



**Asia-Pacific
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Digitization, IT-Enabled Services and New Business Models: An Overview

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Digitization, IT-Enabled Services and New Business Models: An Overview

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Overview

1. Growing the digital economy and digital trade
2. Dialogue Discussions: Issues
3. Data sovereignty, data protection and digital trade
4. FTAs, RTAs and digital trade

1. Growing the digital economy and digital trade

MARKETPLACES & PLATFORMS TRANSFORMING COMMERCE & GROWTH

Consumer Access

- Full Stack of Services
- Market Intelligence
- Consumer Protection
- Education and Training



Businesses Reach

- Digital Marketing
- Expanded Market Reach
- Network Multiplier Effects
- Enhanced Credibility



ASEAN's POTENTIAL ECONOMIC IMPACT

250 MILLION
newly included individuals

GDP Growth:
\$2.6Tr (2016) → \$3.5Tr (2020: BAU) → \$6.1Tr (2020) → \$7.8Tr (2025)

\$11 BILLION
annual reduction in govt leakage

95 MILLION
new jobs

E-Commerce Growth:
\$15.5B (2016) → \$90B (2025: BAU) → \$381B (2025: Pot)

1.5x HIGHER
Total factor productivity

Digital economy fueled by cross-border data flows

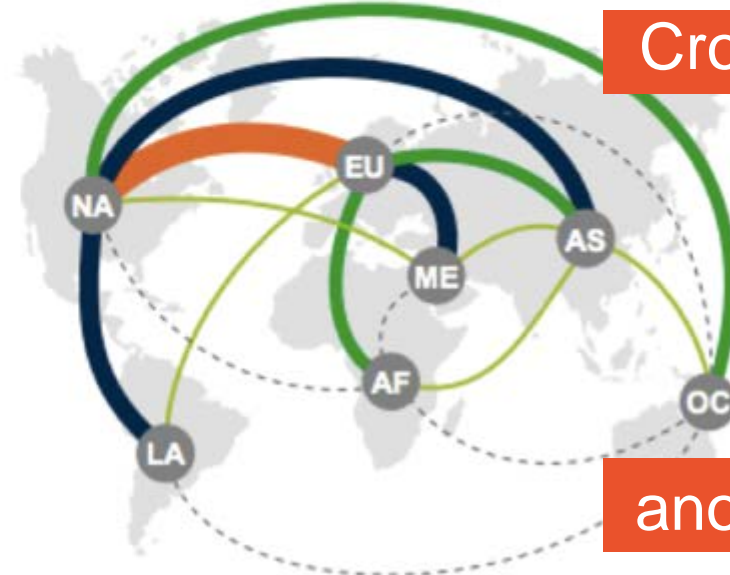
Regions	NA United States and Canada	EU Europe	AS Asia	LA Latin America	ME Middle East	AF Africa	OC Oceania
Bandwidth Gigabits per second (Gbps)	----- <50	----- 50–100	----- 100–500	----- 500–1,000	----- 1,000–5,000	----- 5,000–20,000	----- >20,000

2005
100% = 4.7 Terabits per second (Tbps)



2014
100% = 211.3 Tbps

45x larger



Cross-border USED bandwidth
has grown **45 times**
from 2005 to 2014
and is predicted to grow
another **9 times** larger by 2021



Japan

- Boost real GDP by JPY33.1 trillion in 2020 (USD291 billion)

Vietnam

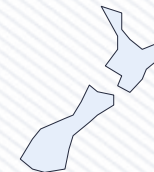
- Create an additional 146,000 jobs by 2020
- B2C sales expected to reach USD10 billion by 2020
- Mobile Internet to contribute USD5.1 billion by 2020

Philippines

- GDP increased by 150% from 2006 to 2016
- Similar growth rate up to 2019

Indonesia

- Create an additional 3.7 million jobs by 2025
- 80% higher growth in revenue for SMEs
- Additional 2% per annum in GDP growth



What we talk about when we talk about digital trade

- Digital platforms **change the economics of doing business** across borders, bringing down the cost of international interactions and transactions
- They **create markets and user communities with global scale**, providing businesses with a huge base of potential customers and effective ways to reach them
- Small businesses become “micro-multinationals” *and* by using digital platforms such as eBay, Amazon, Facebook or Alibaba to connect with customers and suppliers in other countries ...
- ... *and* the ability of small businesses to reach new markets, this **supports economic growth everywhere**

But more than this, individuals participate in globalization directly, using digital platforms to learn, find work, showcase their talent, and build personal networks.

“ More than 1.3 billion people have international connections on social media, and more than 450 million take part in cross-border e-commerce. Data flows now account for a larger share of GDP growth than global trade in goods.”

2. Dialogue Discussions

Issues Discussed and Debated

- Investment into Infrastructure and Innovation (start-ups)
- Network Management
- Markets and Business Models
- Competition and Consumer Protection
- Data Protection and Security
- Data Localization

Increase in content *consumption*....

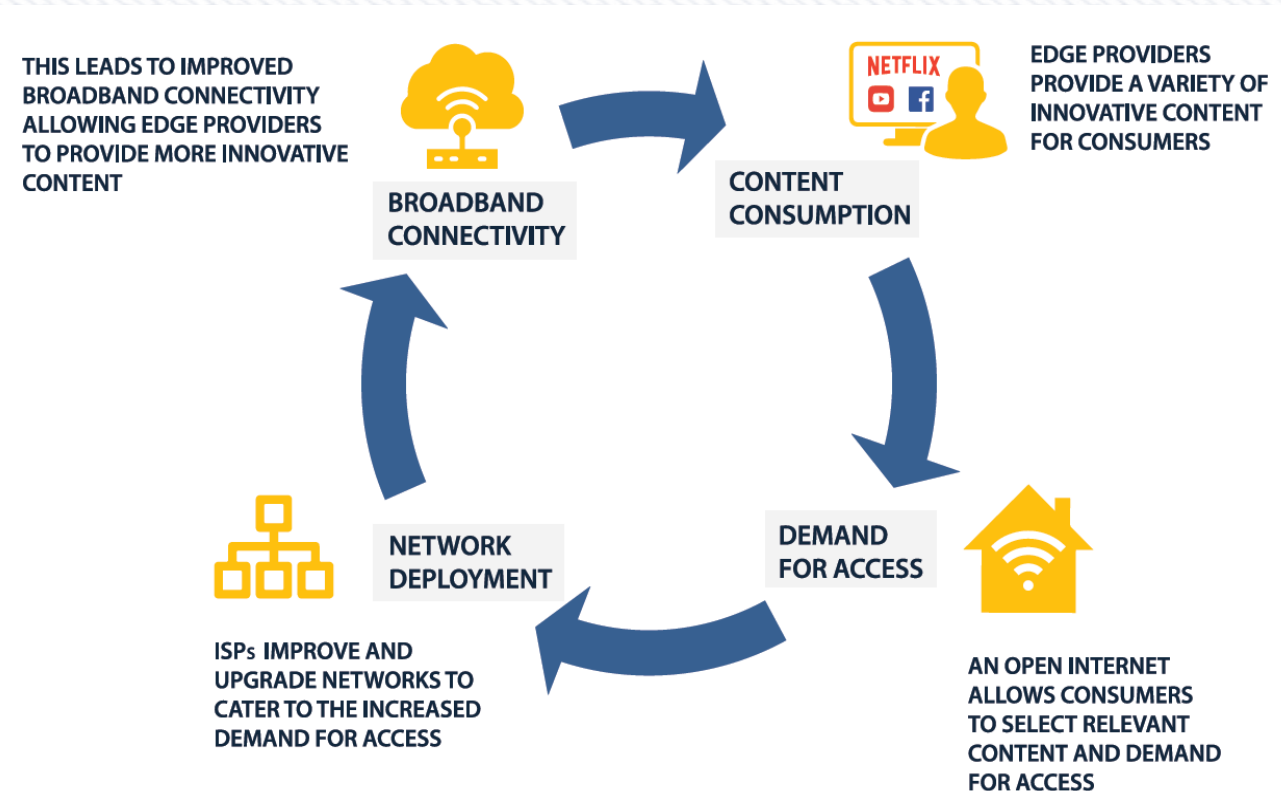
Investment into Infrastructure:

- Consumption of digital services results in greater traffic, resulting in needing more infrastructure investment and thus developing greater Internet connectivity

Investment into Start-Ups:

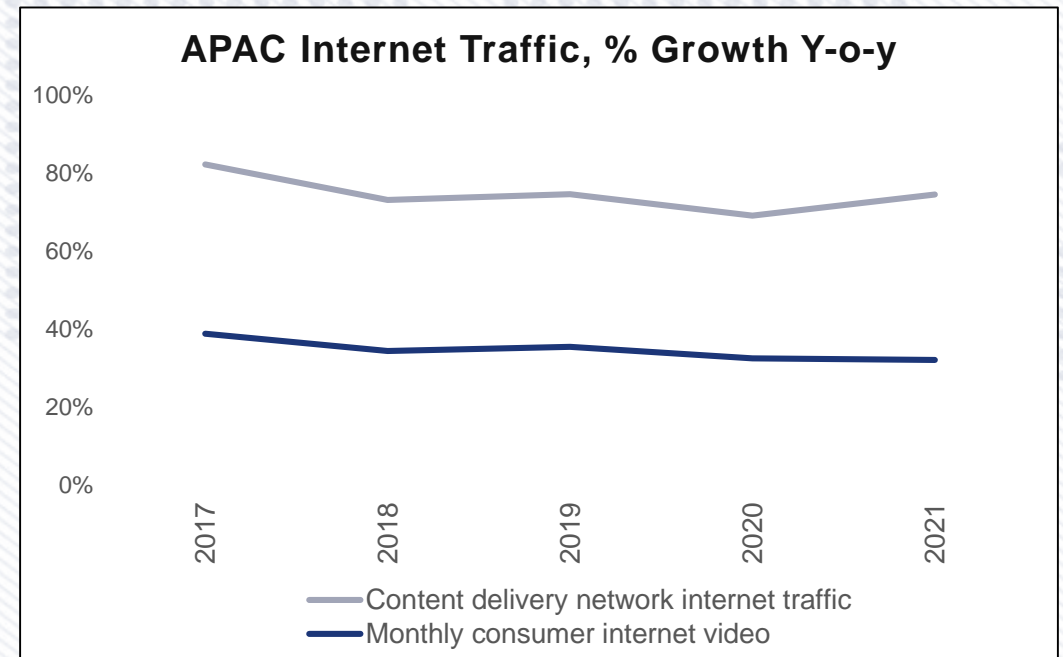
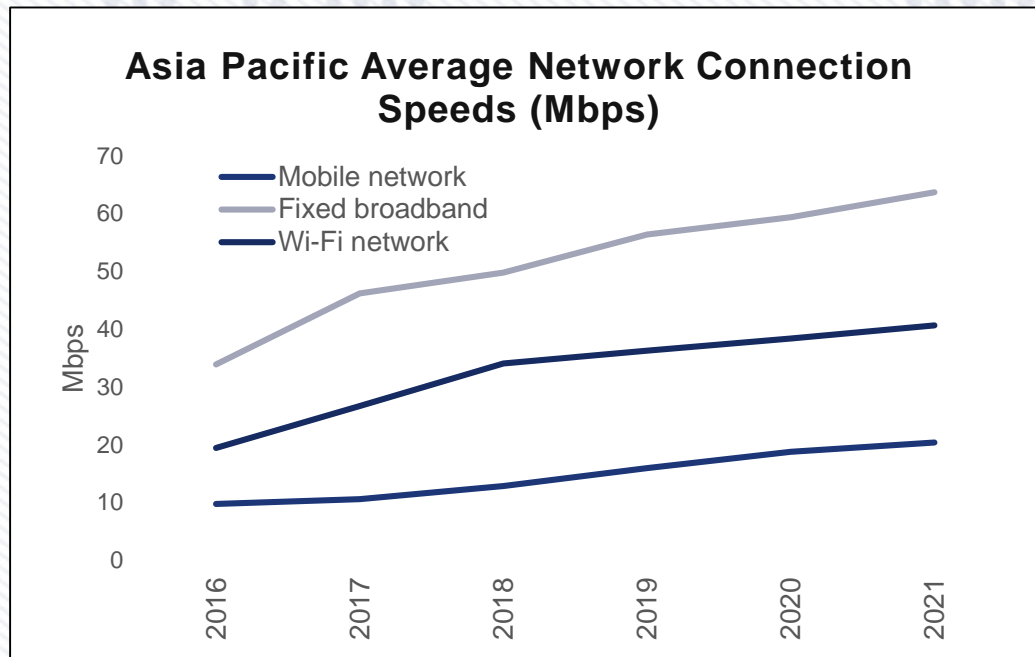
- Offers governments opportunities to promote particular development priorities:
 - Sectoral growth incl. AI, ecommerce
 - Promotion of MSMEs
 - Attracting FDI

Virtuous Cycle



... has led to significantly increased infra investment ...

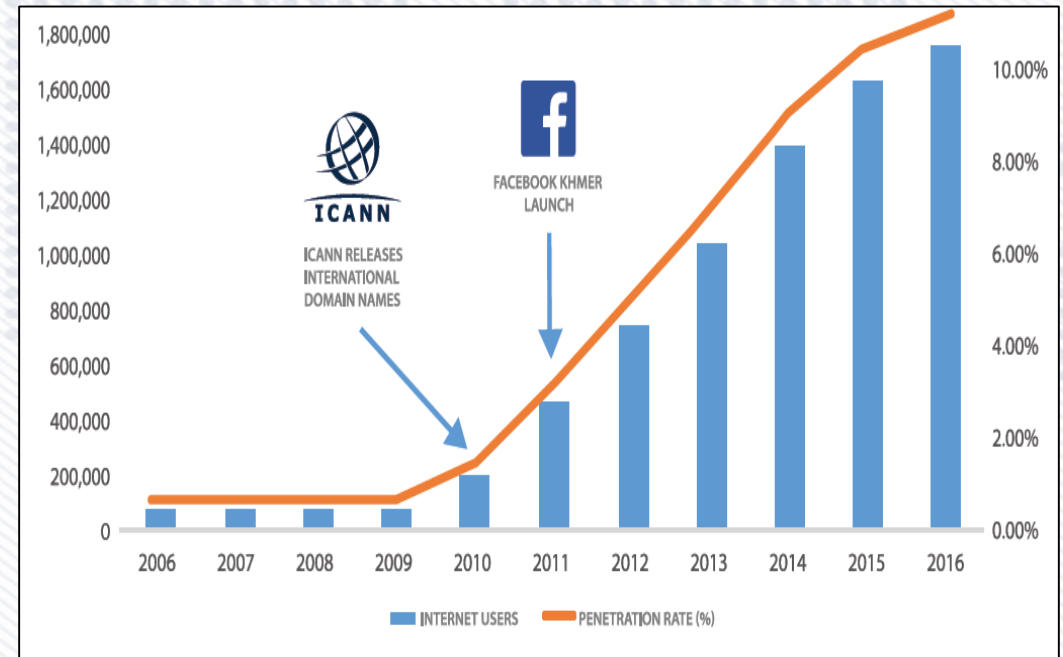
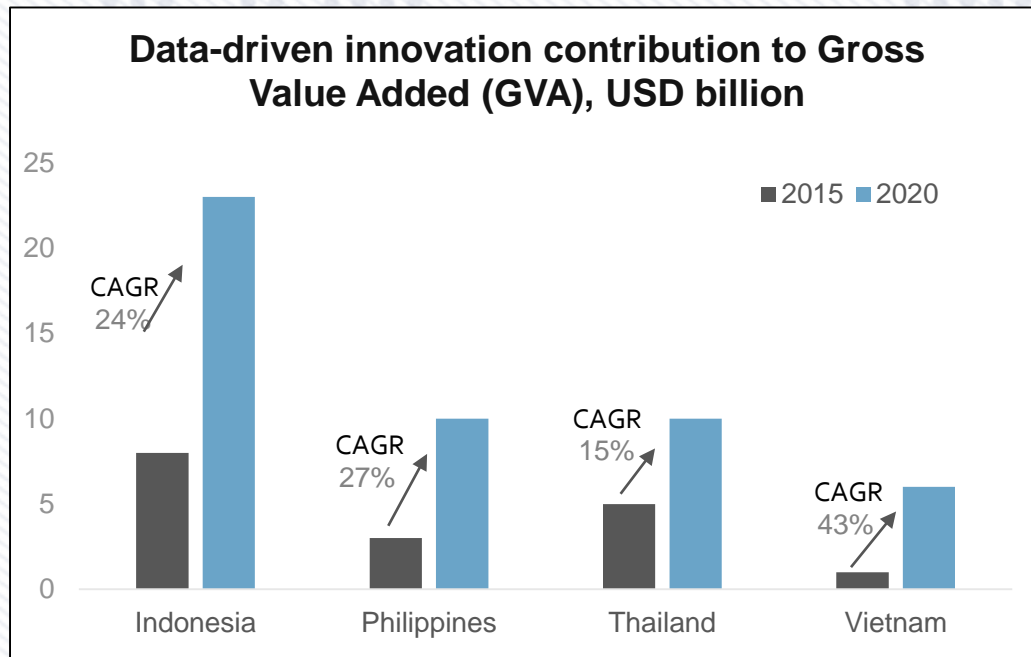
- Policies promoting a virtuous cycle of growth increased broadband providers' investment by **USD212 billion** between 2011 and 2013
- More than any three-year period this century...
... In the last 3 years that doubled
- By 2014, OTT providers had invested **more than USD7.7 billion globally** in data centre networks, submarine cables, and domestic data transport and delivery services
- Cisco forecasts that **71% of all Internet traffic** will cross Content Distribution Networks (CDNs) by 2021, up from 52% in 2016



... leading to broad based economic growth ...

- Boosting the use of digital technologies, including social media and e-commerce, could **increase Indonesia's annual economic growth by 2%**, generate up to **80% higher growth in revenue for SMEs** and also make them **1.5 times more likely to increase employment.**

- Entertainment, social media, news and online games are the initial drivers of adoption
- Locally relevant content helps as seen in Cambodia's **rapid growth in penetration rate** after Facebook in Khmer was launched



... as well as social development and opportunities

One study found that a 10% increase in Rich Interaction Applications (RIA) usage added an average USD5.6 trillion in global GDP, far exceeding the economic benefits of basic telecom services, including:



- **E-commerce:** enables SME access to global markets



- **E-health:** extending healthcare services to the un- and under-served; reducing waiting times in congested urban areas; establishing the basis for transforming to home care from institutional care



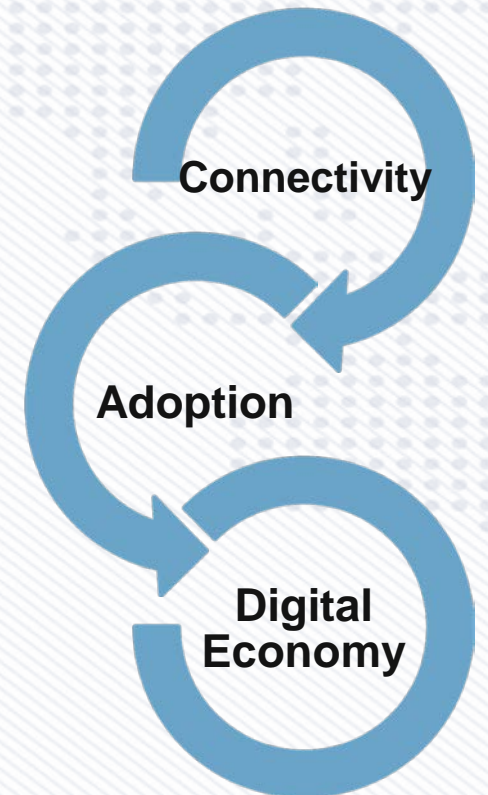
- **E-education:** enabling people, including those from marginalised groups, to access quality education; enabling the prospect of affordable life-long training and skills upgrading; enabling transformation of education to personalized, accelerated, learning



- **E-government:** increasing citizenship engagement; increasing government reach; increasing delivery of services (e.g. e-voting, e-filing); increasing flexibility and nimbleness of government



- **E-wallets and E-finance:** boosting financial inclusion by bringing formal financial services to areas unserved or underserved by physical banks



We've seen this innovation in e-health in Vietnam, e-commerce in Thailand, and e-government in Singapore



In Vietnam, PATH set up a web-based application that allows local medical staff to use smart phones to manage immunisation records and vaccine deliveries.

Within a year, it **reduced waiting times** from 1 week to 30 minutes, people vaccinated on schedule increased 14%, and newborns were registered 8.5 days after birth on average, rather after 5 weeks.



Communications platform Line has become a **key channel for e-commerce companies** to communicate with their Thai consumers.

Its Line@ platform allows SMEs to use a familiar interface to reach a wider audience by pushing content to subscribed users, for no fixed monthly usage fees.



Singapore government's online application system for integrated services, LicenceOne, reduced the average licence processing time from 21 to 12.5 days, and new business registration from 5 days to just 2 hours.

This resulted in estimated **savings of SGD11.4 million** in just its first year.

Network management and net neutrality principles create a robust and reliable digital infrastructure

Red Flags for Network Management

- Management techniques affecting **transit between networks**
- Tools involving **termination or blocking**
- **Unilateral** decision-making
- Tools are only applied to traffic **based on source/destination** or service provider



Net Neutrality in Chile

In 2010, Chile became the first country in the world to enact legislation safeguarding the principles of net neutrality and establishing transparency obligations for ISPs.

It has allowed entry of new operators into the market, thereby increasing competition and lowering costs.

Between 2009 and 2012, mobile connections increased from 600,000 to 5 million, fixed connections increased from 1.7 to 2.2 million, and user costs decreased up to 50%.



Singapore Guidelines and SGIX

In 2011, new guidelines allowed ISPs to sell speed-based plans as long as good service levels for average users are upheld.

In 2009, the Singapore Internet Exchange (SGIX) was established to strengthen Singapore's "infocomm hub" position, lower interconnectivity costs for local and international ISPs, improve network resiliency, and enhance consumers' online experience. It currently has 3 points-of-presence and 92 peering members.

Technology-neutral and flexible guidelines must be implemented to enable application regardless of changes in market and business models

Regulatory guidelines should be:

- **Technology-neutral:** accommodate new technologies
- **Flexible:** allow innovation and conducive environment for development
- Formed with **understanding** of services and markets
- Formed with **objective assessments** of social and economic impacts



Korea Communications Commission

The KCC will deregulate to allow local and international players to compete, and support businesses engaged in new technologies and new business models.

The KCC will push for the adoption of a “negative regulation” framework for Internet businesses, which explicitly blacklists certain items. This approach reduces regulatory risk and gives businesses more freedom to innovate.

Currently, items which are not white-listed in the “positive regulation” system are automatically banned.



EU REFIT

The EU approach explicitly recognises the unregulated and international nature of the Internet, and removes red tape and lowers costs without compromising policy objectives.

This is achieved through the Regulatory Fitness and Performance Programme (REFIT).

Policies are reviewed on a continuous basis to ensure that the regulations are fit for fast-changing industries.

Some of the biggest companies in the world today ...

... didn't exist 20 years ago



- Largest international **voice traffic** provider owns no network
 - Huge contributor to telco settlement fees in most countries
- Fastest growing **television** network lays no cables
 - Huge driver of 'triple-' and 'quad-play' subs services for local service providers
- Most watched **video-sharing** portal created no video content
 - Significant driver of mobile vdo consumption ... in *particular* in emerging economies
- Most popular **media** provider creates no content
 - Huge driver of mobile subs and social connectivity
- Most valuable retailer has no inventory
 - Created a platform that consumers almost never have to leave
 - E-commerce and telco investor
- World's largest **taxi company** owns no vehicles
- Most valuable **photo company** sells no cameras
- Largest **accommodation** provider owns no real estate

... and expand and access other markets



- VOD streaming service joint venture between Singtel, Sony Pictures, and Warner Entertainment



- Singapore developed live video streaming app with over 150 million subscribers and over 45 million monthly active users as of July 2017



- Vietnamese company, specializing in digital content and online entertainment, social networking, and e-commerce



- E-commerce platform with sites in HK, ID, MY, PH, SG, TH, VN, TW



- Ride-hailing service originating from Malaysia which has expanded to KH, ID, MM, PH, SG, TH, VN



- Indonesia-based photo-sharing app PicMix has an international user base of 27 million



- Manila-based FlySpaces aims to help SMEs with shared accommodation for office spaces

We've seen cross-sectoral enablement in Indonesia, innovative education services in Vietnam, and cross-border enablement across the region



Go-Jek began by providing low-cost on-demand motorcycle taxi rides in Indonesia to address gaps in public transport.

The platform now provides a multitude of other services that “share” under-used access to idle resources, including Go-Food, Go-Massage, Go-Glam, and most recently payment services through Go-Pay.



GiapSchool created to fulfil demand from students and young professionals in Vietnam for high quality local language MOOCs available on multiple platforms.

Founder, Dr Giap initially translated scientific and technical books from English to Vietnamese. GiapSchool has now signed up 100+ lecturers to provide online lectures in variety of subjects.



iflix is a subscription video on demand service that distributes Western and Asian dramas. Iflix has more than 6.5 million subscribers.

Iflix has partnerships with over 150 studios and content distributors globally.

It is currently available in 25 countries across Asia, Middle East, and Africa.

Competition concepts shifting in complex digital environments

Govts must address challenges of protecting and empowering consumers

in a complex and rapidly developing online environment

Online environment competition and consumer protection issues:

- Growing trend for *'free'* services in exchange for consumer data
- Market share extends across verticals
- *'Uneven playing field'* argument between traditional providers and digital service providers
- Dominance (not a problem in itself) to the detriment of consumers or unfair conduct

Issues to consider to promote competition:

On barriers of entry ...

- Do they prevent competition?
- Are they natural or induced?

On dominance ...

- Not a problem of itself

But it will become an issue if ...

- The providers abuse their position to the disadvantage of consumers

Need to rethink approach to regulation to enable innovation, promote competition and ensure consumer protection in changing environments

Regulators moving from risk management to enablement

Regulators should:

- Clearly **determine** if digital service requires regulation
 - The grounds and sector to justify the regulation
 - If current regulations deter new entrants or stifle innovation and competition
 - Relevancy of the regulation and its goals
- **Monitor** service providers' compliance by regular reporting
- Allow **collaboration** between telecom, broadcast regulators, cybersecurity agencies and police
- Have **no unnecessary restrictions** that may hinder innovation

Bahrain TRA

Bahrain's Telecommunications Regulatory Authority (TRA), in recognising that OTT service providers compete against traditional telco companies, recommended to continue to allow for competition of OTT service providers, as instituting a ban will limit innovation and hinder competition.

Businesses will evolve to adapt to consumer preferences, and will be challenged by new businesses that introduce innovation and hence competitive pressures in the market.



Regulatory sandboxes encourage experimentation, create dialogue between companies and regulators, and provide guidance on complying with requirements



PolicyPal, Singapore-based insurance-tech start-up, was the first graduate from the MAS sandbox.

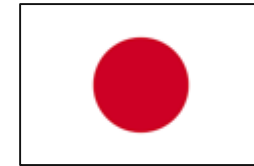
PolicyPal has now commenced operations as a registered direct insurance broker. It provides consumers with an alternative platform that utilises AI to simplify and digitise insurance.



MoneyMatch is currently experimenting in the BNM sandbox.

MoneyMatch is developing its own platform to provide cross-border remittances and money changing services by matching individual buyers and sellers of currencies.

This caters towards the SME market in Malaysia.



Govt of Japan looking to label three cities as regulatory sandboxes, applying the concept beyond fintech to technologies, such as automated vehicles and drones.

Allows safety issues to be worked out at the local level before innovations are adopted nationally.

.... *But:* Lack of alignment limits expansion and scale



Especially in data sensitive sectors such as FSI and healthcare

Fintech Sandboxes

	Australia Securities & Investment Commission	Hong Kong Monetary Authority	Bank Indonesia	Bank Negara Malaysia	Monetary Authority of Singapore	Bank of Thailand
Eligibility	Exemption limited to no more than 100 retail clients and less than AUD5m customer exposure	Only HKMA authorised institutions launching initiatives in HK Non-authorized institutions need partner	Fintech registration with BI	Financial institutions and fintechs (even without Malaysian presence) are eligible	Regulated financial institutions and unregulated firms are eligible	Pre-existing regulated entities go first (Q1 2017) Suitable fintechs afterward (Q2 2017)
Participants	4 current entities 1 player exited	28 products involving 9 banks tested 14 pilot trials completed and exited	N/A	6 current entities	3 current entities 1 player exited	4 current approved fintechs 8 players exited

Permitted Use of Cloud in FSI

AU	HK	IN	ID	MY	NZ	PH	SG	KR
Yes	Yes	Data localization requirements	Data localization requirements	Yes	Yes	Restricted	Yes	Restricted

3. Data sovereignty, data protection and digital trade

Cross-border data flow restrictions take several forms

Data sovereignty is the reach of a jurisdiction's laws,

and the relationship of those laws to the data which is subject to those laws.

Cross-border data flow restrictions
from least to most restrictive

Prior consent required before global transfers are allowed

Data can be transferred outside national borders, but a copy must be maintained domestically

Data cannot be transferred outside national borders
(data itself must be resident in-country)

Data center is required to be located within national borders

Govt data localization requirements almost inevitably undermine the stated objectives they are put in place to achieve



Data privacy

- Assumption that privacy is enhanced by defining where the data is
- Rather than focusing on defining the access to and the processing of data



Law enforcement access

- Assumption that law enforcement officials are ensured rapid access to locally-held data
- Rather than clarifying what data LEAs must have access to – no matter where it is located



National security / cybersecurity

- Assumption that data security is enhanced if data resides locally
- Rather than defining what enhances data security



Economic protectionism

- Protection of domestic businesses from foreign competition
- Levelling the playing field

Data localization policies throughout the region

India

- RBI requires all payment systems data to be stored in-country
- National Data Sharing and Accessibility Policy requires govt data to be stored in local data centers



Vietnam

- Draft cybersecurity law has a number of data residency requirements
- Decree 72 requires IT companies to establish at least one server in-country

Indonesia

- GR82 requires data centers that have information about public services and disaster recovery centers to be located in-country
- OJK requires banks and insurance companies to use data centers and disaster recovery centers in-country
- BI requires all domestic transactions to be processed through the national payment gateway

Data localization/residency requirements reduce, limit and harm



Reduce GDP growth

- Reduce India's GDP by 0.1-0.8%
- Reduce Indonesia's GDP by 0.5-0.7%
- Reduce Vietnam's GDP by 1.7%



Reduce investment

- Reduce investment into India by 1.4%
- Reduce investment into Indonesia by 2.3%
- Reduce investment into Vietnam by 3.1%



Increase cost of doing business

- Limits ability of business to access tools necessary to lower IT costs, innovate, and scale rapidly
- Cost for computing needs increased 30-60%



Data privacy



- Clarify personal data sensitivities and align with other privacy frameworks
- Participation in APEC CBPR
- CPTPP provides regional framework for integrating privacy, trade and CBDF



National security / cybersecurity



- Develop appropriate data classification scheme
- Define secure data requirements
- Promote public-private collaboration on security



Law enforcement access



- Participation in data access reform initiatives
- Negotiation of bi-lateral/multi-lateral data-sharing arrangements
- Reform of MLAT process



Digital economic growth



- Ensure fit-for-purpose regulation
- Revisit competition law framework
- Require digital transformation of govt and services (including cloud first programmes)

Security



Singapore

The “Singapore G-Cloud” comprises of three technology-based “assurance zones”: (1) public cloud, (2) computing resources shared with non-government entities, and (3) a pool of government-only physically dedicated computing resources (for the highest level of security).

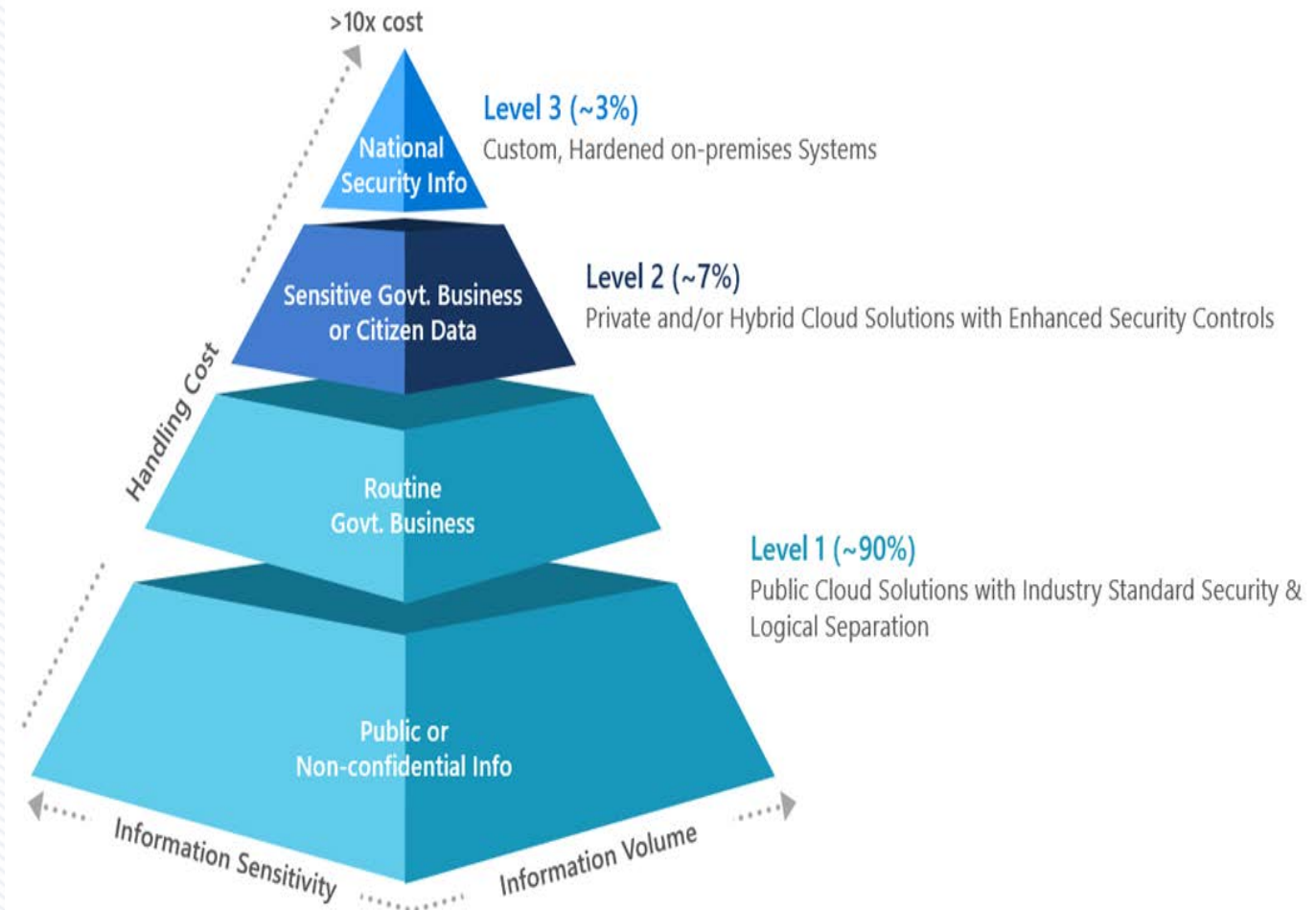
Singapore’s approach is instructive for APEC economies because it assumes cyberattacks will be launched and keeps its most highly classified data off the Internet.

Frameworks that address cybersecurity, govern the collection and use of data, and define responsibilities for data protection and privacy are necessary for the full value of data to be harnessed by the digital economy

Data Classification

- **Overprotecting** the massive volume of non-sensitive or less-sensitive data (in the lower bracket of the pyramid) can be a **staggering cost**
- Conservative calculations suggest at least a **10 times cost difference** between systems required for very sensitive information, and the commercial systems suitable for the less sensitive information that a government holds
- A key benefit of a robust data classification is thus the ability to better **align costs with security and ensure data controls**

The relationship between data sensitivity, data volumes and cost of security controls for data



Privacy



Japan

Japan's Personal Information Protection Act (PIPA) permits the transfer of personal information to third parties outside Japan, with adherence to any one of the following requirements:

- destination countries must have been deemed as possessing acceptable data protections;
- third party also take similar levels of protection that Japan upholds; or
- consent has been given.



Australia

The Australian Privacy Principles (APPs) set standards for handling, holding, use, access, disclosure, and correction of personal information.

Australia requires Australian entities disclosing personal information to offshore entities to “take such steps as are reasonable in the circumstances to ensure” that the offshore entity complies with the APPs.

The Australian entity is held accountable for non-compliance of the offshore entity.



APEC CBPR

APEC's Cross-border Privacy Enforcement Arrangement (CPEA) has created a framework for regional cooperation in the enforcement of Privacy Laws.

The APEC Cross-Border Privacy Rules (CBPR) allow for data flow accountability.

APEC economies currently part of CBPR include Canada, Japan, Mexico, United States and South Korea, with the Philippines and Singapore recently announcing participation. Australia plans to join soon.

4. FTAs, RTAs and Moving Forward

Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)

Comprehensive set of rules addressing digital trade and promotion of e-commerce



Requirements that support a single, global Internet, ensuring the free flow of data which is critical to e-commerce

- Article 14.11 states “Each Party shall allow the cross-border transfer of information by electronic means, including personal information, when this activity is for the conduct of the business of a covered person.”
- Article 14.13 states “No Party shall require a covered person to use or locate computing facilities in that Party’s territory as a condition for conducting business in that territory.”

CPTPP missed crucial opportunity and created uncertainty through discretionary exceptions

What is the e-commerce space without payments?

Financial sector carve-out

- Article 14.1 carves out financial institutions and cross-border financial service suppliers from the definition of e-commerce coverage

Govt data localization requirements almost inevitably undermine

the stated objectives they are put in place to achieve

Exceptions

- Parties are not prevented from adopting or maintaining measures inconsistent with agreement to achieve a legitimate public policy objective

Viet Nam Draft Cybersecurity Law

Data residency requirements

Number of provisions in the draft law will severely impact the current development of Viet Nam's digital economy, and will halt its growth prematurely. These provisions include:

- Article 27.2.b – Requiring **Internet portals to be located in Vietnam**
- Article 28.4.b, Article 42.1.c, and Article 42.2.c – Requiring **storing personal data of service users in Vietnam**, as well as other (unspecified) data collected or produced in Vietnam
- Article 43.3 – Requiring **storing the data in-country** when collecting or creating personal information and critical data

These provisions are supported by the CPTPP exemption clauses which permit member economies to restrict market access on the basis of national security and public interest

Importance of the free flow of data needs to be considered in current FTA negotiations....



RCEP

- 10 ASEAN Member States and six FTA partners are currently in the 22nd round of trade negotiations
- **RCEP will cover issues that are critical to the digital economy** such as custom duties on electronic products, privacy, cross-border data flows, and source code disclosure



ASEAN E-Commerce Agreement

- ASEAN Member States are currently in negotiations to finalise e-commerce agreement by end of 2018
- Agreement expected to streamline trade rules governing e-commerce and **facilitate cross-border e-commerce transactions**

... current language therein

“Member States recognise the importance of allowing information to flow across borders provided that such information shall be used for [legitimate] business purposes, subject to existing domestic laws and regulations *and legitimate public policy objectives.*”

Member States agree to facilitate cross-border e-commerce by working towards eliminating or minimizing barriers to the flow of information across borders, including personal information, subject to appropriate safeguards, to ensure security and confidentiality of information, and *when legitimate public policy objectives / national interest so dictates.*

Article 7.4 shall not apply to financial service and financial service supplier as defined in GATS

To Recap

Both non-traditional and traditional sectors stand to benefit from the **digitization** of the economy, and **enablement** of cross-border data flows.

The potential **losses will amount to trillions** if the free flow of data is stymied by restrictive data policies.

Therefore, policy makers need to actively consider the five themes:

- 1. Data Access**
Making domestic entities liable for compliance and accountability practices
- 2. Policy Making**
Creating a holistic and coordinated overarching digitization plan for the nation
- 3. Regulatory Enablement**
Shift of perspective of regulatory role from risk managers to economic enablers
- 4. Industry**
Governments can select the sectors to influence and accelerate digital transition
- 5. Sustainable Development**
Training and capacity development needed for general population, policymakers and regulators

To Focus



Prepare **best practice digital economy guidance** for competition authorities, procurement agencies, CNII assessments ...



Develop the **building block principles** for areas of strategic regulatory alignment across APEC: regulatory sandboxes, payment gateways ...



Develop a set of **digital economy indicators**



Conduct a survey and study on the almost complete lack of awareness and preparation for **GDPR and CBPR**

Questions?

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About TRPC:

TRPC is a boutique consulting and research firm with over 25 years experience in the telecommunications and ICT industries in the Asia-Pacific. We offer specialised advisory, research, and training services, with a focus on regulatory and strategic business issues, and possess an extensive network of industry experts and professionals throughout the region.