

Digital Policy and MSME Ecommerce Index - Methodology

From: Kati Suominen, Erica Vambell, and Mariah Furtek, Nextrade Group, “Expanding MSME Ecommerce in Developing Countries: State of Policies and Path Forward,” Policy Report for the Alliance for eTrade Development and U.S. Agency for International Development USAID (forthcoming in 2021).

Index coverage and methodology

This index captures over 100 policies, programs, and regulations conducive to micro, small and mid-size enterprises; (MSMEs) ecommerce in 10 major policy areas. The index was developed in three phases:

First, we defines policy “conducive to MSME ecommerce” in three ways – (1) through surveys and discussions with MSMEs themselves; (2) through surveys and discussions with ecommerce ecosystem players such as marketplaces and logistics and payment providers; and (3) through a review of academic literature and case studies on the impact of various policies and practices on MSME trade, ecommerce, and development. This method paved the way for the selection of policies that enable, govern, and promote MSME ecommerce in 10 distinct policy areas:

- Digital infrastructure policies and projects, such as incentives for broadband usage and pilots to roll out 5G networks;
- Digital regulations governing online transactions, such as digital signature and digital invoicing laws;
- Digital regulations governing parties’ behaviors online, such as internet intermediary liability rules, copyright protection, consumer protection, and data privacy rules;
- Digital payment regulations, including demonetization initiatives and regulations governing payment providers;
- Ecommerce logistics and trade facilitation, such as policies and processes for sending and receiving goods across borders and shipping in urban and rural areas;
- Cybersecurity, such as cybersecurity laws and programs to support MSMEs’ cybersecurity readiness;
- MSME capacity-building for ecommerce exports, such as online training programs for MSMEs to learn to use online platforms and digital transformation programs to bolster MSMEs’ online sales and marketing capabilities;
- MSME access to credit, such as working capital and credit guarantees programs, equity financing facilities, and open banking and FinTech regulations;
- Government procurement and e-procurement, such as adoption of e-procurement practices favorable to MSMEs; and
- Ecommerce plans and statistics, such as national strategies or plans for ecommerce development, and national statistics to track firms’ ecommerce adoption, use, and transactions.

Second, we mapped 52 countries' regulations, policies, and practices in the various policy areas on an Excel, with the cells consisting of qualitative summaries of how a given country regulates or approaches a policy issue. The mapping was accomplished through extensive desk research between March and December 2020. The policy mapping helps governments and other stakeholders see what their peer countries are doing to enable ecommerce. Using the mapping, policymakers can compare their own country's adoption of the many ecommerce-related policies. They can also track the adoption of a specific policy across 51 other countries, and thus quickly learn what types of policies their peers are adopting around the world and how they have designed their policies.

Third, we converted the qualitative data into a country-specific quantitative score, in order to facilitate cross-country comparisons. The scoring methodology is as follows: a desirable regulation, policy or practice merits a score of 1. The total possible score is 75, roughly equally distributed across the 10 policy areas. The scoring varies somewhat by the type of question asked, as follows:

- Some of the areas covered are straight-forward yes / no questions (such as whether a country is a member of the Information Technology Agreement). These are coded either 1 or 0.
- If a country has a good draft law or policy planned, it receives 0.5 points instead of 1 point.
- In the digital regulations policy area, a general policy of free cross-border data transfer (that receives a score of 1) may include a specific restrictive practice or regulation such as an adequacy requirement that qualifies this generally good policy. Each of these qualifying provisions and exceptions reduce the score of 1 by 0.20. Also in this section, the score for consumer protection regulations is increased by 0.20 where the regulation has positive sub-components, such as anti-spam rules.
- In the digital infrastructure policy area, the mapped 5G-related policies range from 0.25 to 0.5 points, and various variables that capture the level of competition between service providers each receive a maximum of 0.2 points.
- Other policies require more analysis and interpretation. One such area is whether a country's postal service is innovating to enable ecommerce. In the case of these more open-ended questions, we establish criteria that merit a score of 1 (such as, a score of 1 is assigned if a country's postal service has piloted with one or more of the following: parcel lockers, self-service kiosks, drone delivery, door-to-door ecommerce delivery, ecommerce fulfillment centers, marketplace, or partnerships with ecommerce marketplaces).
- Still other areas are scored using a pre-existing index or dataset; some examples include customs tariffs on ICT products, customs *de minimis* thresholds, and level of postal development. In these cases, we translate different numbers and indices into a standardized index, employing the "distance from the frontier" score used in the World Bank's Doing Business Index, where the globally worst performer gets a zero and the globally best performer receives a score of 1, and everyone else falls in the continuum between 0 and 1. The formula for this calculation is $(\text{worst performer score} - \text{country score}) / (\text{worst performer score} - \text{best performer score})$.

The many variables and their scoring are included below. As is typical with policy indices, there are also several methodological challenges; these are described in the following section.

Digital Infrastructure

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|---|---|
| Government national broadband plan or initiatives | I = yes ; 0 = not found |
| Government initiatives to promote women entrepreneurs and women-led companies to innovate in tech | I = yes ; 0 = not found |
| 5G strategy published or initiatives announced | I = yes ; 0 = not found |
| 5G service has been rolled out | I = yes; 0 = not found |
| 5G spectrum auctioning has happened already | 0.5 = spectrum assigned ; 0.25 = auction planned ; 0 = not found |
| 5G piloted/trials have taken place | 0.25= yes; 0 = not found |
| 4.5G rolled out | 0.5 = yes; 0.25 = in planning ; 0 = not found |
| Competition among fixed wireless broadband providers | 0.2 = full ; 0.1 = partial ; 0 = monopoly, or N/A |
| Competition among fixed satellite services | 0.2 = full ; 0.1 = partial ; 0 = monopoly, or N/A |
| Competition among mobile cellular | 0.2 = full ; 0.1 = partial ; 0 = monopoly, or N/A |
| Competition among mobile satellite services | 0.2 = full ; 0.1 = partial ; 0 = monopoly, or N/A |
| Competition among internet services | 0.2 = full ; 0.1 = partial ; 0 = monopoly, or N/A |
| Competition in international gateways | 0.2 = full ; 0.1 = partial ; 0 = monopoly, or N/A |
| Competition in wireless local loop | 0.2 = full ; 0.1 = partial ; 0 = monopoly, or N/A |
| Universal access/service policy adopted | 0.25 = yes; 0 = no |
| Caps on FDI in wireless and fixed telecommunications | -0.5 = some limits or caps on FDI found, such as in certain sectors |
| Information Technology Agreement member | I = yes ; 0 = no |
| 2018 applied tariffs on cellphones | distance from frontier: I = best, 0 = worst or N/A |
| 2018 applied tariffs on laptop computers | distance from frontier: I = best, 0 = worst or N/A |

Digital regulations on online behavior

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| Net neutrality in place: ISP's barred from limiting Internet content that flows through their networks | I = yes ; 0 = not found |
| Liability exemptions/safe harbors for internet intermediaries from copyright infringement | I = yes ; 0.5 = in draft, or is party to treaty that requires safe harbor regulations though not found to have adopted in national legislation yet ; 0 = not found, law does not mention internet intermediary liability, or law implies high liability risk i.e. EU directive |
| Copyright limitations and exceptions - use of "fair use" standard | I = yes ; 0.5 = not officially but abide by Berne Convention ; 0 = not found |
| OTT regulations affecting Internet services | -I = yes ; 0 = not found |
| Caps on FDI by foreign marketplaces | -0.5 = some limits or caps on FDI found, such as in certain sectors |
| Data transfer allowed (or no law in place) | I = yes, allows data transfer, whether by law or implicitly because there is no law |
| Data transfer limits to certain sectors | -0.2 = yes ; 0 = not found |
| Data transfer always requires jurisdictions to be branded "adequate" | -0.2 = adequacy always required ; -0.1 = adequacy can be required but not always i.e. if there is user consent, or a special exception ; 0 = not found |
| Data transfer always requires user consent | -0.2 = user consent always required ; -0.1 = user consent can be required but not always i.e. if there is adequacy standard in place, or a special exception ; 0 = not found |
| VAT/GST Tax | distance from frontier: I = best, 0 = worst |
| Digital tax/rate discussed or implemented | -I = yes ; -0.5 = Proposed ; 0 = not found |
| Consumer protection regulation in place | I = yes ; 0.5 = in draft |
| Consumer protection law explicitly applies to ecommerce | I = yes ; 0 = not found |
| Legal/regulatory prohibitions on companies using unfair or deceptive acts | 0.25= yes ; 0 = not found |
| Anti-spam law in place | 0.25= yes ; 0 = not found |
| Online contracts are to be drafted in clear and simple language | 0.25= yes ; 0 = not found |
| Forms of redress - consumer's right to return items purchased | 0.25= yes ; 0 = not found |
| Companies have a Trust certificate or companies / governments certify trusted firms | I = yes ; 0.5 = Planning ; 0 = not found |
| Consumer complaints can be filed online | I = yes ; 0 = not found |
| Digital / video-based court proceedings for consumer issues | I = yes ; 0 = not found |

Digital regulations on online transactions

Fully digital business registration available

I = yes; 0.5 = part of process can be done online, or only certain cities provide the service, or only certain kinds of companies can register online; 0 = not online at all, including even if there is a "one stop shop"

Electronic signatures admissible, legal, and enforceable

I = yes; 0 = not found

Digital or electronic invoice implemented

I = yes; 0 = not found

eID/digital ID in place (including for e-government services)

I = yes; 0.5 = in development/piloted; 0 = not found

National digital corporate ID tested or in place

I = yes; 0 = not found

Tax exemptions for new businesses

I = yes; 0 = not found

Payment regulations

E-payments law in place

I = yes; 0 = not found

Risk-based approach (RBA) KYC regime in place

I = yes; 0.5 = in process of implementing; 0 = not found

Regulatory requirements differentiated by type of payment service and its respective risks

I = yes; 0.5 = in process of implementing; 0 = not found

Demonetization programs to promote digital payments

I = yes; 0 = not found

Regulations or programs to fuel interoperability of online payments

I = yes; 0 = not found

Trade facilitation for ecommerce

De minimis threshold for entry of goods

distance from frontier: I = best, 0 = worst or N/A

Publication of existing import-export regulations on the internet

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Stakeholders' consultation on new draft regulations (prior to their finalization)

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Advance publication/notification of new trade-related regulations before their implementation

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Advance ruling on tariff classification and origin of imported goods

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Risk management

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Pre-arrival processing

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Post-clearance audits

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Independent appeal mechanism

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Separation of Release from final determination of customs duties, taxes, fees and charges

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Establishment and publication of average release times

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Trade facilitation measures for authorized operators

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Expedited shipments

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Acceptance of copies of original supporting documents required for import, export or transit formalities

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Electronic Single Window System

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Alignment of working days and hours with neighboring countries at border crossings

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Alignment of formalities and procedures with neighboring countries at border crossings

I = Yes; 0.5 = Partially; 0.25 = Planning; 0 = No

Provides B2B and/or G2B services as shared trade ecosystem platform

I = yes; 0 = not found

Use of blockchain and/or AI in customs

I = yes; 0 = not found

Innovative postal services, such as drones, collaboration with ecommerce platforms

I = yes; 0 = not found

SME capacity-building and export promotion for ecommerce

Export promotion agency programs/guidelines for ecommerce available

I = yes; 0.5 = planning to implement; 0 = not found

Online ecommerce export services, such as government ecommerce platform or channel management platform

I = yes; 0 = not found

Subsidized digital transformation services/financial incentives for exporters to use ecommerce

I = yes; 0 = not found

Public-private collaboration (e.g. with ecommerce platforms) to build SMEs' capacity

I = yes; 0 = not found

Programs for women-led firms to learn to export (ex: e-commerce)

I = yes; 0 = not found

Programs for rural companies to engage in ecommerce

I = yes; 0 = not found

Help with SME logistics for cross-border ecommerce

I = yes; 0 = not found

SME finance

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|---|---|
| Regulatory sandboxes for FinTech | I = yes; 0.5 = in development ; 0 = not found |
| Regulated Open banking / Open APIs - portability of a business's data across digital ecosystem | I = yes; 0.5 = in development ; 0 = not found |
| Regulatory framework for equity crowdfunding | I = yes; 0.5 = in development ; 0 = not found |
| Government credit guarantees for micro and small working capital loans offered by banks | I = yes; 0 = not found |
| Government credit guarantees for micro and small working capital loans offered by Fintechs or nonbank finance providers | I = yes; 0 = not found |
| Direct loans from government to small or micro firms | I = yes; 0 = not found |
| Equity for tech and digital businesses (gov't as GP, such as runs a venture capital fund, invests directly) | I = yes; 0 = not found |
| Equity for tech and digital businesses (gov't as LP or fund of funds, investing in VCs that invest in SMEs) | I = yes; 0 = not found |
| <i>Specific equity programs for exporters (or VC investments expressly for exporting)</i> | I = yes; 0 = not found |
| Programs to finance/guarantee ecommerce transactions | I = yes; 0 = not found |
| Financing programs or entities for women-led companies - grants, debt or equity | I = yes; 0 = not found |

Government eprocurement promotion for SMEs

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| Procurement tenders and bid documents available online | I = yes; 0.5 = only tenders or bid docs online; 0 = not found |
| Procurement bid submission online | I = yes; 0 = not found |
| Procurement bid process and notices electronic | I = yes; 0 = not found |
| Online, transparent and/or simple bidding search for low-value procurement contracts | I = yes; 0 = not found |
| Initiatives to increase SME procurement bids and contracts | I = yes; 0 = not found |
| Initiatives to increase women-led SME procurement bids and contracts | I = yes; 0 = not found |
| Complaint mechanism in place, for example about unfair procurement bidding process | I = yes; 0.5 = observer status; 0 = no |
| Member or observer of plurilateral Agreement on Government Procurement | |

Ecommerce diagnostics and strategy

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| Government digital strategy in place | I = yes; 0.5 = in draft/development ; 0 = not found |
| Government ecommerce strategy in place | I = yes; 0.5 = in draft/development ; 0 = not found |
| Ecommerce flow and/or usage statistics collected | I = yes; 0 = not found |

SME cybersecurity readiness

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| National cybersecurity strategy in place | I = yes, including if standalone or part of larger strategy; 0.5 = in draft; 0 = not found |
| Cybercrime legislation in place | I = yes, including if standalone or part of larger law i.e. Criminal Code; 0.5 = in draft; 0 = not found |
| Computer Emergency Response Team (CERT) in place | I = yes; 0 = not found |
| Educational campaigns to SMEs on cybersecurity/SME focused assistance | I = yes; 0 = not found |
| Cybersecurity capacity building for governments | I = yes; 0 = not found |
| Ratified Budapest Convention | I = yes, 0 = no |

Limitations

The policy scoring aims to capture the most essential elements that countries should have in place when they seek to help MSMEs use platforms to trade across borders and compete successfully in the 21st century digital economy. As in any effort to establish a composite policy index, there are several caveats and limitations to this methodology:

- **Quality of implementation.** The quality of implementation is key for any policy to work. We primarily map policies “on paper”, but not the quality of implementation. However, the outcome variables give a sense that countries that have good policies in the books are also ones that attain better MSME ecommerce outcomes.

- **Weighting.** The index covers several different domains, such as regulations, trade facilitation, and MSME export promotion. It could be argued that one of these main categories matters more than another, or one matters more at a given point in time than another – for example, MSME ecommerce export promotion matters little in the absence of internet connectivity. However, there is also no particular reason to weight one domain more than another – rather, the assumption here is that at the end of the day, all the mapped areas matter for ecommerce to work.
- **Limited sample size.** The index here covers only 52 countries; thus the universe of possible policy innovations countries may be pursuing and that could become a sub-category in the index are inherently not covered.
- **Limits of data collection.** The policy data for this pilot index is harvested from government portals and news and other websites, rather than from surveys sent to governments. As such, the quality of the data is as good as the information available online. In future iterations, collection of data via questionnaires fielded to government agencies and perhaps local think-tanks could be a useful approach.
- **Policy may not be needed.** In some areas we score, such as the use of biometrics in payments or open banking mandates for MSME lending, while the score is assigned based on the presence of government mandates, the private sector is in many countries leading the way and no particular government mandate is required. This is the case, for example, with open banking practices – many banks are pursuing these practices without being forced to do so. The qualitative mapping produced in this project captures such promising private sector activity. When these areas are scored and quantified, it is assumed that the government mandate can accelerate and formalize a good practice (such as expand and accelerate open banking practices).
- **Timing of data.** The data are collected in early to mid-2020, and the scoring is at this point indifferent to the timing of any one policy’s starting date. For example, some Asian economies such as Korea and Japan had broadband plans already in the 1990s, while some African economies adopted them much later. It can thus be expected that these Asian countries would be much farther along in harvesting the gains from broadband penetration on ecommerce. Time-series data that showed the year when a given policy was adopted would provide a more comprehensive picture of the impacts of regulations on economic outcomes and to ecommerce. However, the effort here is primarily focused on building a policy index benchmarked to 2020.
- **Countries’ differing starting points.** The countries analyzed here are at very different levels of development – and thus it could be argued that least developing countries should not be compared to advanced economies that have had certain components in place for years. For example, Korea and Japan have had 3G and 4G networks for years and are now well on their way working toward 5G, while Bangladesh is still seeking to diffuse 3G and 4G networks. This could suggest that developing countries are compared “unfairly” and should be weighted differently. However, we have here opted not to weight countries, to enable fast and straight-forward comparisons across economies – just like is done in most leading global indices. We have also chosen to highlight here the policies and practices of the countries that are frontrunners in ecommerce, to inspire countries to leapfrog. For example, many countries considering digital single windows could learn from Singapore’s National Trade Platform that is also a platform of B2B and G2B services for MSMEs in trade. Similarly, countries could learn from Singapore and UK’s application of predictive analytics and blockchain in customs.

- **Interoperability of regulations with trading partners.** The analysis here focuses primarily on domestic policies, as governments have control over them. However, this choice also means that this analysis does not fully account for the factors that impact MSMEs' use of platforms for trade in *foreign* markets, such as tariffs and *de minimis* levels in other countries. This study also does not measure whether a country's domestic digital regulations interoperate well with those of its key trading partners, so that the country's MSMEs could apply the same consumer protection laws, data privacy laws, and copyright laws when serving foreign customers as they apply at home. This lack of interoperability in digital regulations in Europe has been found to significantly impede intra-EU ecommerce and is shown in Nextrade surveys to concern MSMEs – but our analysis does not at this juncture capture this friction.
- **No theoretical or econometric model.** One critical challenge in the process of developing the policy index for ecommerce is the lack of a theoretical framework on the success drivers for ecommerce. In other words, there is no model that would tell which exact components make for an optimal enabling policy environment for MSMEs to use platforms for trade. For example, while there are studies on the factors that are critical for ecommerce (such as fluid online payments, logistics, and hospitable regulations), it is not clear what the binding constraints to ecommerce are in any one economy, or what the optimal sequence for addressing the various constraints is.

Survey data do suggest that logistics, digital regulations, and finance are key impediments to ecommerce in most countries, but also that the relevance of these barriers and other issues, such as online payments quality or connectivity, varies widely across countries and across firm segments.¹ Similarly, ecommerce platforms have informed views on what tends to work to stimulate ecommerce. The main limitation to *modeling* the drivers of ecommerce to date has been the lack of consistent data on ecommerce. The statistical analyses performed in this study with actual data on ecommerce are a pioneering step in the right direction. However, still more work needs to be done, including with time series data and data with control variables, to establish more firmly which policies are particularly critical for ecommerce.

¹ Suominen, Kati. 2017. "Ecommerce Development Index." Report for the USAID (April)
https://pdf.usaid.gov/pdf_docs/PA00MP8T.pdf