



Global Trade Modernization Index

Beta version



PAPERLESS TRADE

TRADE OPENNESS

REGULATORY ENVIRONMENT

HUMAN CAPITAL

BUSINESS READINESS

March 2024

CONTENT

1. Foreword

2. GTMI 2024 Results

3. Perspectives

Embracing Efficiency: The Significance of Paperless Trade in Global Trade

Digitalisation Leads the Way: Digital Economy and Growth in Asia

Differences In Digital Regulatory Environments Impair Digital Trade

The Significance of Human Capital in Trade Modernization

4. Methodology and Weighting

5. About us

FOREWORD



Indices are simplistic. They incorporate only what can be quantified, like the number of people using technology, rather than the utility or value they are creating while using it. Or the quantity of hard infrastructure rather than a measure of value created by its users.

Data may not exist in the desired scope: cyber security may be measured, but maybe not cybersecurity applied specifically to digital trade. So a nation that has good cybersecurity in general, but poor cybersecurity when it comes to digital trade documentation, will score well, even if we are looking only at digital trade.

Data may be wrong, even when the scope is right; it may also be outdated even in countries which should have accurate counting. In short, the list of problems with data could be very long.

Given this, why create an index using data that might not be accurate? The risk is that we might annoy those who feel that their score misrepresents their actual achievements while those who score well must take everything with caveats.

On the other hand, there could be significant upside if the index facilitates a conversation about directions and development for the future. This is especially the case where guidance on the best models and drivers for digitalising trade are still emerging. If our aim is to focus global attention on the key building blocks for a more robust trade digitalisation journey, a straightforward, quantitative view could be really useful, and this is precisely our thinking behind the GTMI. Everyone understands 1 to 100.

Second, digital trade is a learning journey, and shared learning could help many progress faster, or avoid common pitfalls. An index which shows economies' progress at a granular level offers guidance on where to look for best practices. Want a model of trade openness in a region where one more commonly finds protectionism? Look at Chile. Looking for instances where countries have managed to boost their digital trade potential through legal reform? The UK could be a model given progress in the year since the GTMI was first launched.

There is no easy cut and paste on these issues, but many will benefit from adapt and apply.

So, our hope with the GTMI is to help structure discussions, whether with businesses, investors or the public sector, on how to build up the pillars which will help an economy benefit from trade digitalisation.



We deliberated on the name of the index; it is the trade modernization index to avoid the misperception that digital trade only concerns digitally ordered or digitally delivered goods and services. The index also refers to modernizing – which incorporates trade facilitation, paperless trade, single windows, digitalisation and data interoperability, at any part of the international supply chain.

The other pillars are quite straight-forward and are derived from both academic inquiry and our experience in advancing digital trade across business and industry:

Trade openness reflects an economy’s willingness to engage with international trade on the basis of common rules and the free flow of goods and services. Regulatory environment reflects an economy’s willingness to update its legal environment to permit the usage of digital across the economy; it is a fundamental prerequisite that protects businesses willing to take the plunge.

Finally business readiness and human capital attest to the fact that even with the best of technologies and policy environments, industry must build capabilities, deploy resources including investment, and innovate through challenges in order for digital trade to positively impact an economy. But business does not build skills and amass resources in a vacuum. Government policy and investment, as well as third sector organizations such as universities, think tanks and scientific institutes, all play roles in enabling business readiness.

We launched the index last year at our Future Trade Forum in March 2023, and are pleased to present this update with new data and perspectives. We are encouraged by number of countries which have moved up the rankings as a result of progress they have made during the past year. We hope that others will soon follow suit and look forward to supporting each and every economy with its eye on the future.

I’d like to thank all our collaborators on helping us put this together including our advisory panel: Yann Duvall of UNESCAP, Eunice Huang of Google, Christian Volpe of the Inter-American Development Bank, and Jeff Weiss of Steptoe. And finally, thank you to our collaborating organizations: Heiwai Tang, Shuyi Long, and Jonathan Hsu, of the Asia Global Institute; and Kevin Klowden, Curtis Chin, Laura Deal, David Talbott, and Abraham Song of the Milken Institute.

We are eager for feedback so please do get in touch!

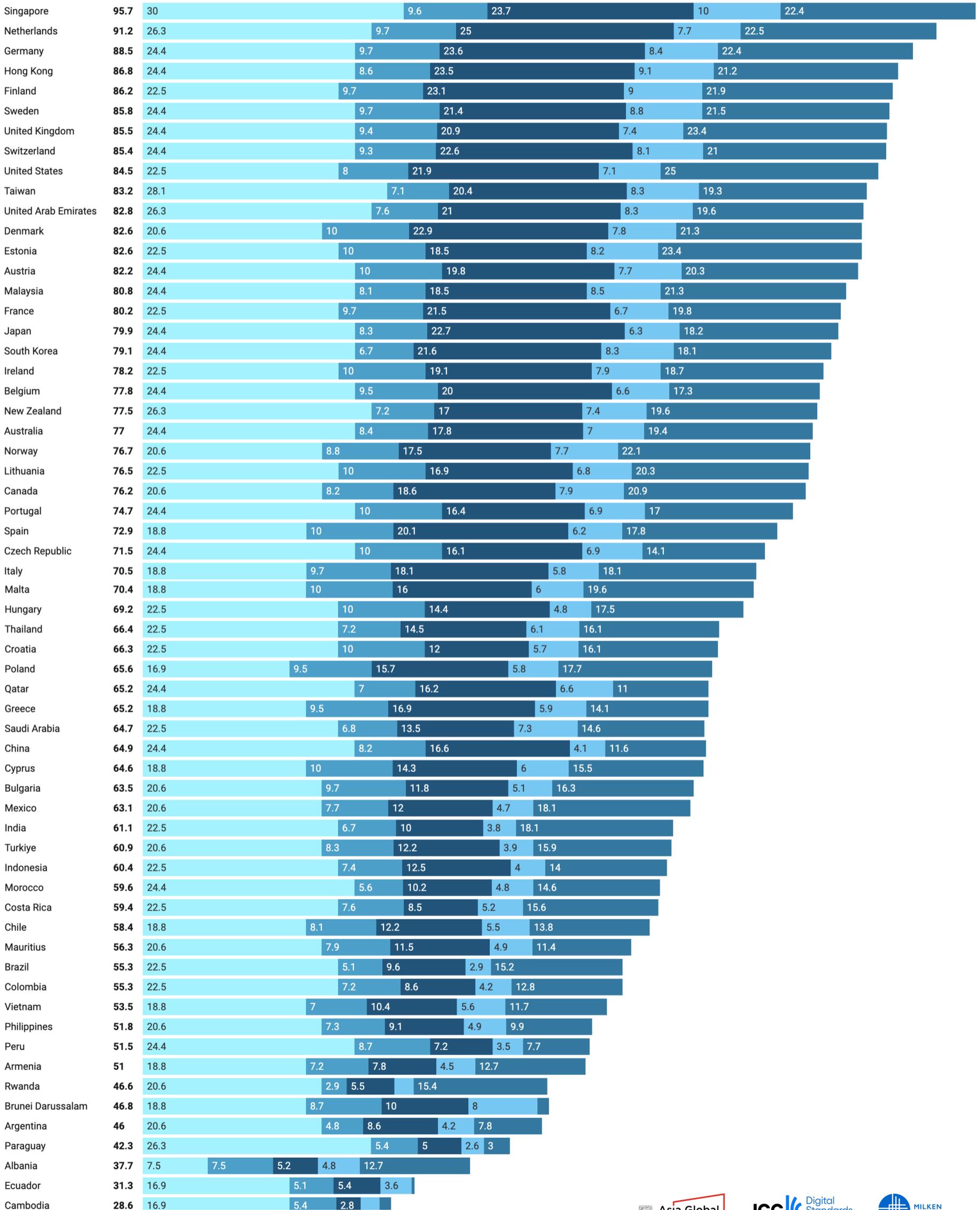
Pamela Mar
Managing Director of ICC Digital Standards Initiative

RESULTS

[View more](#)

GTMI Beta

■ Paperless Trade (30%)
 ■ Trade Openness (10%)
 ■ Business Readiness (25%)
 ■ Human Capital (10%)
 ■ Regulatory (25%)



Embracing Efficiency: The Significance of Paperless Trade in Global Trade

Tianmi Stilphen

ICC Digital Standards Initiative

In the dynamic landscape of global trade, where every minute detail counts and every transaction reverberates across borders, the significance of embracing paperless trade cannot be overstated. The essence of paperless trade goes beyond mere convenience; it represents a paradigm shift towards efficiency, transparency, and accessibility in international trade. It stands not merely as a technological leap forward, but a testament to countries' collective commitment to harnessing the potential of digitalisation to drive economic growth, enhance competitiveness, and foster inclusive development.

This pillar comprises six critical factors, which in collaboration lay the groundwork for a seamless trade ecosystem:

- (1) Model Law on Electronic Transferrable Records
- (2) Electronic Singapore Window
- (3) E-Payment of Customs Duties and Fees
- (3) Electronic Exchange of Customs Declaration
- (5) Electronic Exchange of Sanitary and Phyto-Sanitary Certificate
- (6) E-Issuance of Import and Export Permits.

Model Law on Electronic Transferable Records, a framework developed by UNICTRAL, provides a solid legal foundation for the acceptance and recognition of electronic documents, thereby facilitating frictionless trade transactions across jurisdictions. By embracing this model law, countries can eliminate the cumbersome reliance on physical paperwork, streamlining processes and reducing the risk of errors and delays. A globally accepted legal framework for the use of electronic documents in cross-border trade is the cornerstone of achieving true end-to-end connectivity. Another vital component of the paperless trade pillar is the Electronic Single Window System advocated by the United Nations. This system serves as a centralized platform through which traders can submit all necessary documentation and information required for customs clearance and other regulatory procedures. By consolidating disparate processes into a single digital interface, the Electronic Single Window System enhances transparency, reduces duplication, and expedites the clearance process, ultimately fostering a more conducive environment for trade.

Singapore's perfect score in the paperless trade category, denoting full implementation of all six factors, exemplifies the efficacy of aligned policies. Nations that align with the Model Law for Electronic Transferable Records experience upward mobility in global rankings. Notably, the UK ascended four places following the passage of the Electronic Trade Document Act, while countries like Peru and Canada can anticipate significant ranking improvements, roughly 5 and 10 places respectively, through MLETR alignment.

2023 was monumental in the sense that nations that were previously in the “watching zone”, including ASEAN, China, Australia, Japan, Italy, and Spain formally declared their move to advance digitalisation and where the industry begins to converge around an interoperable set of practices accordingly.

The transition to paperless trade not only fosters efficiency but also democratizes access to global markets, particularly for small and medium-sized enterprises (SMEs). By reducing administrative hurdles and lowering transaction costs, paperless trade levels the playing field, enabling businesses of all sizes to participate in international trade. Moreover, adaptive supply chains and agile business models necessitate a workforce equipped with the requisite skills to leverage digital tools effectively, thereby driving innovation and competitiveness on a global scale.



Digitalisation leads the way: Digital Economy and Growth in Asia

Heiwai Tang, Shuyi Long, and Jonathan Hsu

Asia Global Institute

Digitalisation has been a significant driver of growth in Asia, and the region has seen a surge in digital transformation in recent years. The pandemic has accelerated this trend, with technology emerging as a potent tool for responding to public health challenges and facilitating the development of an increasingly online consumer landscape. With a combination of strong investment into digital infrastructure as well as R&D, Asia has emerged from this period of turmoil as a global leader in the development of digital economies.

The rise of Asia as a digital innovation hub has been largely driven by a nexus of countries which have excelled at directing investment towards their ICT sectors. In particular, Singapore, China, and South Korea have experienced sharp increases in digital and computer-related patents, supported by solid R&D spending and a large share of researchers in the labour force.

The development of digital technologies has been accompanied by significant increases in digital cooperation between nations. For instance, the signing of bilateral data sharing agreements has laid the groundwork for interoperability between respective countries' digital infrastructure. Digital cooperation has also been a crucial factor in the rapid expansion of cross-border digital trade within Asia. Most notably, the proliferation of digital trade chapters in regional trade agreements has facilitated bilateral digital trade flows between nations through the linking of their respective e-commerce systems.

Thanks to the cooperation between digital trade systems, Asia has become not only a leader in digital economy development but also the world's top digital consumer, accounting for nearly 60% of global online retail sales. Two standout examples are the Philippines and Malaysia, which have become the top two countries in e-commerce retail growth, increasing by 25% and 23% per year respectively^[1]. By 2024, it is predicted that digital payments will account for at least 65% of all transactions in Asia (compared to a global average of 52%), positioning the continent as the world's primary consumption growth engine.



The benefits of digital transformation extend far beyond the promise of enhanced trade. The development of a digital economy can raise the productive capacities of economies in Asia by enhancing financial inclusion, individual productivity, and firm competitiveness. The Asian Development Bank notes that the development of digital infrastructure and R&D investment have contributed significantly to growth in GDP per capita across several Asian nations.

However, it also notes that not all countries have been equally effective in converting investments in digital economy into enhanced economic productivity, suggesting a need for policy improvements.

A successful digital transformation requires a multi-faceted policy approach. Governments must provide the proper financial incentives to encourage corporate research and development of digital technologies. This should be accompanied by investment into both hard and soft digital infrastructure in order to facilitate inter-firm digital cooperation. Finally, Asian nations should continue to adopt a collaborative approach to digital economy development with an emphasis on interoperability of their digital infrastructure. In doing so, countries can maximize not only the productivity gains from digitalisation for their own economies, but also their participation in what is likely to be the foremost market for digital commerce.

Digitalisation has been a crucial factor for economic growth in Asia since the global pandemic. Investment into digital technologies and infrastructure has allowed Asia to emerge as not only the world leader of digital economies, but also the world's largest digital consumer. To maintain this growth trajectory, governments should continue to support digitalisation efforts through domestic investment, international cooperation and interoperability between digital infrastructures.

[1] Source: <https://www.weforum.org/agenda/2022/02/digitalization-south-southeast-asia/>

Differences In Digital Regulatory Environments Impair Digital Trade

Johannes Fritz and Tommaso Giardini
Digital Policy Alert

Digital trade, the cross-border provision of digital goods and services, relies on the seamless flow of data across borders. Yet with mushrooming domestic regulations, flows increasingly encounter regulatory hurdles. Even when each regulation may aim to balance openness with legitimate policy goals, collectively they risk disrupting digital trade. Digital fragmentation, the splintering of the global internet into regional blocks, creeps in through businesses' bottom line. The burden of complying with diverse regulations and the fear of potential liabilities deter firms from entering new markets or expanding their services.

The Digital Policy Alert provides unique insights into regulatory differences for more than 50 of the world's largest economies. Since 2020, it has documented over 2,000 data policy developments in the G20 members, including over 1,100 different data protection laws and implementing regulations. A further 500 policy developments relate to cybersecurity requirements for data processors and digital service providers. Over the last three years, the global landscape of data policy has been vigorously reshaped, with the United States accumulating more than 600 developments in the absence of a federal privacy law, followed by significant regulatory activity in the European Union, China, the United Kingdom, the Republic of Korea, and Japan. Differences in digital regulatory environments are evident already in fundamental principles.

Data rules are a potential source of digital fragmentation risk from different regulatory approaches. Privacy, cybersecurity and data flow conditions protect citizens yet vary across jurisdictions. Notably, even foundational concepts like 'valid user consent' vary significantly among G20 countries. Inferring consent from user actions may be valid in some jurisdictions but not others. This variance extends to the information operators must provide before obtaining consent and how consent must be expressed. Such disparities require that firms reengineer consent flows when entering new markets.



Other data regulations directly restrict data flows, mandating local storage and processing. Government mandates for data localisation, often justified for law enforcement access, effectively isolate nations from the global internet. Where coupled with consent and cybersecurity rules, localisation particularly deters digital trade dependent on global data flows. While regulatory differences only play a secondary role in data localisation, non-standard definitions of what data must be localised further raise uncertainty as the same data type triggering localisation in one jurisdiction may not in another.

Yet, digital fragmentation is not a foregone conclusion. A viable solution lies in fostering clarity, interoperability, and mutual recognition—a route where domestic regulators can lay down clear guidelines, offer safe harbours to small and medium-sized enterprises, and articulate common principles. Likewise, international bodies can foster collaboration by recognising regulatory equivalence, not to homogenise but to raise interoperability — to build a network of bridges across the regulatory differences that could otherwise segment the digital market. Practical coordination efforts, such as the Asia-Pacific Economic Cooperation’s Global Cross-Border Privacy Rules Forum and the implementation of Japan’s Data Free Flow with Trust (DFFT) framework under the G7, are welcome initial steps for championing this approach.

The quest for interoperability is also what links digital trade and trade digitisation. The International Chamber of Commerce (ICC) spearheads the charge in advancing trade digitisation, providing interoperable solutions to smooth out the wrinkles caused by differing trade-related procedures. The ICC Digital Standards Initiative and the Global Trade Modernization Index exemplify this commitment to find common principles to ease cross-border compliance burdens. In data and documentation, pursuing interoperability supports both open digital trade and enabling trade that benefits from fluid data transfers.

The Significance of Human Capital in Trade Modernization

Kevin Klowden
Milken Institute

In developing the Global Trade Modernization Index, numerous key factors have been essential to examine. Most of these factors, in particular, represent a snapshot and understanding of where trade modernization for countries stands now, in the present day. The factor of human capital fundamentally represents the ability of skilled workers in a country to not only manage the current, cumbersome system of traditional trade but, even more importantly, the ability of those workers to actually learn, implement and utilize technologies such as paperless trade. The human capital pillar is measured in the GTMI by assessing individuals using the internet, digital skills among the active population, the percentage of STEM graduates, and the overall index of human capital in a country. These measures of educational attainment, digital knowledge, utilization, and applied skills are critical factors in its ability to modernize trade practices. One critical way that a nation's skilled and digitally literate workforce increases trade efficiency and streamlines processes, and reduces costs is through the adoption of paperless trade practices.

For the countries profiled in the GTMI, the human capital ranking reflects areas of comparative advantage, not just in terms of an educated workforce, but just as importantly, in that workforce's ability to adapt and implement the essential skills required to move from a more fixed, archaic set of trade procedures to the essential ones we are advocating for as part of this index itself. Human capital as a measure tends to favor smaller countries for whom trade already plays a significant role, such as Singapore and Hong Kong, and countries in Europe that are particularly focused on trade and supply chains, such as Finland, Germany, and even Estonia. But it also represents a significant opportunity for countries such as South Korea, Malaysia, and Qatar to utilize the new standards in paperless trade to more readily extend access and benefits to numerous smaller and mid-sized businesses nationwide.

As we increasingly see the need for adaptive supply chains, implementation of new technologies, and the shifting of manufacturing and services to smaller, more nimble firms, countries need to be able to have skilled workers in trade, exports and customs who can facilitate and aid the efforts of these businesses. The countries that pay most attentions to the skills development of these workers will be the best positioned not only to take advantage of new opportunities in trade, but also to ensure that the largest portion of their interested businesses are able to do so.

Methodology

The Global Trade Modernization Index encompasses over 70 economies from across the globe, representing diverse regions, levels of GDP, economic development, and trade intensity. The methodology employed in constructing this index relies on key indicators drawn from original and verified third-party datasets sourced from reputable entities, including multilateral organizations and the private sector. These indicators are carefully selected to measure progress across five critical areas of trade modernization: (1) Paperless Trade, (2) Trade Openness, (3) Regulatory Environment, (4) Business Readiness, and (5) Human Capital.

Each of these categories, or pillars, is constructed as a compilation of various indexes that capture relevant aspects of trade modernization. To ensure a comprehensive assessment, specific weightings have been assigned to each category based on their perceived significance. These weightings are as follows:

(1) Paperless Trade - 30%

(2) Trade Openness - 10%

(3) Regulatory Environment - 25%

(4) Business Readiness - 25%

(5) Human Capital - 10%

These weights are carefully calibrated to ensure a balanced assessment that captures the multifaceted nature of trade modernization.

Once the relevant indicators are identified and compiled for each category, they are aggregated and normalized to produce a composite score for each economy. This score is then scaled to a range of 0 to 100, with higher scores indicating higher levels of trade modernization. The final rankings are determined based on these composite scores, with economies ranked higher if they demonstrate greater progress in advancing their trade modernization agendas.

It is important to note that the data utilized in constructing the index are the most recently published and reflect the latest available information. Additionally, the weighting assigned to each category has been adjusted based on collective feedback received after the Alpha Launch in March 2023. This iterative process ensures that the index remains robust and reflective of evolving trends and priorities in the realm of global trade modernization.

The selection of indicators are informed by the collective wisdom of an expert advisory board comprising professionals from diverse backgrounds and countries with relevant expertise:

Dr. Yann Duval: Chief, Trade Policy and Facilitation, UN ESCAP

Eunice Huang: Head of Asia-Pacific Trade and Competitiveness Policy, Google

Dr. Christian Volpe: Principal Economist, Integration and Trade Sector, Inter-American Development Bank

Jeffrey Weiss: Partner, Steptoe & Johnson LLP

Methodology and Weighting

Paperless Trade	Trade Openness	Regulatory Environment	Business Readiness	Human Capital
Model Law for Electronic Transferrable Records Adoption (UNICTRAL)	Ratification of Trade Facilitation Agreement (WTO)	Global Cybersecurity Index (ITU)	Business Dynamism (WEF)	Individuals Using the Internet (ITU)
Electronic Single Window System (UN)	Progress on Trade Facilitation Agreement Implementation (WTO)	ICT Regulatory Tracker (ITU)	Telecommunication Infrastructure Index (UN)	Digital Skills Among Active Population (WEF)
E-Payment of Customs Duties and Fees (UN)	Ratification of Information Technology Agreement and 2015 Expansion (WTO)	CPIA Business Regulatory Environment Rating (WB)	Internet Connection Available to Customs and Other Trade Control Agencies (UN)	Percentage of graduates from STEM programmes in tertiary education (UNESCO)
Electronic Exchange of Customs Declaration (UN)	Total RTA Membership (WTO)	Legal Framework Adaptability to Digital Business Models (WEF)	Transport Infrastructure Quality (WEF)	Human Capital Index (WB)
Electronic Exchange of Sanitary and Phyto-Sanitary Certificate (UN)	Membership in RTAs with E-Commerce Chapters (WTO)	Global Indicators of Regulatory Governance Score (WB)	Logistics Performance Index (WB)	-
E-Issuance of Import and Export Permits (UN)	Data Localization Policies (Digital Trade Integration Project)	-	-	-
-	Simple Average MFN Applied Tariff (WTO)	-	-	-

About Us

Asia Global Institute, ICC Digital Standards Initiative, Milken Institute



Asia Global Institute is a multidisciplinary think tank co-established by The University of Hong Kong and the Fung Global Institute. The institute's mission is to generate and disseminate research and ideas on global issues from Asian perspectives. It aims to inform global policy and actions towards a prosperous and sustainable future for all.



International Chamber of Commerce, Digital Standards Initiative

The ICC Digital Standards Initiative (DSI) aims to accelerate the development of a globally harmonized, digitized trade environment, as a key enabler of dynamic, sustainable, inclusive growth. We engage the public sector to progress regulatory and institutional reform and mobilize the private sector on adoption, implementation, and capacity building. DSI is a collaboration between Enterprise Singapore, the Asian Development Bank, and ICC, and works closely with the World Trade Organization and the World Customs Organization. Together, these five institutions form the Governance Board for the DSI.

Milken Institute



The Milken Institute is a nonprofit, nonpartisan think tank focused on accelerating measurable progress on the path to a meaningful life. With a focus on financial, physical, mental, and environmental health, we bring together the best ideas and innovative resourcing to develop blueprints for tackling some of our most critical global issues through the lens of what's pressing now and what's coming next.