022, the world woke up to the power of artificial intelligence (AI). By the second quarter of 2023, ChatGPT had 1.5 billion user visits per month and more than one-third of the S&P 500 commented about AI in their second quarter earning calls.[1] Yet this flurry of activity was not the beginning for this technology that was in use long before generative AI broke out and began dominating headlines. In the Asia-Pacific, economies, especially export-driven businesses, have long used AI to scale their capabilities for designing new products and services, acquiring and servicing their customers, identifying new markets, managing their supply chains, and much more. In the trade ecosystem, AI has been deployed to accelerate trade flows through ports, free trade zones and customs, offer businesses trade finance, and improve logistics services. AI has helped governments in the region with their inclusion goals, such as scaling the delivery of government services and reaching sustainable development goals (SDGs).

This paper assesses how AI is diffusing in the Asia-Pacific region among firms and government agencies, and considers policy frameworks that would promote broad-based and safe use of AI. Trading firms are poised to use AI more than their domestic peers, therefore frameworks for how to govern AI and their interoperability are especially important to these firms. Policy interoperability is necessary in the many areas that affect the success of AI deployments, such as rules around data privacy and transfer, copyright protection, intermediary liability, and cybersecurity governance. The paper proposes policies to support the use of AI in the region, especially in the promotion of trade.

Asia-Pacific economies have long used AI to scale their capabilities for designing new products and services, identifying new markets, managing their supply chains, and much more.

Diffusion of AI among firms and trade ecosystem: where are we?

Businesses in the Asia-Pacific adopt AI for different purposes and at different intensities. Sectors where its use is prevalent, such as ICT, have expanded three times as fast as overall commercial services export from the region in 2021-2022.

AI is permeating Asia-Pacific businesses. For example, a growing number of startups in such sectors as logistics, finance, and healthcare were founded with AI-driven business models. By the end of 2023, according to a Nextrade Group count, there were 3,103 startups founded on AI-driven models in 10 Asia-Pacific economies outside India and China.[2] Some examples include the Indonesian company Prowriting that uses AI to assess the user experience of online portals, Japanese company BitQuark that enables AI-driven predictive analytics and trial implementation in manufacturing, Korea's MOGAM Institute for Biomedical Research (MIBR) that uses AI to develop treatments and vaccines for rare disease and cancers, and Vietnamese real estate company AirCity that uses AI to manage buildings, apartments, and residential areas.[3] Almost one quarter of Japanese startups founded in 2023 and one tenth of Vietnamese startups were based on AI-driven business models.

Asia-Pacific small and medium-sized enterprises (SMEs) that sell goods and services use AI for various tasks. For example, Nextrade survey data suggests that many Asia-Pacific micro and small firms use AI to deploy chatbots for customer service, analyze data on their customers, and match customer interest to products sold online. The Korean gaming company, Wemade Co., uses generative AI to create game settings, draft scenarios, and draw original game artwork. Mi Glow Store, an Indian ecommerce store, uses AI to reduce return times and increase conversion rates.[4] Logistics powerhouse Ninja Van uses an AI-powered social messaging system to help shipping customers with tools for managing and monitoring deliveries and orders.[5]

Survey data suggests that the growth in AI has nearly doubled among small firms in the past couple of years and is poised to double especially among micro enterprises this year. If the current trend continues, more than 80% of Asia-Pacific firms could be using AI by the end of 2024.

Businesses use AI for different purposes and at different intensities. Twenty percent of small businesses report using AI for most of the tasks in an area. However, about one-half of firms use AI only "now and then to support staff." Mostly AI is used to extend staff's capabilities, not substitute them.

Currently, one third of small firms in the region report spending more than five percent of their revenues on AI solutions.[6] The AI "Superusers", the biggest spenders using AI most intensively, also report greatest gains from AI in productivity, cost savings, and customer acquisition. Almost half report a more than 20% gain in productivity and in the number of customers. They also are likelier to engage in trade. Meanwhile, the "AI Sporadics" that invest little in AI and use it only here and there are less likely to gain from it. In addition, they are more often rural and remote businesses with narrow profit margins.

Research has long shown that the more productive and technology-intensive a firm, the more likely it is to engage in trade. Similarly, AI "Superuser" firms are also well-performing export-driven firms – and some of them may have expanded their international footprint thanks to AI. For example, a Hong Kong social commerce

platform startup, SleekFlow, has used an AI-powered accounting and financial management tool to internationalize, reportedly deploying in Singapore in only three days.[7] Similarly, creators that use various video platforms like YouTube that then use AI to translate and disseminate content can readily attract new audiences and advertisers in new markets. The scale is significant. For example, YouTube's short form video product was released in September 2020 and attained 1.5 billion monthly active users globally.[8]

At a more macro level, AI is a growing driver of sectors that are also expanding their share of Asia-Pacific trade. Digitally deliverable services, such as telecommunications and computer and information services, sectors where AI use is prevalent, have expanded three times as fast as overall commercial services exports from Asia-Pacific economies in 2021-22. An early AI adopter, Asia-Pacific financial services sector has expanded its exports 77% faster than the overall commercial services sector.

In the Asia-Pacific trade ecosystem, banks that offer trade finance have long used AI to leverage multiple transactional, market, and trade data to assess risks associated with each trade transaction. HSBC uses AI for flagging money laundering in cross border transactions and reducing redundant alerts or false positives.[9]

AI also addresses payments fraud in trade. Credit card companies use AI to identify anomalous payment patterns based on trillions of data points from around the world. AI also can detect fraud in chargebacks, such as when a customer disputes a charge several months after using a product or receiving a service.[10]

Asian government agencies also are using AI to secure, promote and facilitating trade and ecommerce. Singapore and Korea have long been applying machine learning techniques to assign risk scores to customs declarations based on historical datasets.[11] Japan Customs teaches AI to read X-ray images of parcels and identify in a fraction of a second parcel shipments that include narcotics and other contraband.[12] Malaysian Port of Tanjung Pelepas uses AI to manage lines to berthing areas and predict equipment problems and operational bottlenecks.[13] Manila's port uses AI to rationalize stacking positions, which in turn increases the productivity of trucking in the port and reduces accidents and yard rehandles.[14]

AI governance frameworks

National AI governance frameworks proliferated globally in 2023. Among the flagship approaches was the June 2023 agreement among US technology companies to eight voluntary standards for AI deployment, such as security testing and transparency in AI models.

AI makes firms, especially those that trade, more competitive and can turn non-exporters into exporters. Asia-Pacific firms and governments are increasingly looking to AI for trade facilitation and cost-savings. Thus, policies that promote the use of AI and govern the ways in which AI can be applied safely are important to the regional economies' prospects in trade as are international standards and rules that promote the interoperability of AI governance systems. Let's turn to these next.

How to best promote the use of AI? One answer lies in practices that incentivize AI testing and adoption. For example, Singapore has established the Centre of Excellence for Testing and Research of Autonomous Vehicles (CETRAN) that provides a sandbox for testing emerging AI innovations, particularly autonomous vehicles.[15]

Vital also to promoting AI adoption is the development of AI governance principles that promote innovation safely at scale and encourage cross border interoperability.

National AI governance frameworks and models proliferated in 2023. Among the flagship approaches was the June 2023 agreement among US technology companies to eight voluntary standards for AI deployment, such as security testing and transparency in AI models.[16] In October 2023, President Biden directed America's federal agencies to take measures to ensure privacy, equity and innovation, and competition in the AI era through an Executive Order (EO) on the

Vital also to promoting AI adoption is the development of AI governance principles that promote innovation safely at scale and encourage cross border interoperability.

China has long been working on AI governance and developed some of the world's first binding national AI regulations on recommendation algorithms, synthetically generated images, and generative AI systems.

Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence.[17] Among many other things, the EO catalyzed efforts at the National Institute of Standards and Technology (NIST) to develop further guidance for the NIST AI Risk Management Framework, NIST AI 100-1 for generative AI, and to the NIST Secure Software Development Framework for secure-development practices for generative AI and dual-use foundation models.[18] The EO inspired great many further activities among federal agencies in its first 90 days.[19]

The European Union rolled out its AI governance framework, the AI Act in 2023. The Act is extraterritorial, applying to both providers and deployers of AI systems that have an impact in the EU, wherever established.[20] It seeks to mitigate the risks of AI depending on the degree of risk AI poses.[21] For example, systems with unacceptable risk involve discriminatory classification, cognitive behavioral manipulation, and emotion recognition in the workplace, for example, while high-risk systems relate to the management of critical infrastructure, transport, law enforcement, etc. An example of a low-risk system is the development or translation of audio or video content. The Act also requires companies to catalogue and publish detailed information on the contents that are used to train AI systems and on technical specifications to develop AI models. The hefty fines for violations of the use of banned AI are €35 million or 7% for the company's global revenue (whichever is higher) and €15 million or 3% for violations of the Act's obligations.

The UK Government has been less prescriptive than the EU, taking a principles-based approach directing AI regulations to ensure safety, transparency, and redress if an AI system causes harm.[22]

In the Asia-Pacific, China has long been working on AI governance and developed some of the world's first binding national AI regulations on recommendation algorithms, synthetically generated images, and generative AI systems.[23] Matthew Sheehan of Carnegie Endowment predicts that China will soon use what it has learned about testing of regulations in specific areas to prepare a comprehensive AI law.[24]

Singapore has been another frontrunner, releasing a Model AI Governance Framework for consultation in 2019. The Framework provides detailed guidance for businesses to address ethical issues and apply accountability practices when deploying AI solutions.[25] Japan's AI framework is similarly empowering, encouraging the use of AI while mitigating risks through risk-based multistakeholder process. The 2021 Ministry of Economy, Trade, and Industry (METI) report of July 2021 noted that "legally binding horizontal requirements for AI systems are deemed unnecessary at the moment."[26]

Many countries in Asia and beyond have also adopted strategies for using AI for economic growth and development. For example, the Philippines released its National AI Roadmap in 2021, with the goal of transforming itself into an AI hub within the Association of Southeast Asian Nations (ASEAN) region.[27] The roadmap delineates strategic priorities for the government, industry, and universities, and establishes the National Center for AI Research led by the private sector. Malaysia's AI Roadmap for 2021-25 aims to increase employment opportunities and national competitiveness through AI and promote an AI innovation ecosystem to elevate Malaysia into a high-technology, high-income nation by harnessing the potential of AI.[28]

India introduced its own version of a National AI Strategy called #AIforAll in 2018 which addresses challenges associated with AI use like affordability and access of skills.[29]

In Latin America, Brazil launched its National AI Strategy in 2021 to address Brazil's development challenges and open opportunities for Brazilian citizens in the innovation ecosystem.[30] Since its release, Brazil established applied centers for AI in areas like smart cities, agriculture, Industry 4.0, and health. To be sure Brazil is also advancing toward a law in generative AI. There are also initiatives like grants to startups and education programs that aim to build skills for the current workforce in fields like data science, cybersecurity, and cloud computing. In Africa where half a dozen countries have adopted AI strategies, Egypt's 2021 AI Strategy is focused on use of AI technologies to support the achievement of Egypt's sustainable development goals, inclusive growth, and Egypt's competitiveness, and promotes regional cooperation within the African and Arab regions in AI.[31]

Many developing countries in Asia and beyond, such as Brazil and Egypt, have also adopted strategies for using AI for economic growth and development.

Promoting the diffusion of AI safely at scale

Despite efforts to improve interoperability of different AI governance models, the regulatory landscape is still fragmented at the level of doing business. There remains a lack of consensus on AI taxonomy, measurement of risk, or transparency.

Going forward, the application and interoperability of the many AI governance models and emerging laws is critical. For example, a small business that uses AI to improve cancer treatments must be able to deliver its solutions across markets. Compatible AI rules also are important for marketplaces, payment companies, logistics, financial services, cloud service providers, and more. Yet interoperability principles have thus far trumped specifics and binding commitments:

- In 2019, the G20 adopted the "G20 AI Principles" that detail global policies and cooperation around building "trustworthy AI,"[32] and has agreed on taking a "pro-innovation regulatory/governance approach" to AI applications. The G7 has been pursuing the Hiroshima Process of guiding principles and voluntary code of conduct for the development of advanced AI systems.[33] The Organization for Economic Co-operation and Development (OECD) Principles on Artificial Intelligence adopted in May 2019 seek to promote AI that is innovative and trustworthy and that respects human rights and democratic values.

- Many Asia-Pacific economies adopted nonbinding provisions to collaborate on AI in their digital trade agreements. The UK-Singapore Digital Economy Agreement, the Korea-Singapore Digital Partnership Agreement, the UK-New Zealand free trade agreement also have these provisions, aimed to promote the safe use of AI and unbiased AI applications. There are also bilateral AI partnerships and agreements that complement recent digital trade agreements. For example, the UK has pursued collaboration with Korea and Singapore one identifying "trustworthy" uses of AI.[34]

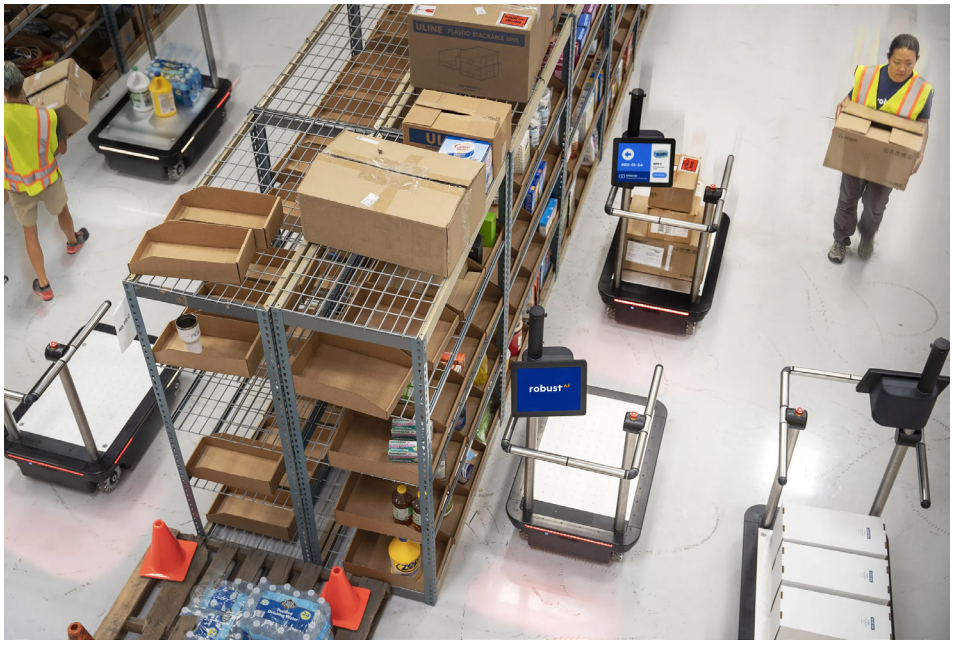
- ASEAN economies are working toward guides of common conduct, including a draft guide on AI ethics and governance.[35] The draft is expected to be finalized in January 2024 during the ASEAN Digital Ministers Meeting, and is expected to promote AI use and focus on good governance and risk management, while limiting regulatory burdens on the use of AI. Like many ASEAN frameworks, the AI Guide is voluntary, and it is up to the individual ASEAN countries to decide if they want to implement such guidance. The Philippines plans to propose a regulatory framework on AI for the ASEAN when it serves as ASEAN chair in 2026 and as the ASEAN Digital Economy Framework Agreement (DEFA) is expected to be complete.

- In November 2023, the US focused on the national security issues at stake, in by pledging with 18 other countries to keep AI safe from "rogue actors" and pressing businesses to make AI systems that are "secure by design."[36] This follows the August 2023 presidential US Outbound investment regime requiring notification of investments that could accelerate the development abroad of sensitive technologies that can be used against the US, for example for military or surveillance purposes.[37]

However, the regulatory landscape is still fragmented at the level of doing business. There is no clear consensus on AI taxonomy, measurement of risk, or transparency. There are interoperability challenges also within countries. For

example, India's regulatory landscape for AI is fragmented with various ministries issuing their own rules on different aspects.[38] In the US, states and cities are racing ahead to issue their own AI policies and regulations.[39]

The next useful step then to promoting the diffusion of AI safely at scale is the development of common standards, including testing of AI applications for misuse and cybersecurity risks and promoting trustworthy AI systems. Some of the standardization work is done domestically by U.S. NIST, and some through international standards organizations, the International Organization for Standardization and the International Electrotechnical Commission that have multiple joint working groups on AI standards such as testing of AI systems, AI health informatics, or in Europe via EU bodies like the European Telecommunications Standards Institute (ETSI).[40]



Compatible AI rules are important for marketplaces, payment companies, logistics, cloud service providers, and more. Yet interoperability principles have trumped binding commitments thus far.

The hardest part: Interoperability of policies that enable AI use

Policies unconducive to cross-border data transfer, the protection of intellectual property and source codes, and access to technological equipment pose as some of the biggest hindrances to the diffusion of AI on a broader scale.

Neither AI governance models nor their interoperability are effective if the other policies promoting the use of AI, rules around data privacy and transfer, copyright protection, intermediary liability, and cybersecurity governance, are not conducive to the adoption of AI or conflict across countries.

Where are we then on national policy readiness for AI diffusion? In the 2023 Nextrade AI policy readiness index consisting of such dimensions as robustness of data privacy and cybersecurity rules, data governance practices and transparency, and AI strategy with commitment to international interoperability, risk-based assessments, and AI skilling initiatives, countries with policies most conducive to AI use include the UK, US, Japan, Australia, Korea, and New Zealand. Southeast and Central Asia still trail behind. Singapore, Malaysia, and Thailand outperform their ASEAN peers in AI policy readiness.

Still, there are many challenges, perhaps especially in the Asia-Pacific. Data is the biggest one. For example, businesses seeking cancer treatments would ideally access data on individuals across multiple markets to have robust datasets on which to make predictions. This is an area where there are many challenges globally. In the Asia-Pacific, Vietnam and China have notable data transfer limitations.[41] For example, in Vietnam, domestic and foreign service providers who collect and process certain types of data may have to store data in Vietnam for a certain period of time and establish an office in Vietnam.[42] Korea restricts outbound flow of location data that discriminates against foreign suppliers seeking to incorporate such data into AI-driven services offered from outside of the country.[43]

Intellectual property and copyright rules also need to work across countries for businesses using AI to scale. *The New Yorker* magazine recently asked, "Is AI the death of IP?", referring to AI systems' ingestion or training with copyrighted works.[44] Should the potentially tens of thousands of people whose works are used by AI be compensated for this "copying" even if AI does not retain a copy of the original work after training is complete?[45] *The New York Times,* John Grisham, and other high-profile authors have subsequently sued OpenAI for infringement.[46]

In the US, the Patent and Trademark Office (USPTO), US Copyright Office, and courts have yet to fully establish guidelines for AI-created content or inventions, or whether AI is a "legal person" protected by law. So far, most countries exclude AI from this definition.[47] The UK Intellectual Property Office has faced backlash after seeking to help AI developers train their systems by expanding the scope of the text and data mining exception in the copyright law.[48] Further questions revolve around AI's own copyright. Who owns AI and who is liable for violations when infringement occurs? These questions are far from settled domestically and without thoughtful coordination will likely yield a checkerboard of rules globally. The EU has a 2019 Copyright Directive, but some voices are now calling for its revision to account for Generative AI.[49]

Still another question is source code protection, AI produces its own source code that can then be used for various applications. Trade agreements like the

Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) prevent governments from appropriating source code as a condition for market access. However, the implementation of this provision still needs work in general. In our recent study, fewer than 40% of CPTPP region SMEs believe that Chile, Japan, and Peru are implementing this provision "very well."[50] There will also be legal questions as to the owner of the source code developed by AI systems.

Market access for technology equipment is another category of barriers that shape the diffusion of AI across firms. Tariffs imposed on device imports can deter AI development and increase the costs of AI adoption, especially for countries without domestic substitute devices.[51] Yet according to the Regional Digital Trade Integration Index (RDTII) of the UN Economic and Social Commission for Asia and the Pacific (ESCAP), most of the analyzed 21 Asia-Pacific economies have yet to sign to the WTO Information Technology Agreement (ITA) I or II, the long-standing instruments for countries to lower the costs of imported devices. Almost 90% have an effective tariff on imported ICT goods, and two-thirds have import restrictions such as quotas against ICT goods.[52]

Interoperability of AI governance models will not be effective if other policies surrounding data, IP protection, and cybersecurity are not conducive to the adoption of AI or conflict across countries.

Promoting AI diffusion in Asia-Pacific

Regional sandboxes and certification could be useful for testing different regulatory frameworks and ensuring their compatibility with international principles. Governments could democratize the use of AI by providing firms with appropriate backing and the tools to apply regulations.

How to then ensure AI use diffuses across businesses and promotes their competitiveness and innovation, while ensuring AI is used safely? And how to ensure AI governance frameworks are interoperable and do not impede firms that trade? Some ideas might include:

- **Accessible AI testing and development**. For AI use to be successfully diffused, especially to smaller firms that have limited budget and bandwidth to test, government backing is necessary. In Finland, the Finnish AI Region (FAIR), offers SMEs free services to leverage AI, augmented reality, and high-performance computing, and cybersecurity.[53] Asia-Pacific economies could adopt these types of FAIRs to democratize AI use, perhaps with the support of donor nations and large technology companies.

- **Regional AI sandboxes and living labs**. Setting up regional AI sandboxes, perhaps in subregions like the ASEAN and starting with testing in sectors that are not heavily regulated such as climate monitoring, and progress toward regulated sectors such as healthcare and transportation. A regional sandbox would enable the testing of AI applications across multiple markets and promote learning and dialogue among regulators and standard-setters insuring the best practices and standards. Singapore, Korea, Germany, Spain, and the UK have already piloted AI regulatory sandboxes to enable businesses to experiment with new products or services and regulators to consider different regulatory frameworks.[54]

Singapore's Infocomm Media Development Authority has developed a tool that enables businesses to review their conformity with emerging AI governance principles.

- **Developing regional AI standards**. AI deployment and scaling requires clear common, interoperable standards across various areas like taxonomy, transparency, risk management and measurement, and so on. Asia-Pacific economies need to work on developing standards regionally and globally with standards-setting bodies, the EU, and the United States.

- **Tooling firms to apply regulations**. Once AI regulations are in place, one way to ensure they are applied is to empower businesses to assess their compliance. Some countries in the Asia-Pacific are advanced in this area. For example, Singapore government's Infocomm Media Development Authority (IMDA) has developed a tool AI Verify that enables businesses to review their conformity with emerging AI governance principles. The software toolkit helps businesses validate the performance of their AI systems against 11 governance principles.[55] The AI Verify is consistent with internationally recognized AI frameworks such as those from the EU, OECD, and Singapore's Model AI Governance Framework.[56] The Malaysian government has released an AI-Rmap mobile app that users can download and learn more about the implementation of AI through research, development, and innovation for public awareness.[57]

- **Corporate AI Governance center for excellence**. In addition to standards and regulatory compliance, AI governance within companies is a growing priority for firms small and large. Asian economies could set up a Center of Excellence for Corporate AI Governance, to help train business executives about best practices in AI governance and offer ongoing learning tools.

- **Testing through a regional red teaming center**. In cybersecurity, a "red teamer" seeks to simulate an actual attack on a system. Asia-Pacific economies with readiness for red-teaming could collaborate on a regional center for sharing lessons on red teaming and AI testing work. This could be like the National Computer Emergency Response Teams (CERTs), groups of ICT experts responsible for mitigating cybersecurity incidents. At the international level, there have been proposals that AI be governed by a new institution that standardizes and monitors the testing of AI applications. Ideally such a institution would be a public-private partnership, reflecting the leading role of the private sector in AI development.

- **Regional certification of AI regulations**. As countries introduce rules and standards for AI, how will they ensure that new standards and regulations are compatible with international principles? One model proposed by the Oxford-based Center of the Governance of AI is to copy the approach taken by other international bodies such as the International Civilian Aviation Organization (ICAO), the International Maritime Organization (IMO) and the Financial Action Task Force (FATF), each of which certifies that regulatory regimes adopted around the world meet international rules and standards.[58]

The continuing task of monitoring countries' AI policy readiness includes adopting AI regulations, insuring data privacy and cybersecurity as well as compatibility of these national laws with each other.

Conclusion

Trade and AI intersect in many ways. AI promotion and governance are especially important to firms that trade as they are typically technology-intensive and poised to use AI more than their domestic peers. All trade firms are not the same thus they use AI differently. Manufacturers use AI to develop safer products. Gaming companies use AI to make art. Online sellers use AI to match their products to customers. Creators are powered by AI-driven platforms like YouTube to scale their audiences. AI governance is also important to the service providers that support companies in trade through payments, logistics, and access to the cloud, and connect them to the hubs of global commerce such as ports, customs, and free trade zones that are also adopting AI to streamline their operations.

For firms that trade, fragmentation of regulations is a challenge. Cross-border interoperability of national AI standards and rules is critical to incentivize and enable firms operating across markets to test and deploy AI applications. Some of this work can be done through trade agreements. However, given that AI will continue evolving in unforeseen ways, much of the work toward regionally and globally compatible standards and rules will fall on continuous regulatory learning and adjustments, testing, and risk mitigation, and ensuring firms apply rules and standards.

Given that AI will continue evolving in unforeseen ways, much of the work toward regionally and globally compatible standards and rules will fall on continuous regulatory learning and adjustments.

Researcher bio: Kati Suominen

Kati Suominen is a Research Fellow at the Hinrich Foundation and the Founder and CEO of Nextrade Group that helps governments, multilateral development banks, and Fortune 500 technology companies enable trade through technology. Nextrade's more than 50 clients include the World Bank, IFC, IDB, ADB, USAID, UK FCDO, Mastercard, Visa, Google, and eBay, among many others.

Kati has ideated and built dozens of data and analytical products and pilot initiatives as well as eight global initiatives and public-private-partnerships to enable digital trade - including, most recently, the Alliance for eTrade Development I and II between 14 leading companies and USAID to enable SME ecommerce in developing nations. She also serves as Adjunct Fellow at the Center for Strategic and International Studies (CSIS) and Adjunct Professor at UCLA Anderson School of Management. Earlier in her career, she served as Trade Economist at the Inter-American Development Bank and Fellow at the German Marshall Fund of the United States.

Kati is the author and editor of over 120 papers and 10 peer-reviewed books on trade, globalization and technology with leading academic presses, most recently *Revolutionizing World Trade: How Disruptive Technologies Open Opportunities for All* (Stanford University Press, 2019). She is a Life Member of the Council on Foreign Relations. PhD, University of California, San Diego; MBA, Wharton School of Business; MA Boston University.

Kati Suominen

Research Fellow, Hinrich Foundation
Founder and CEO, Nextrade Group

***

Latest Hinrich Foundation publication by Kati Suominen:

- The greater good: Eight challenges to the global e-commerce boom
- Digital standards meet a rising tide of extraterritorial traceability mandates
- The smart trade revolution is here. What comes next?
- Trust in trade: Challenges to the global convergence on digital standards

Endnotes

1. https://insight.factset.com/highest-number-of-sp-500-companies-citing-ai-on-q2-earnings-calls-in-over-10-years#:~:text=Through%20Document%20Search%2C%20FactSet%20searched,call%20for%20the%20second%20quarter.
2. Nextrade analysis based on Crunchbase database.
3. See further use cases here: https://services.google.com/fh/files/misc/google_ai_opportunity_agenda_asean_final.pdf
4. https://www.gokwik.co/success-story/gokwik-helped-mi-glow-store-open-cod-serviceability and Dal Yong Jin, "AI in Cultural Production in the Korean Cultural Industries," Telematics and Informatics Reports,2024, https://doi.org/10.1016/j.teler.2023.100113.
5. https://www.frontier-enterprise.com/ninja-van-rolls-out-ai-driven-chat-for-shippers/
6. Nextrade Group data.
7. https://osome.com/sg/customer-stories/sleekflow/
8. Amjad Hanif, "Made on YouTube: supporting the next wave of creative entrepreneurs," YouTube blog, September 20, 2022, https://blog.youtube/news-and-events/supporting-the-next-wave-of-creative-entrepreneurs/
9. https://cloud.google.com/blog/topics/financial-services/how-hsbc-fights-money-launderers-with-artificial-intelligence
10. https://chargebacks911.com/ai-financial-fraud/
11. Slowey, Charles. 2017. "Data Analysis for Effective Border Management—the Canadian Experience." WCO News 82. https://mag.wcoomd.org/magazine/wco-news-82/data-analysis-for-effective-border-management-the-canadian-experience/
12. Hisao Kodachi, "Japan Customs taps AI for anti-smuggling enforcement," Nikkei Asia, February 18, 2020 https://asia.nikkei.com/Economy/Trade/Japan-Customs-taps-AI-for-anti-smuggling-enforcement
13. https://www.ptp.com.my/media-hub/news/port-technology-1
14. https://www.ship-technology.com/news/ictsi-deploys-ai-powered-yard-management/
15. https://cetran.sg/
16. https://fedscoop.com/eight-more-tech-companies-join-white-house-commitment-to-manage-ai-risks/
17. See Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence, https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/
18. https://www.nist.gov/artificial-intelligence/executive-order-safe-secure-and-trustworthy-artificial-intelligence
19. https://www.whitehouse.gov/briefing-room/statements-releases/2024/01/29/fact-sheet-biden-harris-administration-announces-key-ai-actions-following-president-bidens-landmark-executive-order/
20. https://www.mayerbrown.com/en/perspectives-events/publications/2023/12/eu-ai-act-european-parliament-and-council-reach-agreement
21. https://www.europarl.europa.eu/news/en/headlines/society/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence
22. https://www.trade.gov/market-intelligence/uk-ai-regulations-2023
23. https://carnegieendowment.org/2023/07/10/china-s-ai-regulations-and-how-they-get-made-pub-90117
24. https://carnegieendowment.org/2023/07/10/china-s-ai-regulations-and-how-they-get-made-pub-90117
25. https://www.pdpc.gov.sg/Help-and-Resources/2020/01/Model-AI-Governance-Framework
26. https://www.csis.org/analysis/japans-approach-ai-regulation-and-its-impact-2023-g7-presidency

27. https://www.trade.gov/market-intelligence/philippine-artificial-intelligence
28. https://airmap.my/wp-content/uploads/2022/08/AIR-Map-Playbook-final-s.pdf
29. https://niti.gov.in/sites/default/files/2019-01/NationalStrategy-for-AI-Discussion-Paper.pdf
30. https://oecd.ai/en/dashboards/policy-initiatives/http:%2F%2Faipo.oecd.org%2F2021-data-policyInitiatives-27104
31. https://ai.gov.eg/Egypt%20National%20AI%20Strategy%20(6-4-2021)4.pdf
32. https://cointelegraph.com/news/g20-ai-use-and-development-india
33. https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/30/g7-leaders-statement-on-the-hiroshima-ai-process/
34. https://www.gov.uk/government/news/uk-singapore-data-and-tech-agreements-to-boost-trade-and-security
35. https://www.reuters.com/technology/southeast-asia-eyes-hands-off-ai-rules-defying-eu-ambitions-2023-10-11/
36. https://www.reuters.com/technology/us-britain-other-countries-ink-agreement-make-ai-secure-by-design-2023-11-27/
37. The order states that "Rapid advancement in semiconductors and microelectronics, quantum information technologies, and artificial intelligence capabilities by these countries significantly enhances their ability to conduct activities that threaten the national security of the United States c5c89f7a-4b37-4895-af31-995305276efc.pdf (static-nzz.ch)
38. https://thediplomat.com/2023/10/indias-ai-regulation-dilemma/#:~:text=India's%20approach%20to%20AI%20regulation,more%20centralized%20and%20cohesive%20approach.
39. https://www.brookings.edu/articles/why-states-and-localities-are-acting-on-ai/
40. https://www.iso.org/committee/6794475.html
41. Samuel Yang, "China: Data Localization," Lexology, October 28, 2021, https://www.lexology.com/library/detail.aspx?g=77c65f77-6292-46fd-ac3a-44ffe34aef92.
42. Vietnam's Decree 53 (No. 53/2022/ND-CP) states that all domestic firms must store regulated data within Vietnam, while foreign firms must store data when they meet two "triggering" conditions: (1) the firm operates in any of 10 business areas designated by the government, including e-commerce, and (2) the firm has been warned by the government that the services it provides have been used to commit a breach of the law on cybersecurity and the firm has not properly dealt with the breach of law "Decree 53 Provides Long-Awaited Guidance on Implementation of Vietnam's Cybersecurity Law," Tilleke & Gibbins, August 19, 2022, https://www.tilleke.com/insights/decree-53-provides-long-awaited-guidance-on-implementation-of-vietnams-cybersecurity-law/.
43. Noyoung Park, A Korean Approach to Data Localization - The Korean Way With Data: How the World's Most Wired Country Is Forging a Third Way (Washington, DC: Carnegie Endowment for International Peace, August 2021), https://carnegieendowment.org/2021/08/17/korean-approach-to-data-localization-pub-85165.
44. https://www.newyorker.com/magazine/2024/01/22/who-owns-this-sentence-a-history-of-copyrights-and-wrongs-david-bellos-alexandre-montagu-book-review#:~:text=Bellos%20and%20Montagu%20end%20their,put%20pressure%20on%20copyright%20law.
45. See, for example, https://today.tamu.edu/2023/10/25/artificial-intelligence-raises-questions-on-intellectual-property-and-ownership/
46. https://www.nytimes.com/2023/12/09/technology/openai-altman-inside-crisis.html
47. https://iplawusa.com/artificial-intelligence-and-intellectual-property-an-emerging-legal-framework/
48. https://www.jdsupra.com/legalnews/uk-re-considers-proposed-exception-for-1643481/
49. https://www.euractiv.com/section/artificial-intelligence/news/french-mps-want-to-amend-eus-copyright-rules-to-cover-generative-ai/
50. https://www.unescap.org/kp/2022/rdtii-version1
51. https://www.unescap.org/kp/2022/rdtii-version1
52. https://www.unescap.org/kp/2022/rdtii-version1

53. https://www.fairedih.fi/en/about-us/
54. https://techmonitor.ai/technology/ai-and-automation/government-backs-ai-regulatory-sandbox
55. These are transparency, explainability, repeatability/reproducibility, safety, security, robustness, fairness, data governance, accountability, human agency and oversight, inclusive growth, societal and environmental well-being
56. https://www.pdpc.gov.sg/Help-and-Resources/2020/01/Model-AI-Governance-Framework
57. https://airmap.my/apps/#
58. https://www.governance.ai/post/proposing-an-international-governance-regime-for-civilian-ai

hinrich foundation

advancing sustainable global trade

The Hinrich Foundation is a Asia based philanthropic organization that works to advance mutually beneficial and sustainable global trade.

We believe sustainable global trade strengthens relationships between nations and improves people's lives.

We support original research and education programs that build understanding and leadership in global trade. Our approach is independent, fact-based and objective.

CONTACT US

There are many ways you can help advance sustainable global trade. Join our training programs, participate in our events, or partner with us in our programs.

inquiry@hinrichfoundation.com

Receive our latest articles and updates about our programs by subscribing to our newsletter

hinrichfoundation.com

hinrichfdn
hinrich foundation
hinrichfoundation
hinrichfoundation