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KPI

Measuring
Technology Adoption
in Thailand

ICT Development Index (IDI) by ITU

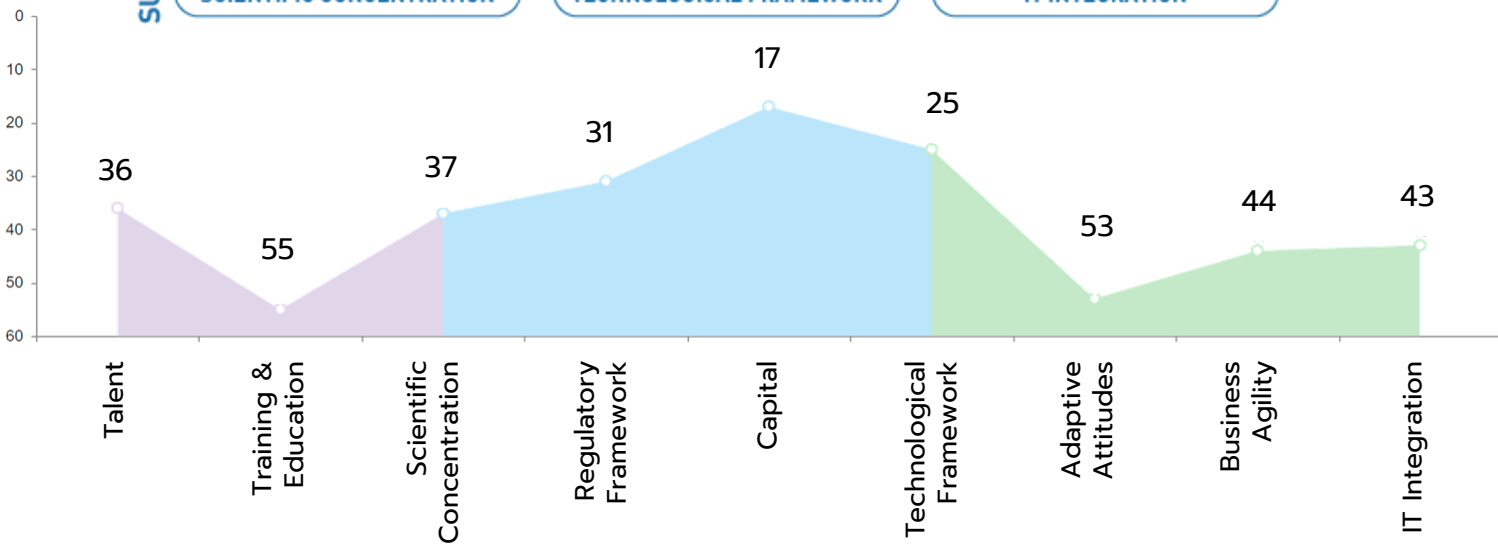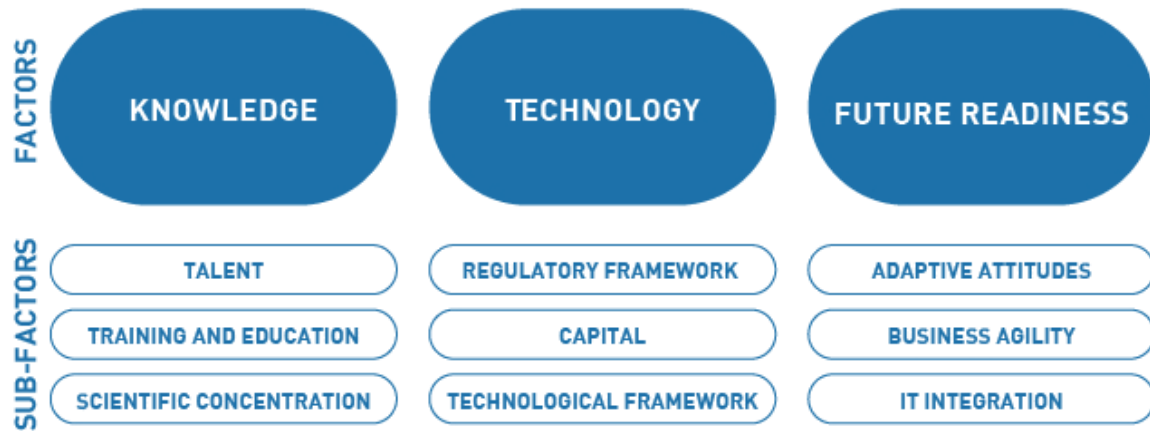| Proposed IDI 2020	Weights (indicators)	Weights (sub indices)
ICT access		**0.40**
1. Fixed-telephone subscriptions per 100 inhabitants	0.20	
2. Mobile-cellular telephone subscriptions per 100 inhabitants	0.20	
3. International Internet bandwidth per Internet user	0.20	
4. Percentage of households with a computer	0.20	
5. Percentage of households with Internet access	0.20	
ICT use		**0.40**
6. Percentage of individuals using the Internet	0.33	
7. Fixed-broadband Internet subscriptions per 100 inhabitants	0.33	
8. Active mobile-broadband subscriptions per 100 inhabitants	0.33	
ICT skills		**0.20**
9. Mean years of schooling	0.33	
10. Secondary gross enrolment ratio	0.33	
11. Tertiary gross enrolment ratio	0.33	
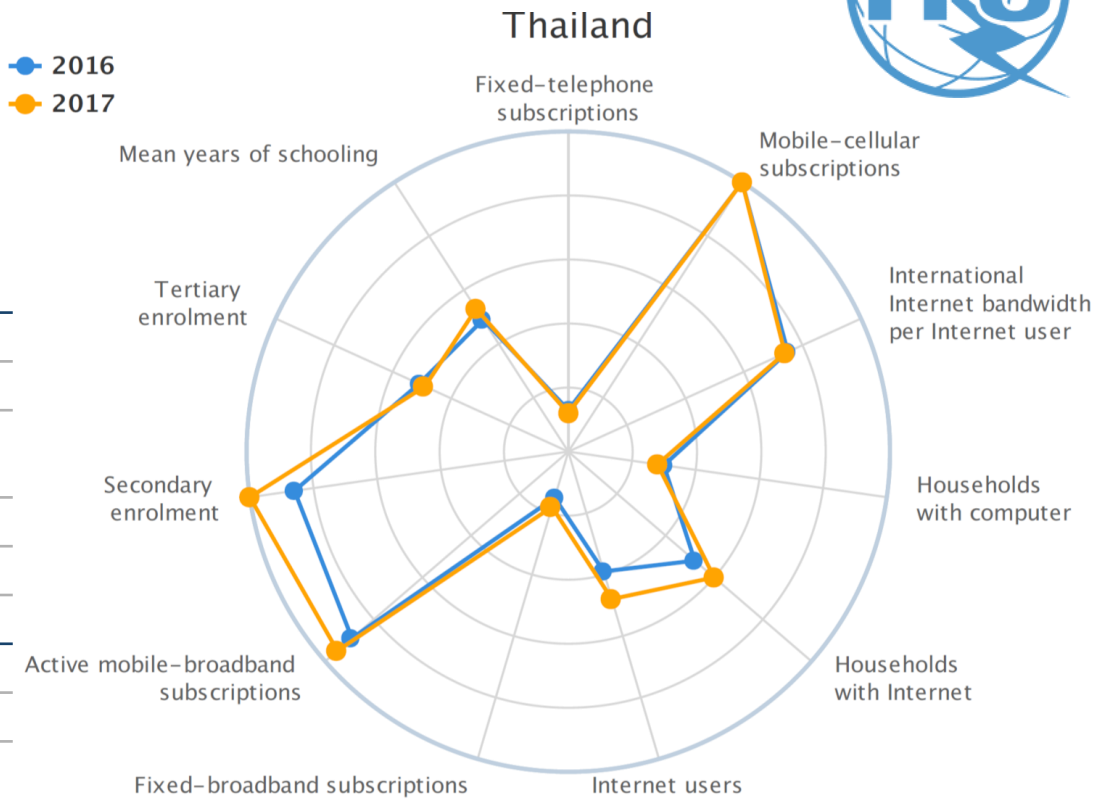
IDI Ranking

78th of 176

79th

2016

2017

Source: The International Telecommunication Union (ITU)

Digital Competitiveness Ranking by IMD

DIGITAL COMPETITIVENESS FACTORS AND SUB-FACTORS

FACTORS

KNOWLEDGE	TECHNOLOGY	FUTURE READINESS

SUB-FACTORS

TALENT	REGULATORY FRAMEWORK	ADAPTIVE ATTITUDES
TRAINING AND EDUCATION	CAPITAL	BUSINESS AGILITY
SCIENTIFIC CONCENTRATION	TECHNOLOGICAL FRAMEWORK	IT INTEGRATION

Knowledge 43rd

Technology 22nd

Future Readiness 45th

Digital Competitiveness Ranking

39th of 64

40th

2019

2020

Chart values:
- Talent: 36
- Training & Education: 55
- Scientific Concentration: 37
- Regulatory Framework: 31
- Capital: 17
- Technological Framework: 25
- Adaptive Attitudes: 53
- Business Agility: 44
- IT Integration: 43

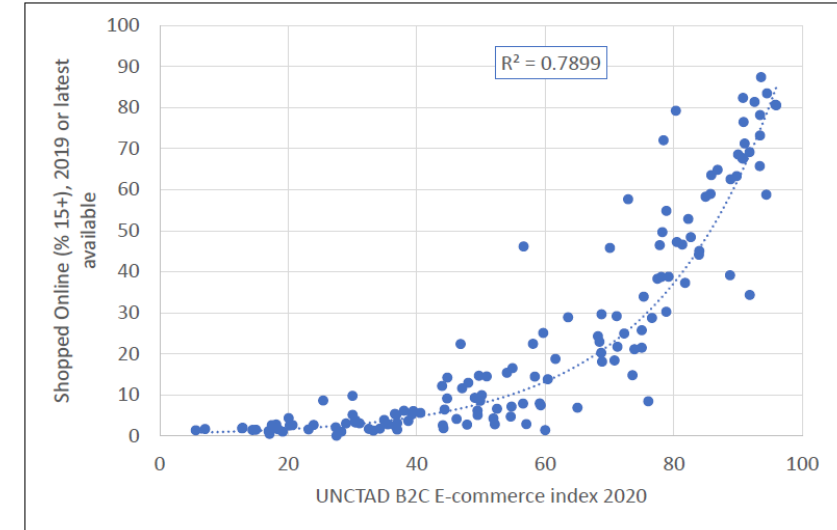Source: Institute for Management Development (IMD)

B2C E-Commerce Index by UNCTAD

Online Shopping vs E-Commerce Index

Key Developing Economies

2020 Rank	Economy	Share of Individuals using Internet	Share of Individuals with an account	Secure Internet servers	UPU postal reliability score	2020 Index (Value)	2019 Rank
4	Singapore	89	98	94	97	94.4	3
10	China, Hong Kong	92	95	88	92	91.8	14
18	Korea	96	85	68	100	89.8	19
30	Malaysia	84	85	71	85	81.3	31
37	United Arab Emirates	99	88	61	64	78.2	28
42	Thailand	67	82	59	97	76.0	48
44	Iran	70	94	57	79	72.3	45

R² = 0.7899

Shopped Online (% 15+), 2019 or latest available

UNCTAD B2C E-commerce index 2020
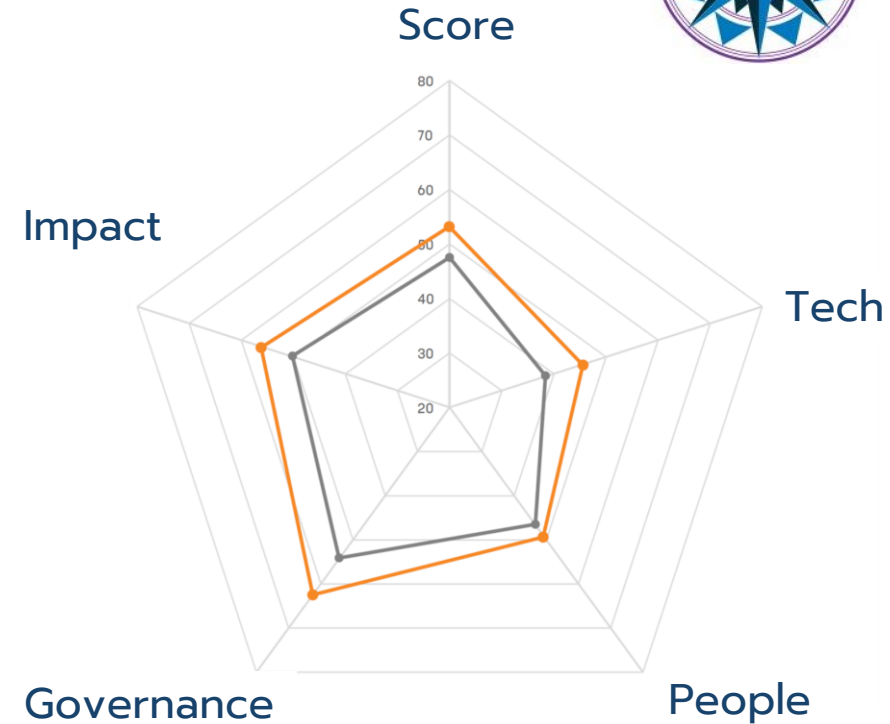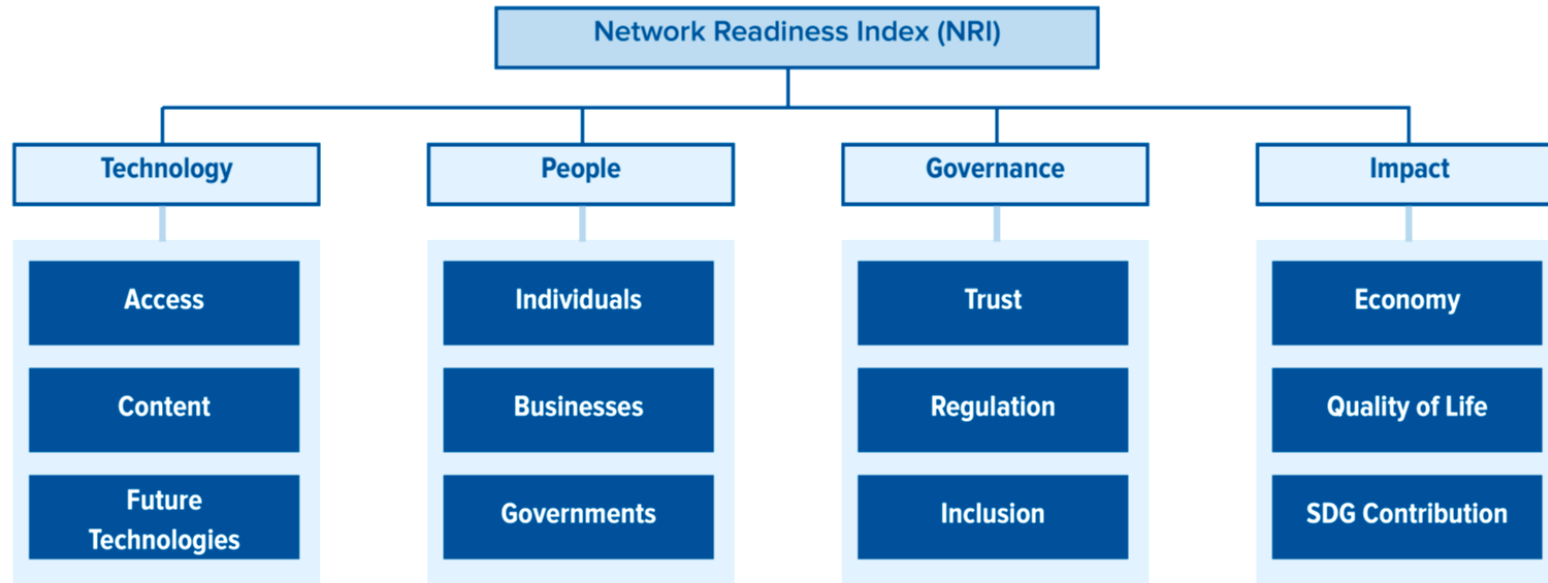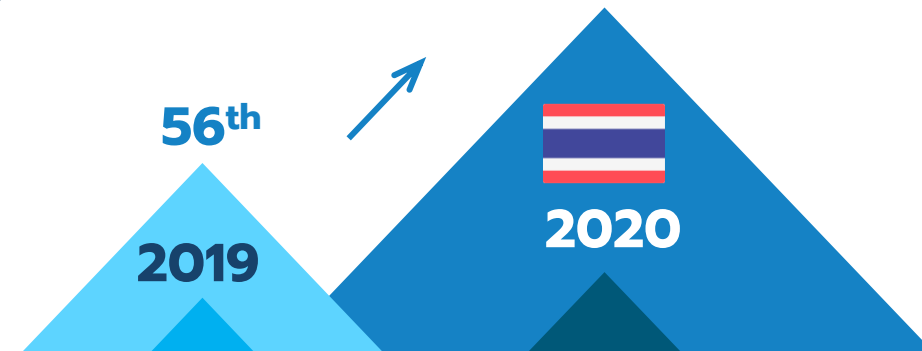
B2C E-Commerce Index

42nd of 152

48th

2019

2020

Source: United Nations Conference on Trade and Development (UNCTAD)

Network Readiness Index (NRI) by Portulans Institute

Network Readiness Index (NRI)

Technology	People	Governance	Impact
Access	Individuals	Trust	Economy
Content	Businesses	Regulation	Quality of Life
Future Technologies	Governments	Inclusion	SDG Contribution

Technology **51st**

People **61st**

Governance **47th**

Impact **51st**

Radar chart axes: Score, Tech, People, Governance, Impact

Network Readiness Index

51st of 134
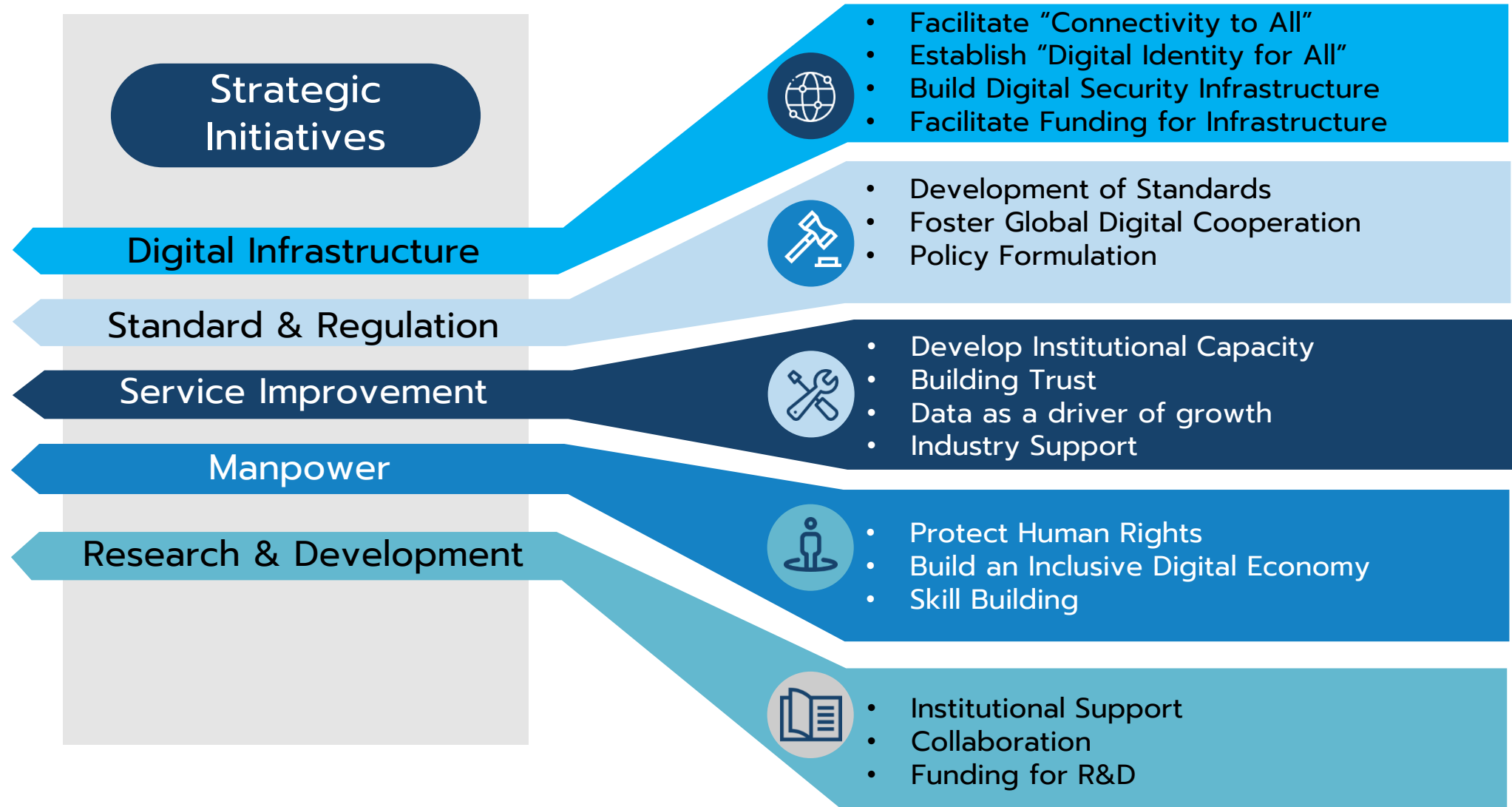
56th — 2019

2020

Recommendations

to Drive Technology
Adoption Level
in Thailand

Key Recommendations for Thailand to Drive Technology Adoption

Key Recommendations for Thailand to Drive Technology Adoption

Strategic Initiatives

- Digital Infrastructure
- Standard & Regulation
- Service Improvement
- Manpower
- Research & Development

- Facilitate "Connectivity to All"
- Establish "Digital Identity for All"
- Build Digital Security Infrastructure
- Facilitate Funding for Infrastructure

- Development of Standards
- Foster Global Digital Cooperation
- Policy Formulation

- Develop Institutional Capacity
- Building Trust
- Data as a driver of growth
- Industry Support

- Protect Human Rights
- Build an Inclusive Digital Economy
- Skill Building

- Institutional Support
- Collaboration
- Funding for R&D

Digital Infrastructure - Facilitate 'Connectivity to All'

Develop a **National Broadband Strategy** to increase the network reach, especially in rural areas of Thailand

Constitute **funding schemes** to provide affordable connectivity for poor

Reduce regulatory bottlenecks for quick nationwide rollout of 5G services

Consider implementing '**tax free connectivity**' for 5 years

Digital Infrastructure - Establish 'Digital Identity for All'

Create a **good digital identity to all citizens** preferably using biometric technologies

Provide the required **legal backing** for digital identity

Promote common **digital identity standards**

Adopt a **collaborative approach** for widespread adoption of digital identify by involving banks, telcos, IT firms, government & industry bodies

Digital Infrastructure - Build 'Digital Security Infrastructure'

Establish a **specialized government agency to identify cyber threats**, provide technical cyber security advice and guidance, and builds partnerships with critical infrastructure, industry and government

Build **understanding of cyber security risk** at leadership level

Address confusion and fragmentation in regulatory framework on cyber thefts and attacks

Develop **global cooperation and partnerships** for fight against cybercrimes

Develop and implement a **Digital Safety Act** to ensure better protections for all citizens from cybercrime

Encourage **technical innovation and R&D** to combat security threats

Create a **framework for Intelligence sharing** between emergency response teams, law enforcement agencies and other relevant departments

Digital Infrastructure - Facilitate 'Funding for Infrastructure'

Set up an '**universal access fund**' to support Thailand's digital infrastructure

Explore **Data Monetization** through collaboration

Consider setting up a "**Technology Bank**" to provide loans for digital projects

Standard & Regulation - Development of Standards

Always give priority and importance for **Open Standards**

Try to adopt the most widely accepted **international standards**

Involve the local ICT Industry in developing and setting up **digital standards**

Standard & Regulation - Foster Global Digital Cooperation

Aim for equitable outcomes; while digital cooperation should support the global public interest, it should be clear around how it can benefit Thailand

Create shared **understanding and purpose across bodies** on different policy areas related to global cooperation

Standard & Regulation - Policy Formulation

Recognising the political and socio-economic need for ubiquitous broadband, formulate policies to **facilitate nationwide broadband** using a mix of cable/fibre, wireless, satellite and other technologies

Develop a detailed plan for effective **spectrum allocation and management**

Establish clarity in **roles & responsibility for all stakeholders** (multiple government agencies, private sector, international organizations and academia) in digital industry

Adopting or revising **national broadband plans**

Set up "**Policy labs**" (protected spaces within government) with an explicit mandate to experiment with new methods of policy development by using agile principles

Make **sustainable digitalisation** an overarching goal for the government

Try **crowdsourcing for policy-making** to enable a more inclusive and participatory rule-making process

Adopt a "**Tech-neutral**" approach to prevent lock into specific technologies
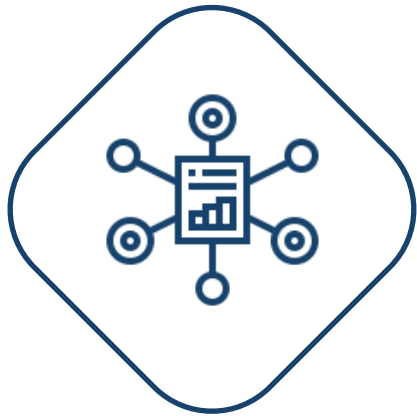
Service Improvement - Develop Institutional Capacity

Provide an **institutional framework for sustaining and developing any important initiates** of government. These institutions should be empowered to set strategy and drive implementation

Service Improvement - Building Trust

Development of a common and consistent **risk-based framework** which clearly defines accountability and can be easily enforced

Private-public cooperation to develop shared strategies for industry transformation

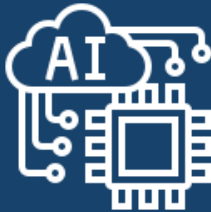Invest in national level **digital awareness program**

Help policymakers identify and understand objective **privacy risks** to individuals, business and nation

Service Improvement - Data as a driver of growth

Facilitating access to in-demand and useful **public data**

Push government & industry to **adopt Artificial Intelligence** wherever possible for decision making

Create a platform for **data exchange** and support innovations & experimentations in **Blockchain**

Service Improvement - Industry Support

Create a forum to address **conflict resolution & crisis management** in digital industry

Create a **digital business** to support the growth of Fintech sector & drive Fintech adoption

Provide a digital lift for Thailand's SME with access to **platforms & tools for R&D** as well as **Regulatory supports**

Manpower - Protect Human Rights

Create a **legal framework for permitting location-based services** such as mapping or advertising that are potential sources of security and privacy risks

Create a policy to **regulate Internet services** and prevent removing, blocking, filtering content, or deactivate individual user accounts

Manpower - Build an Inclusive Digital Economy

Facilitate the growth of relevant digital **content in local language**

Provide cheap and ubiquitous **Internet access to all citizens**

Monitor and track the **quality of access/speed at all locations** and take effective corrective steps

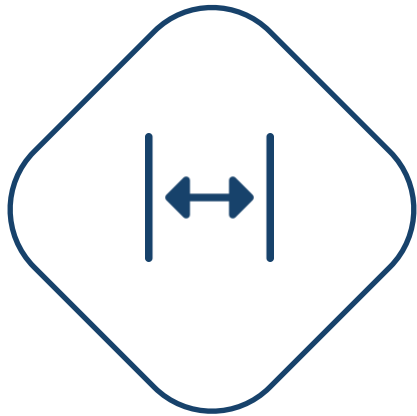Include **digital literacy in academics** at school level

Initiate **training programs** to get elderly population to enter the digital bandwagon

Take effective policy decision to **reduce the rural-urban divide**

Manpower - Skill Building

Conduct a study to **identify the extent of digital skill gap** in Thailand for various emerging technologies

Facilitate **training programs** in partnership with industry and academia

Establish a **Cybersecurity Research Centre** is helping government upskill the cybersecurity skills of technology students

Enhance the availability of **data analytics professionals** to tap into the global demand for these skills

Research & Development - Institutional Support

Create a competent **institution to defend intellectual property** and prevent ICT-enabled theft of intellectual property

Facilitate **Regulatory sandboxes** to support innovation. These are safe spaces for companies to test innovative products, services and business models without needing to overcome the normal regulatory and financial hurdles

Research & Development - Collaboration and Funding for R&D

Collaboration

Promoting **collaboration between regulators and innovators**; helps innovators to address legislative obstacles by shortening the time between the idea stage and bringing the innovation to market

Funding for R&D

Start up separate **funds to promote innovations**

Recommendations to Enterprises for Digital Transformation

Recommendations to Enterprises for Digital Transformation

DIGITAL Enterprise

3

Scaling up

- Build capabilities
- Adopt a new agile operating model

1

Digital Transformation Planning

- Secure senior management commitment
- Aligning the Digital Goals an Enterprise with its strategic goals
- Secure investment

2

Launch & Acceleration

- Appoint a high-calibre core team
- Prioritisation of Projects
- Reorganise to Support digital transformation
- Nurture a digital culture

Roles of Thailand

in International Forums
for Driving Digital Adoption
to Reshape
e-Transactions
in Thailand

Why participating in International Forums?

To create new opportunities for businesses across the globe which are essential for the growth of the digital economy by enhancing **Digital Cooperation**
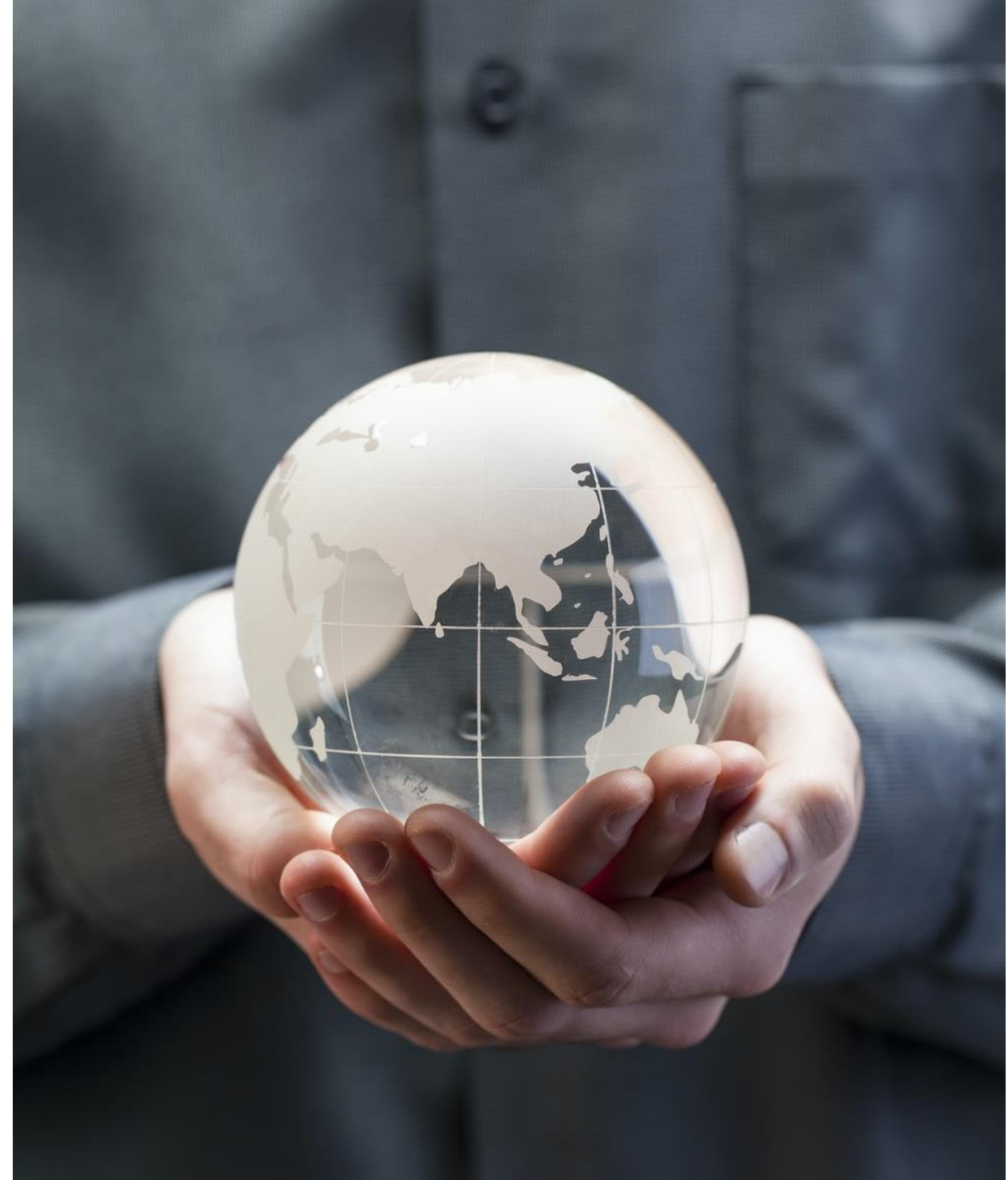
Standardization for Digital Cooperation to Support Technology Adoption

Enhancing digital cooperation encompasses both **reinvigorating existing multilateral partnerships** and creation of **new mechanisms that involve stakeholders** from business, academia, civil society and technical organizations.

Conscious efforts are being made by **international standard-setting organisations to facilitate the participation of all stakeholders** as well as **drive digital adoption**

Next Steps for Thailand in International Forums

Participate in as many forums as possible

Engaging with multilateral bodies and inter-governmental dialogues on digital trade and engagements. Thailand should make attempt to harmonise the standards on a regional basis.

Develop Internal Expertise on Standards

Having enough resources & technical skills to participate and influence in all stages of international standard development process as well as upskilling the concerned team.

Involve Local Industry for Standard Setting

Standardization activities at technical level have to be facilitated with the support of local industry. These firms can also support in carrying out background research and analytical work.

Key Areas of Discussion for
Digital Cooperation at International Forums (1/5)

Non-Discriminatory Treatment of Digital Products

Defining digital products/services to be included for import/export permit

e-Transactions Legal Framework

Avoid unnecessary regulatory burden; Consistency with the principles of the UNCITRAL Model/UN conventions

Cryptography

Technical regulation/conformity assessment procedure; Access to technology; Use of particular cryptographic algorithm

Customs Duties

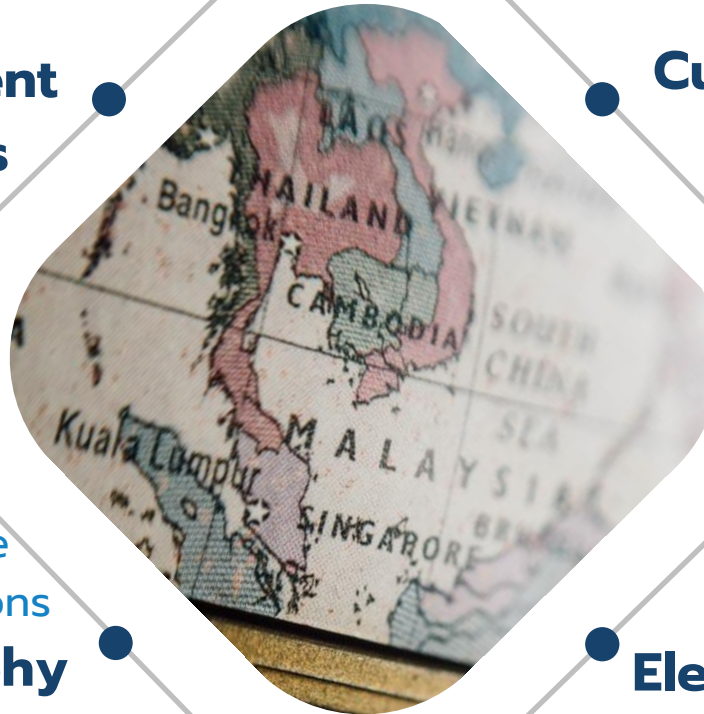Extent of custom duty for digital products/services; Fees or charges on content transmitted electronically
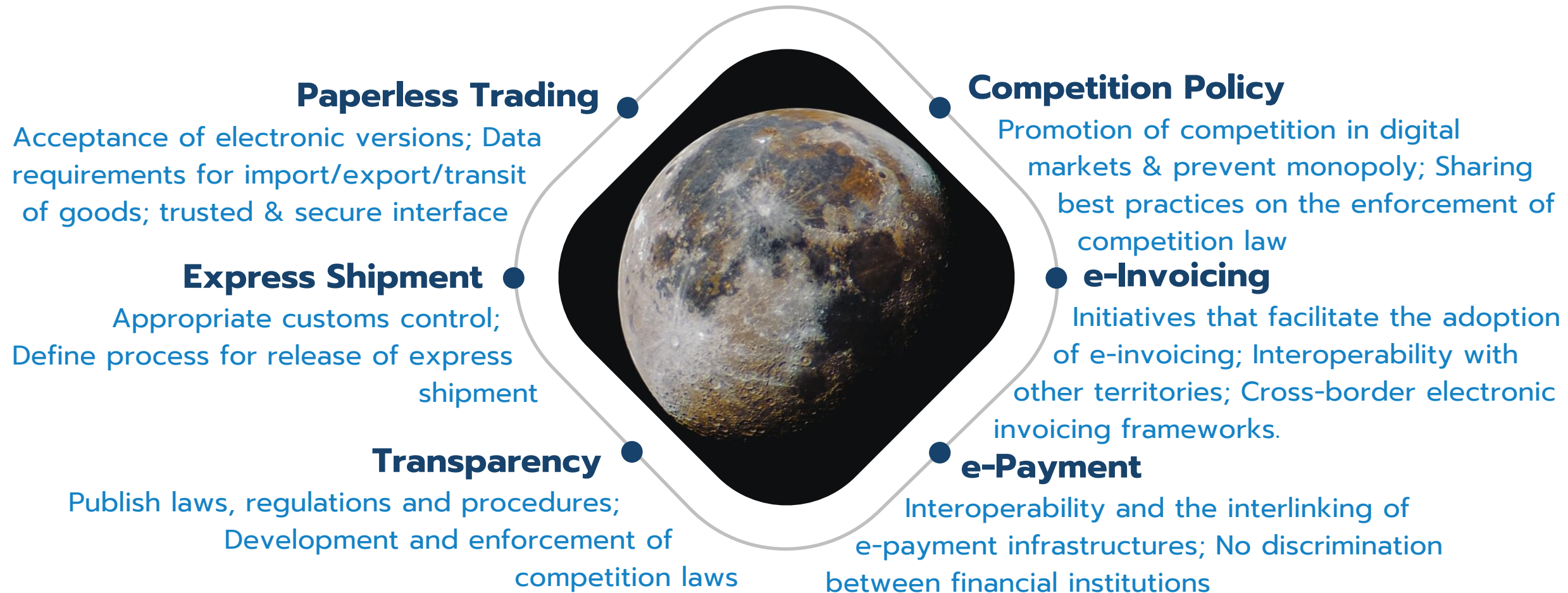
Online Consumer Protection

Consumer protection laws; Process of handling disputes regarding e-transactions; Cooperation between consumer protection agencies

Electronic Authen & Signatures

Measures for electronic authentication; Interoperability of electronic authentication; Legal validity of electronic signature

Key Areas of Discussion for
Digital Cooperation at International Forums (2/5)

Paperless Trading

Acceptance of electronic versions; Data requirements for import/export/transit of goods; trusted & secure interface

Express Shipment

Appropriate customs control; Define process for release of express shipment

Transparency

Publish laws, regulations and procedures; Development and enforcement of competition laws

Competition Policy

Promotion of competition in digital markets & prevent monopoly; Sharing best practices on the enforcement of competition law

e-Invoicing

Initiatives that facilitate the adoption of e-invoicing; Interoperability with other territories; Cross-border electronic invoicing frameworks.

e-Payment

Interoperability and the interlinking of e-payment infrastructures; No discrimination between financial institutions

Key Areas of Discussion for
Digital Cooperation at International Forums (3/5)

Online Safety
Preventative measures to protect citizens; Laws & regulations to maintain an open, free and secure Internet

Cross-Border Transfer of Information
Restriction of cross-border transfer of information

FinTech and RegTech Cooperation
Streamlined licensing processes; Development of standards for open banking

Use of Internet for e-Commerce
Access to information and network management practices; Regulations on blocking content or sites

Protection of Personal Data
Policies and procedures related to protection of personal information; Non-discriminatory practices in protecting personal

Unsolicited Commercial Electronic Messages
Laws and regulations on commercial electronic messages; Share recourse against a supplier

Key Areas of Discussion for Digital Cooperation at International Forums (4/5)

Data Innovation

Use of regulatory sandboxes; Sharing research and industry practices related to data innovation

Data Residency

Process to ensure security and confidentiality of communications; Scope of restrictions of data residency

Source Code

Safeguards against unauthorized disclosure; Implementation of terms &conditions related to the provision of source code in commercially negotiated contracts; Modification of source code if necessary

Interconnection Charges

Ability to negotiate with providers of the other parties on a commercial basis

Submarine Cable Systems

License, permission and applicable fee for installation and maintenance of submarine cable systems; Transparency on the processes

Open Government Data

Extend of sharing and use of government information and data; Formats and API that that allows search/retrieve; Data usage policies and distribution rights

Key Areas of Discussion for
Digital Cooperation at International Forums (5/5)

Artificial Intelligence

Sharing research and industry practices related to AI; Developing ethical governance frameworks for AI

Cybersecurity

Roles & authority of government agencies for security incident response; Mitigation of malicious intrusions

Stakeholder Engagement

Collaboration efforts and in initiatives between regions, Broad framework for engagement at bilateral and multilateral levels

Digital Identity

Mutual recognition on compatibility between respective digital identity regimes; Appropriate frameworks and common standards

Standards for Digital Trade

Development and adoption of standards that support digital trade; Support cross-border research projects on testing and development of technology standards

Digital Cooperation

Exchange information and share experiences on regulations and policies; Exchange financial intelligence and share capabilities to counter terrorism financing, money laundering and other transnational organized crimes

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Thank You

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Preparing clients to a future shaped by growth