An Asia-Pacific Agenda for the Digital Economy

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Outline

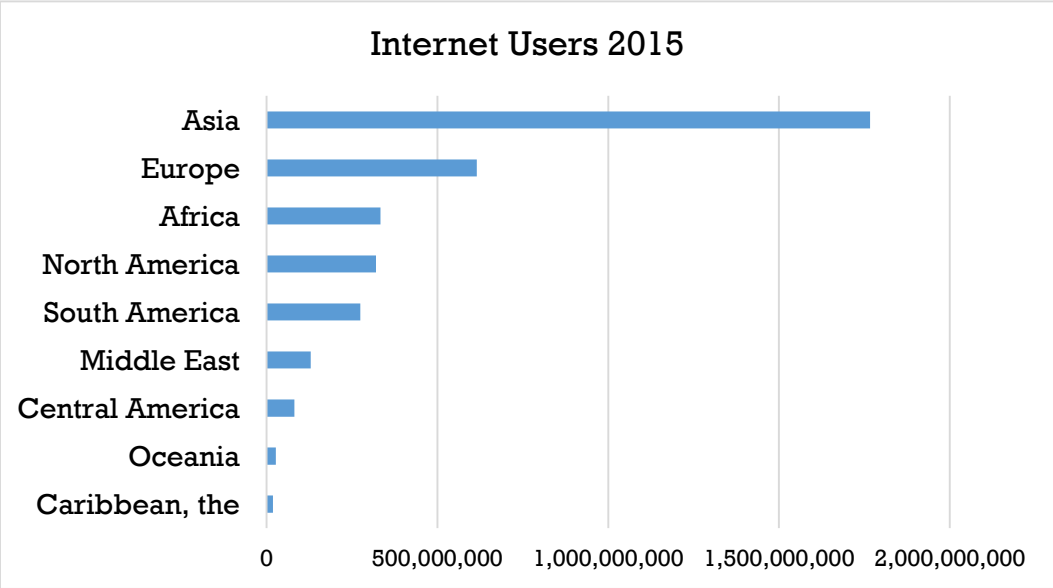
What is Digital Economy and its Implications?	Potential of the new technology Revolution and digital economy? How is technology changing businesses models, the economy and society?
What are the implications, opportunities and risks?	What risks and opportunities does technological change present? What opportunities and challenges does the digital age pose for economic-financial-social inclusion and human resources development?.
What are the Policy Implications?	What work can the policy community be doing to benefit from these changes and scope for regional cooperation?

What is the Digital Economy and its Implications?

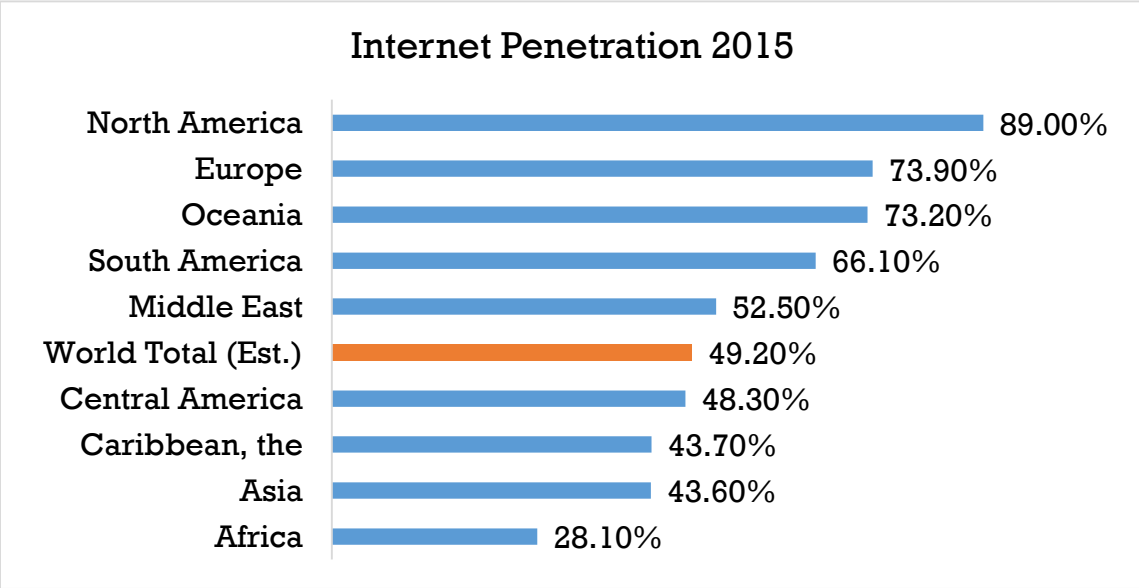
New phenomenon which has reduced transaction costs,
asymmetry of information,
and led to the sharing economy and creative disruption

What is digital economy?

- Digitization and the internet: transformed business and society in last 15 years. Internet user 1995=0 and 2015=3.6 billion (half of the world's population).
  - Digitization has multifaceted impact on economy, governance, health, education, security and way of life.

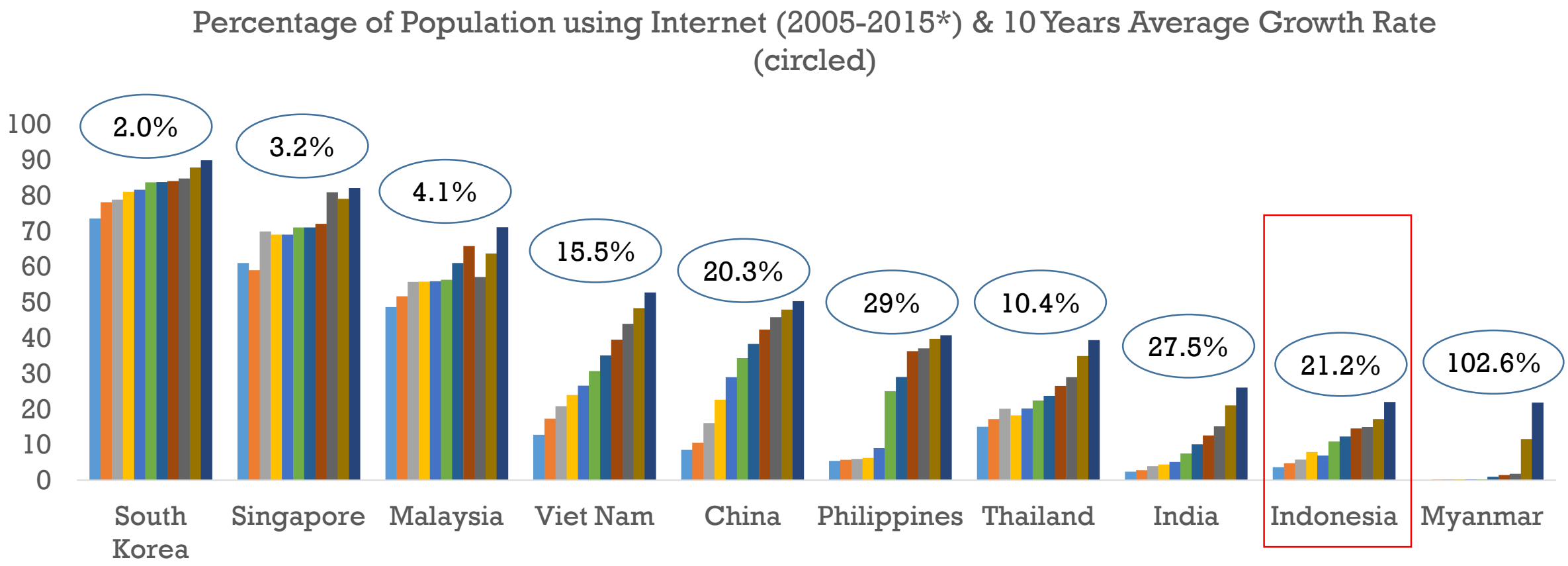


Source: ITU



Source: ITU

Internet Penetration: wide divergence between Asian Countries and rapid growth (India, Indonesia, Myanmar – leapfrogging)

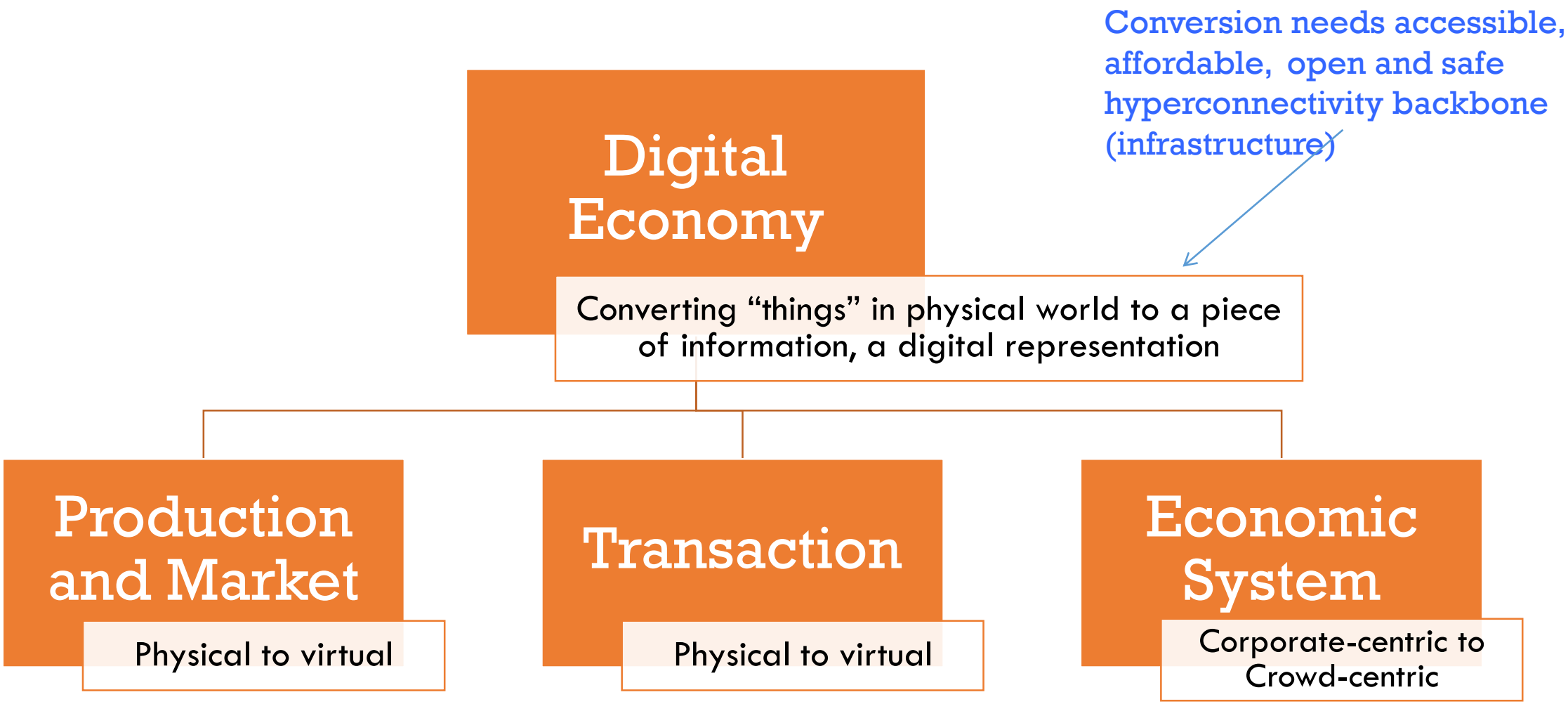


Source: ITU
*Note: * ITU estimates*

Definition of Digital Economy

- Digital Economy: economic activity that results from billions of everyday online connections among people, businesses, devices, data and processes.
  - Backbone is hyperconnectivity from internet, mobile technology, and the internet of things (IoT)
- Sharing Economy or Crowd based capitalism (peer to peer exchange, crowd replaces corporation as center of capitalism)
  - Sharing time and asset use (sharing which has valuation)
  - Self employed, peer-to-peer – community for trusted transaction widened with digitization of information, ability to verify and rate
  - 2010-2015 new companies in this mold emerged (Uber, Airbnb, Lyft, We work, Grab, Gojek)

Digital Economy: minimizes traditional market frictions



Corporate-centric to Crowd-centric capitalism

"The firm"

Rise of virtual companies.
- Nike: Sales $28B with Only 56500 workers (including part time retail workers in its 850 stores) Source: (Davis, 2016)
- Facebook valuation $45B in 10 years compared to Sinar Mas (resouce based) $7 billion in 78 yrs
- changes in the way of producing

Assets

From +/- 640,000 hosts, 2 Million available space, 34,000 cities, Airbnb owns none of those housing property.

Source: Techcrunch, Airbnb blog

Employee/ Employers

Uber: driver partners as many as 160,000; 6,700 employees

Source: (MacMillan, 2015; Loizos, 2016)

In Indo, Gojek: 220,000 drivers@rp.4jt/mo (double min wage), partners like resto, salon, now payments

It is what Richard Baldwin calls The New Globalization

- First globalization because of steam engine technological revolution leading to revolution in transportation and production – first unbundling reduction of trade costs
- Second globalization because of ICT technological revolution reducing communication costs and allows for coordination of complex tasks across countries (hyperconcentration, GVCs) – second unbundling lower ICT and coordination costs
- Third and New Globalization – digital technology and 4th Industrial revolution to substitute for people crossing borders, workers in one nation providing services in another nation - reduces face to face costs.
  - New production technologies (goods and services) driven by data transfers rather than goods (3-D printing, knowledge workers can stay in origin country) and new ways of selling goods and services.

Creative Destruction and disruption: in the way goods and services are produced and delivered

- Goods production processes becoming more data intensive
  - Changes in the forms of international business (eg switch to data transfers, leading to the death of value chains): overcoming traditional protection
    - May also be driven by remaining barriers to trade and investment, **so data flows as a substitute**
      - Is this part of the structural change in the output/trade relationship?
  - 3D printing, leading to new modes of transactions (data transfers)
  - Death of regional production networks?
    - **Or more opportunities for SMEs** to do business direct with consumers
  - Manufacturers selling services, some complementary to their goods (sensors in products and devices)
    - Shift in business orientation to **'service provider'** eg the GE story

- Mix of modes in services production also changing
  - All 4 modes always mattered in services business models
  - The cross border mode in terms of data transfers becoming more important
    - Eg outsourcing business services, including knowledge processing
    - ECIPE (European Centre for International Political Economy) estimates 'half of trade in services' depends on connectivity

Source: Findlay (2016)

New Globalization: importance of data flows

- Data is becoming easier to collect in large amounts
  - as ICT costs are falling and easier to compile
  - as different IT systems can communicate with each other
- And easier to analyse and use to drive decision making
  - The role of AI
- These processes and access to data allows a higher degree of differentiation
  - possibly to the level of the individual: that is 'personalisation'
- New forms of business are emerging (crowd centric, collaborative models)
  - In the sharing economy (C-C), household to household direct contact
  - Collaborative models cross platforms for scale (verticals): Attracting business partners, eg Qantas and AirBNB,

Adapted from Findlay (2016)

Most Recent Economist: Data is the World's Most Valuable Resource

- Data like oil in last century: driver of growth and change, created the new economy
- Value of data is increasing and data-network effects i.e using data to attract more users who in turn generate more data, which help to improve services, which attract more users
- 5 Titans: Google, Amazon, Uber, Microsoft and Uber, most valuable listed co in the world earning $25b in net profit
- Ownership of data changes the nature of competition.

Potential of Digital Dividends and Development

(World Bank, 2016):

Digital Economy promotes efficiency: replace labor and non ICT capital with ICT capital as cost of ICT capital falls (automation, on line bookings, on line banking) and also makes existing factors more productive (streamline tasks, increase productivity)

Digital economy promotes innovation: new economy, fixed cost of building the platform maybe large but the marginal cost of carrying out another transaction is small. Winner takes all model (competition issue)

Digital Economy promotes inclusion: reduce cost of getting information and having more open and transparent information – SMEs in e-commerce platforms, farmers/SMEs who can get credit from their activity such as mobile phone records and other on line reputation mechanism in one platform as credit history. Expand trade, create jobs and increase access to public services.

What are the issues, risks and opportunities?

Major Issues

- The Big Issue: digitization means need for freedom of data flows and allowing innovation to enter "uncharted" and "unregulated" territory vs managing security, privacy, disruptions, competition and regulatory agency's capacity (also raises issues of interoperability and standards – within a country and between countries)
- Lack of an understanding of this major issue has led to risks of the policy responses being protectionist and behind the curve, which can affect speed of innovation and change
- At the same time there is also emergence of a new digital divide in terms of access to these new services and hollowing out: managing transition

Security and privacy

- There is value in sharing data, including across borders
  - Eg in product and service design (personalisation)
  - but doing so risks lack of privacy
- Cross border access to data and the globalisation of systems for storing is efficient
  - but it risks social disruption through attacks on those systems as recently demonstrated with WannaCry ransomware (200,000 attacks in 150 countries).

- Familiar dilemma
  - How to respond to market failures while at the same time achieving the advantages and gains from this evolution in the organisation of production
    - Are restrictions on cross border data flows necessary to resolve privacy issues?
    - Is privacy endogenous? Ie will our beliefs change because of opportunity through revealing more about ourselves?
    - How to deal with cyber security?
    - How to deal with who owns and uses data, competition issue?

Adapted from Findlay (2016)

The case for cooperation across borders in resolving this dilemma.

Are these new issues? Are there parallels in goods? Yes.

Sovereignty and jurisdiction	- Given the cross-border mobility nature of data, how can and should this be regulated? Where does the transaction occur? - Who has jurisdiction over data gathered eg by outsourced back-office functions or the internet of things?
Trust	- Agreeing on systems for establishing trust in cross border data transactions - How is identity established and contracts made enforceable? Especially across borders?
Capturing the gains from trade and investment	- Avoiding the cost of data localization policies to local firms – limiting access to cheapest, most efficient providers
Security and privacy	- Value of agreeing on common approaches, since choices made by one affect the welfare of another - Eg one community highly risk averse and another less so

Findlay (2016)

Policy disruption too?

- Have seen that digital technology is disruptive to business
- And yes there are new regulatory issues in a data driven world

- But could it be disruptive for policy too?
- There are opportunities in a data driven world to treat other regulatory issues differently
  - Eg the use of the ‘trip advisor’ model of information provision on service providers – a market response and a substitute for action by government?

But can also lead to Protectionism

- This is new territory, current rule making processes and regulation may not exist and behind the curve.
- The policy responses to questions of privacy, security and inclusion have important consequences.
- There is a risk of a protectionist response and loss of the opportunities from innovation for efficiency, productivity and inclusion.

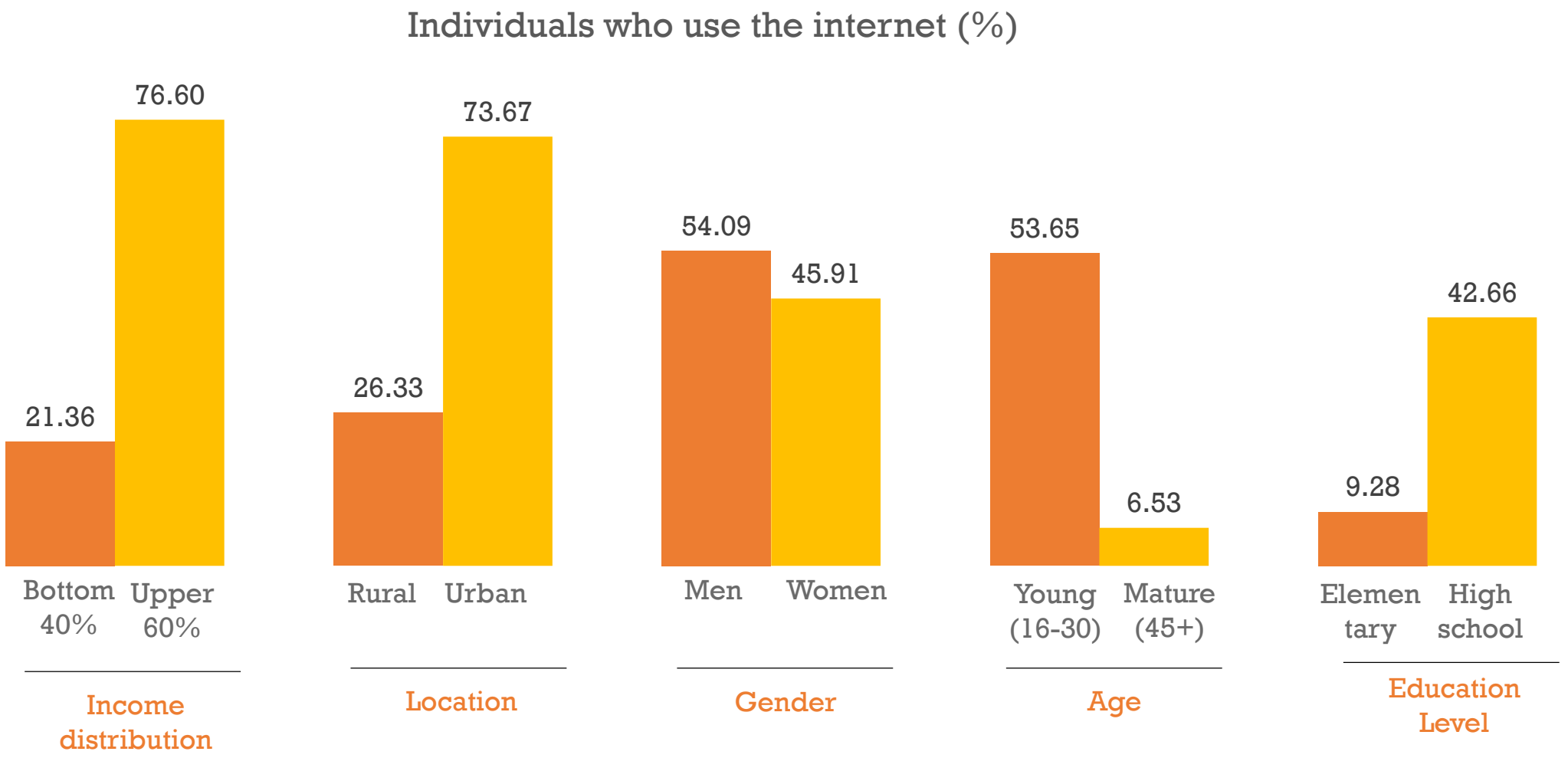
Adapted from Findlay (2016)

Restrictions

- ECIPE has a data set on measures applying to digital transactions.
- As transactions move to these formats, and if they are highly restricted, then this change amounts to a roll back of existing commitments on liberalisation.
- The data also shows how sensitive the outcome is to the risk of a bottleneck in a relatively small section of the digital process ('market access can be blocked anywhere in the supply chain').

Findlay (2016)

And there is the Digital Divide (indonesia)



Source: Susenas 2014

Digital divide

- Access to the data collection and management systems may also be a new source of 'divide' and lack of 'inclusion'
  - Eg lack of access to systems that supports access to financial services
  - Or lack of systems to establish identity and create a basis for trust

http://www.emitraindonesia.org/

Hollowing out

- Already there is concern about the digitisation of production processes
  - Routine but complex processes (typically the scope of the middle skilled worker) are being managed by machines
    - which is leading more jobs for low productivity tasks but those with require discretion (eg cleaning) and
    - high productivity tasks (managing the process).
  - This evolution applies to all sectors, including services
- Will the further digitisation and the emergence of the new business models (ie not just changes in production processes in existing businesses) reinforce these trends? How to cope?

What are the Policy Implications and potential for Asia Pacific Cooperation?

Policy Implications: Some Suggestions

Who?

- National Level: political will and whole of government approach (infrastructure, standards, regulations) (e.g. Minister of Digital Economy or National Task Force?)
- International Cooperation: where and how to organise the relevant international cooperation to deal with these issues? Many new issues and only some covered or beginning to be addressed in trade agreements.

  a) Matter of regulatory cooperation
  - APEC Privacy Framework

  b) TPP and CETA as examples of the negotiated approach which focus on openness/seamless cross border flows of data

  c) Role for APEC (not negotiating) – measuring impact and implications, agreeing on principles, capacity building in generating understanding and education

What do existing agreements have to say?

- WTO (1995): agreement to have a moratorium on imposing tariffs on sales through e-commerce.

- Recent Trade Agreement (Ch 14, TPP):
  - Free data flows and global information (s.t, legitimate public policy objectives such as privacy)
  - Commitment to not require
    - source code of software is not required to be transferred or accessed.
    - companies to build data centers to store data locally
    - (In conflict with requirement for localization of servers for all businesses (2012) and to be implemented by October 2017 Ensuring consumer protection laws related to fraud

  - Prohibits imposition of customs duties on electronic transmissions and does not allow favoring national producers or suppliers of such products through discriminatory measures or outright blocking (need to check application)

  - Cooperation to help small- and medium-sized business take advantage of electronic commerce
  - Privacy and security issues (e.g. online consumer protection, cybersecurity threats and cybersecurity capacity).

Policy Implications – What: some suggestions

1. Always begin with the numbers, facts and analysis

Assess the value of digital transformation – net impact of new technologies for each country and for Asia Pacific region in some compatible format, metrics and measures

2. Priority Areas

2.1 **Reduce digital divide (access and utilization)** – access not enough need ability to utilize technology effectively

- Internet penetration
  - Connectivity infrastructure: speed, affordability, reliability, security (physical connectivity, electricity and telecom infrastructure, broadband, spectrum use, services)
  - Cost and access to devices
- Affordability of data: open data programs
- Digital literacy and mass education of usage (*basic skills and ICT literacy, prepare for careers instead of jobs and facilitate lifelong learning*)
- Address lack of systems of identity and trust (key for inclusion): Digital ID

Policy Implications: what? some suggestions

2.2 Cross border e-commerce

Trade facilitation issues: harmonization of customs regulations, last mile delivery (logistics),

Cross border flows of data and information

Consumer trust and data security, cyber security

Policy Implications: what? some suggestions

2.3 Digital Payments and Financial Inclusion

Tech enabled financial inclusion (cost of devices/smart phones, connectivity)

Scalable e-payment alternatives/e-money framework (technology platforms, regulatory issues e.g. branchless banking, payment agents)

Blockchain and cryptocurrencies

Policy Implications: what? some suggestions

2.4 Technology, Talent and Human Capital: future of jobs, future of work, sources of competitiveness and job creation

Training and recruitment of regional software developers

Future focused skills development

Tech education programs,

Policy Implications: what? some suggestions

2.5 Regional and international cooperation on regulations, security and privacy issues – free and secure data flows?

- **Regulatory regimes** for seamless data transfers taking into account privacy, security and data protection, in transactions
- Understanding technology trends and how regulations left behind, how to manage: e.g. cloud computing vs localization of servers (recent hacking attack will raise concerns)
- Standards and interoperability: **interoperable and secure platforms**