Digital Economy and Development: an ASEAN Perspective

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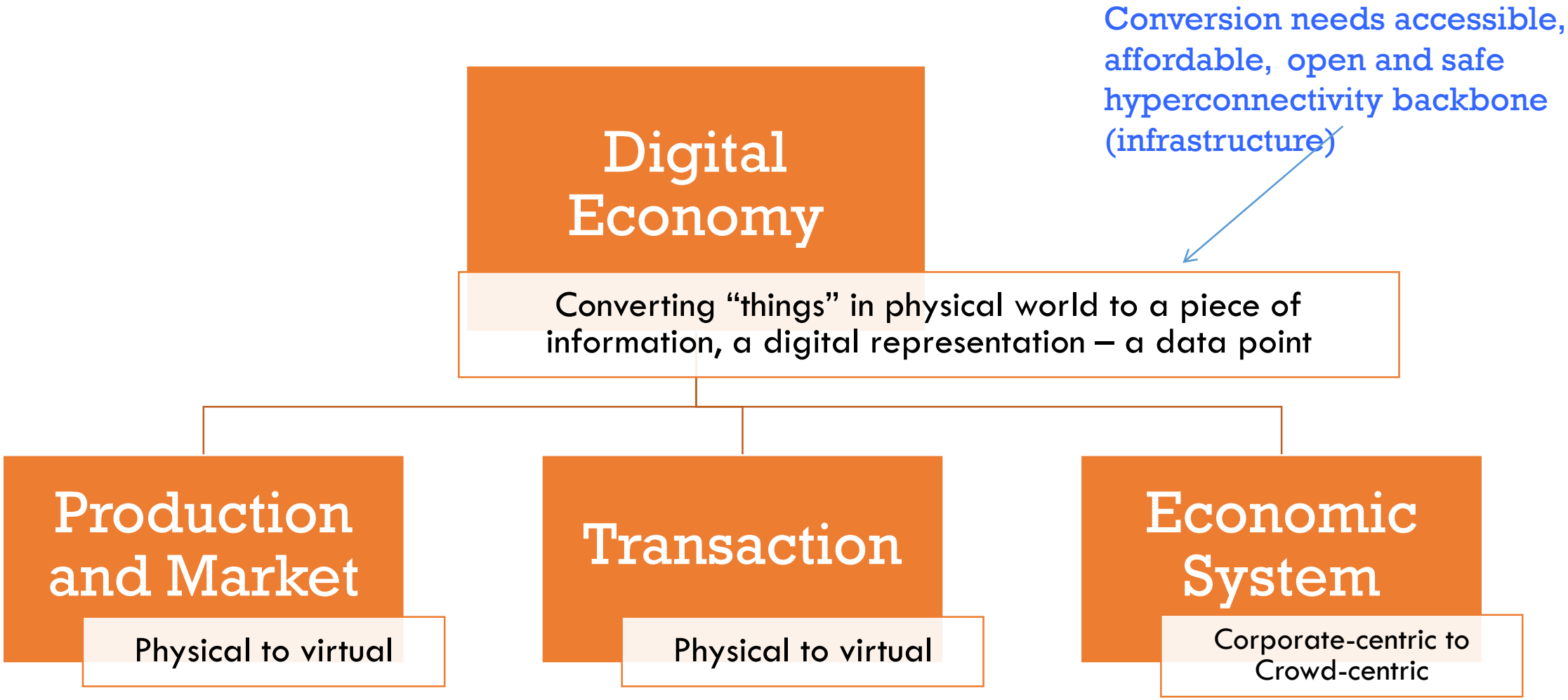
Digital Economy and Digitization

Digital Economy: minimizes traditional market frictions (reduces cost of information and search)



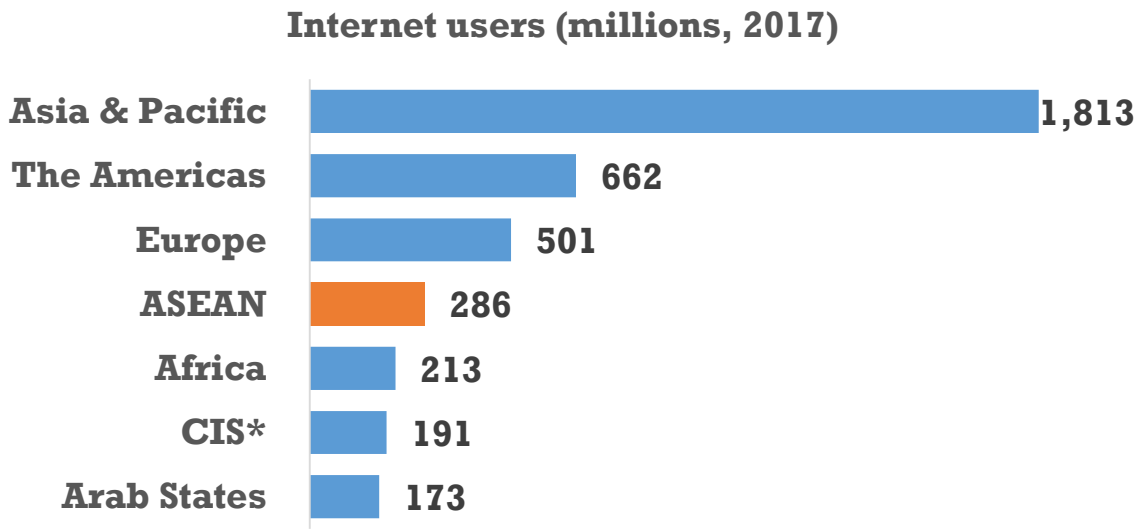
Digital economy minimizes traditional market frictions such as travelling a distance to meet, gather information and research because of asymmetry of information

What is the Digital Economy: Definition?

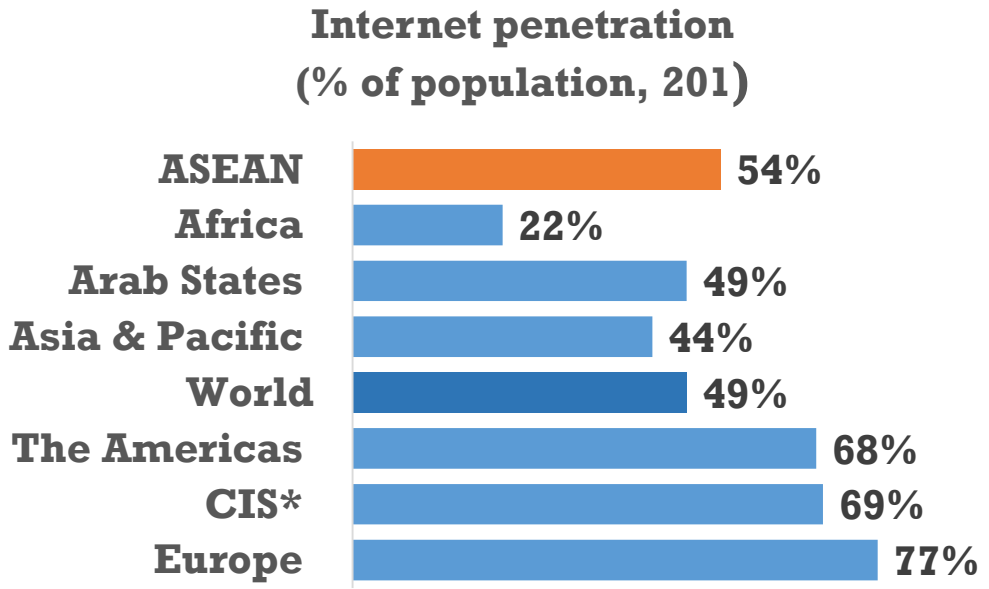
- Digital Economy: economic activity that results from billions of everyday online connections among people, businesses, institutions, devices and processes.
  - Backbone is **hyperconnectivity** from internet, mobile technology, and the internet of things (IoT); it is estimated that **200 billion devices will be connected** by 2020
  - Enabled by the: **Falling costs of mobile phone and connectivity** has allowed for greater accessibility allowin leapfrog for developing countries + **Data** is becoming easier to collect in large amounts, to compile, analyze and use to drive decision making
  - These processes and access to data allows level of differentiation at **individual and 'personalised' level**
  - **Allows for: reducing search costs, coordination and automation for greater efficiency, and innovation**

What is digital economy: as we see it?

- Digitization and the internet: transformed business and society in last 15 years. Internet user 1995=0 and 2018=3.8 billion (half of the world's population).
  - Digitization has multifaceted impact on economy, governance, health, education, security and way of life.



Source: ITU

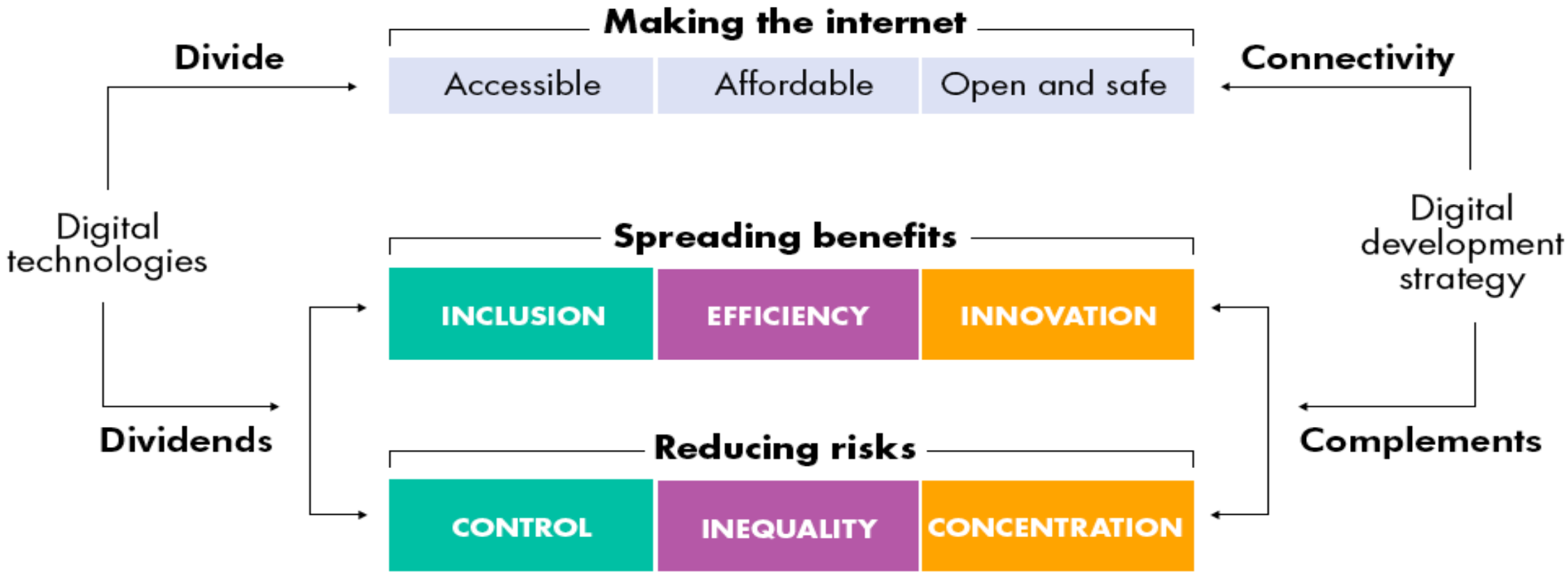


Source: ITU


How digitized is ASEAN?

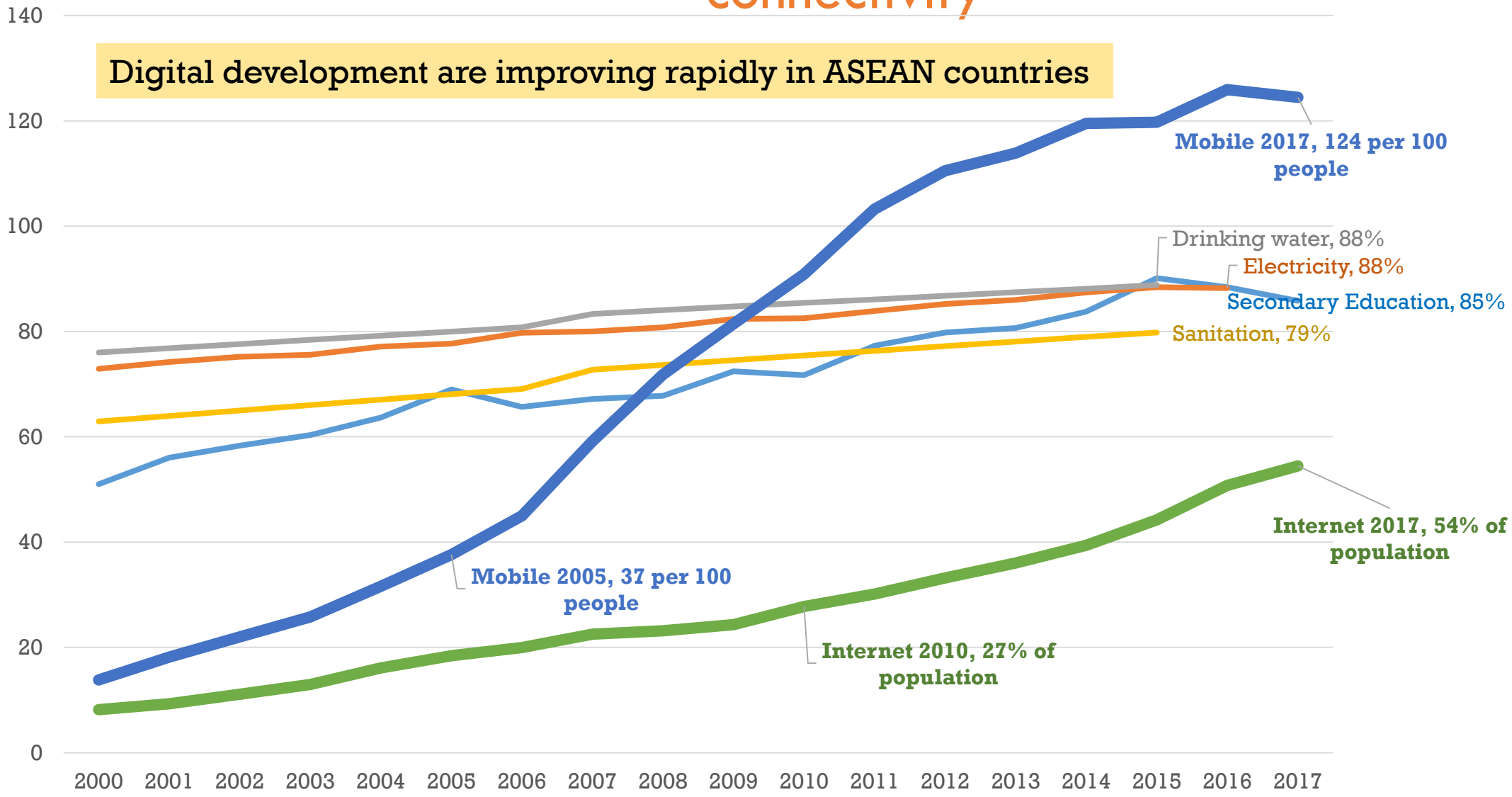
Digital Economy and Development

Connectivity is the sufficient condition to realize Digital Dividends (growth, jobs and services). Once connected there needs to be the capacity to gain economic value and the right strategy is needed (necessary condition) to realize benefits and reduce risks.

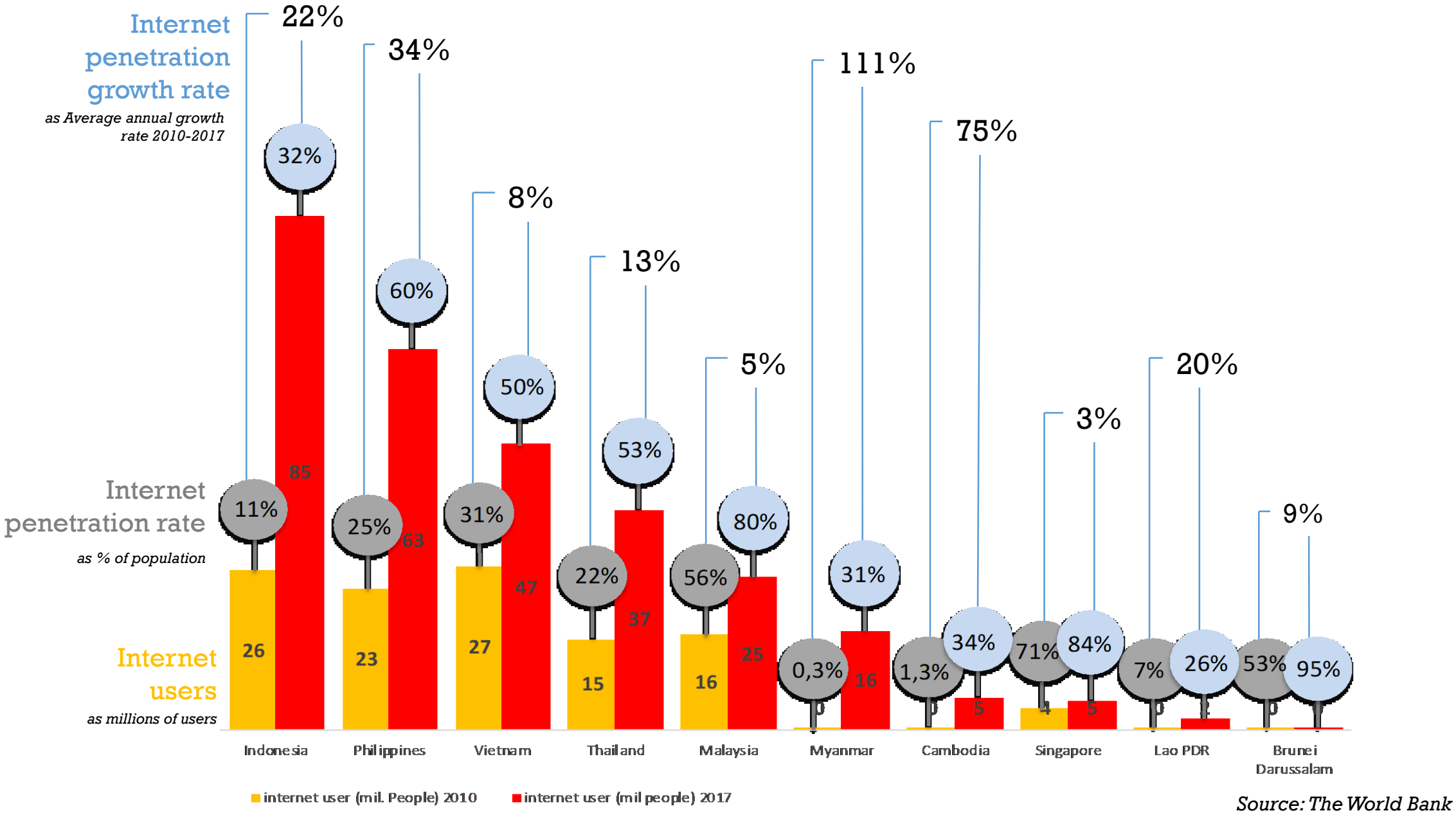


Source: WDR 2016 team.

The rate of mobile phone growth is much higher than other human development measures: mobile allows leap frogging for connectivity



Source: World Bank, World Development Index, calculate for ASEAN average

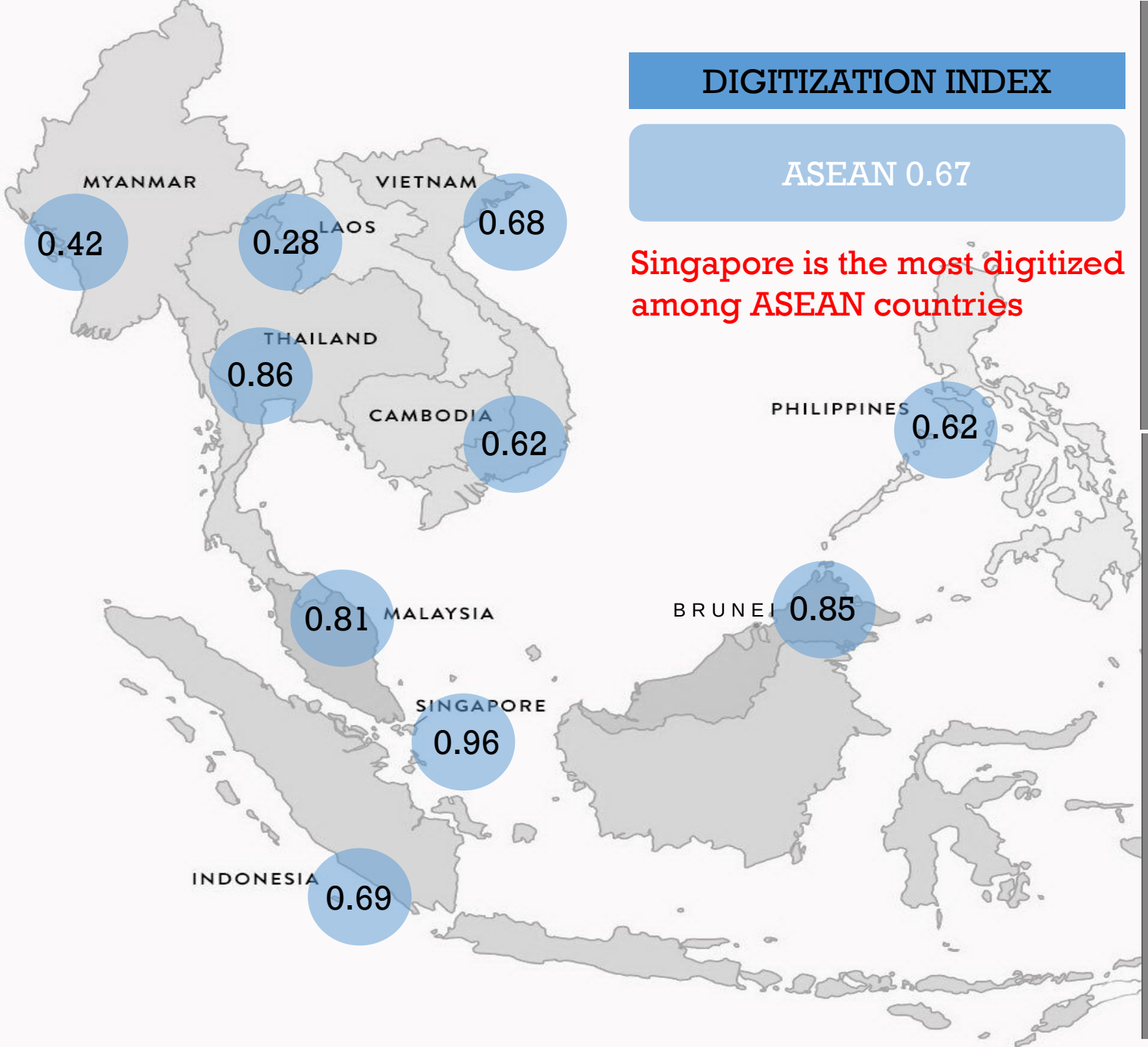


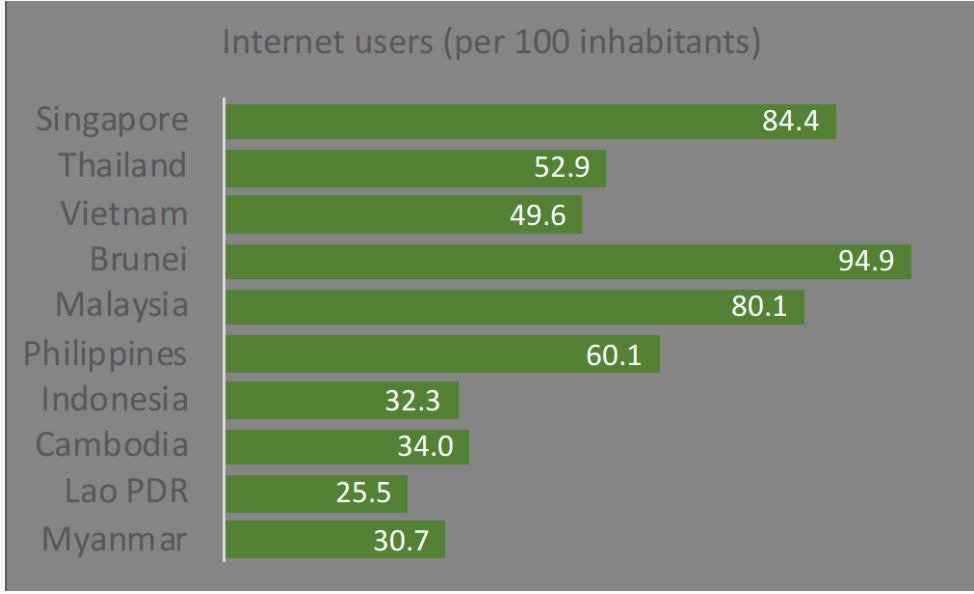
Source: The World Bank

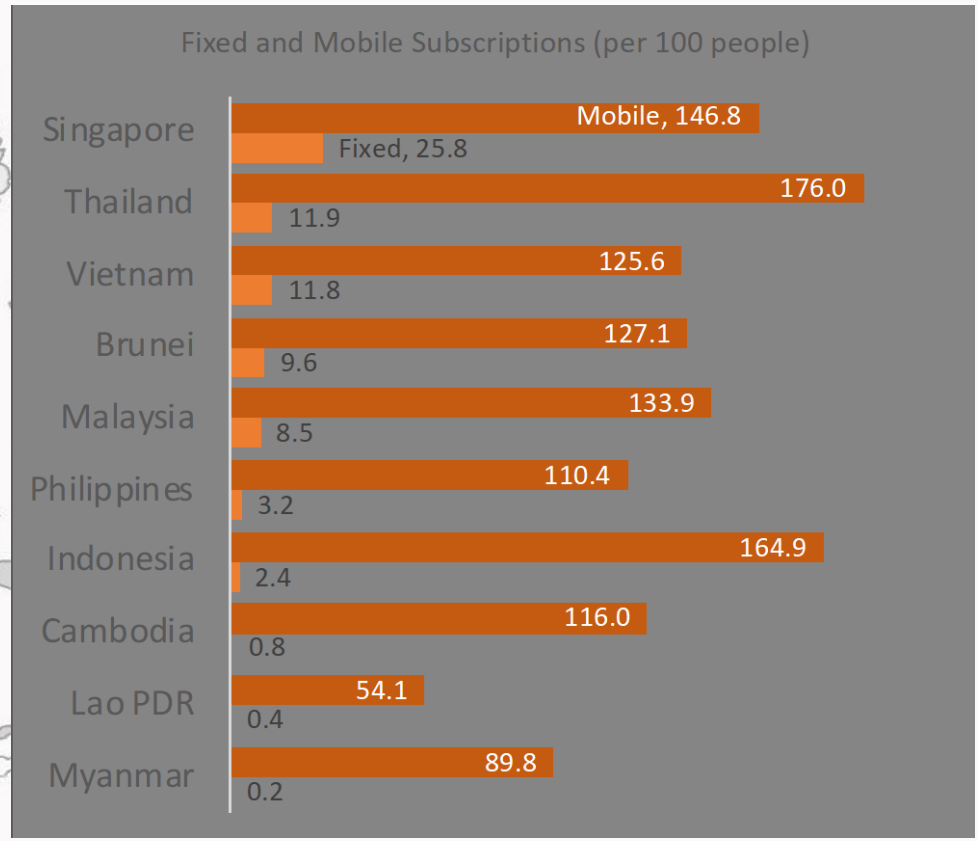
DIGITIZATION INDEX

ASEAN 0.67

Singapore is the most digitized among ASEAN countries



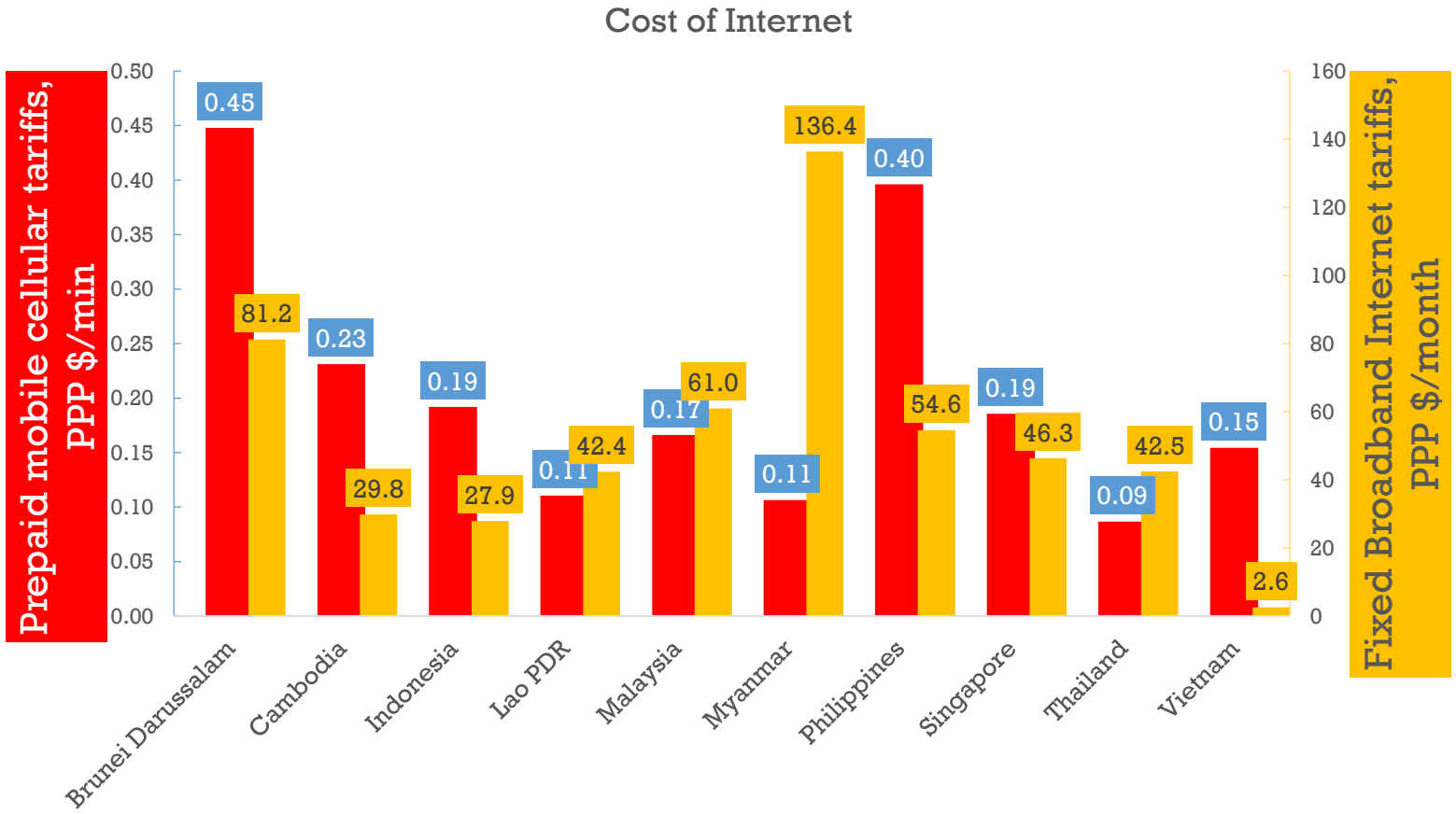


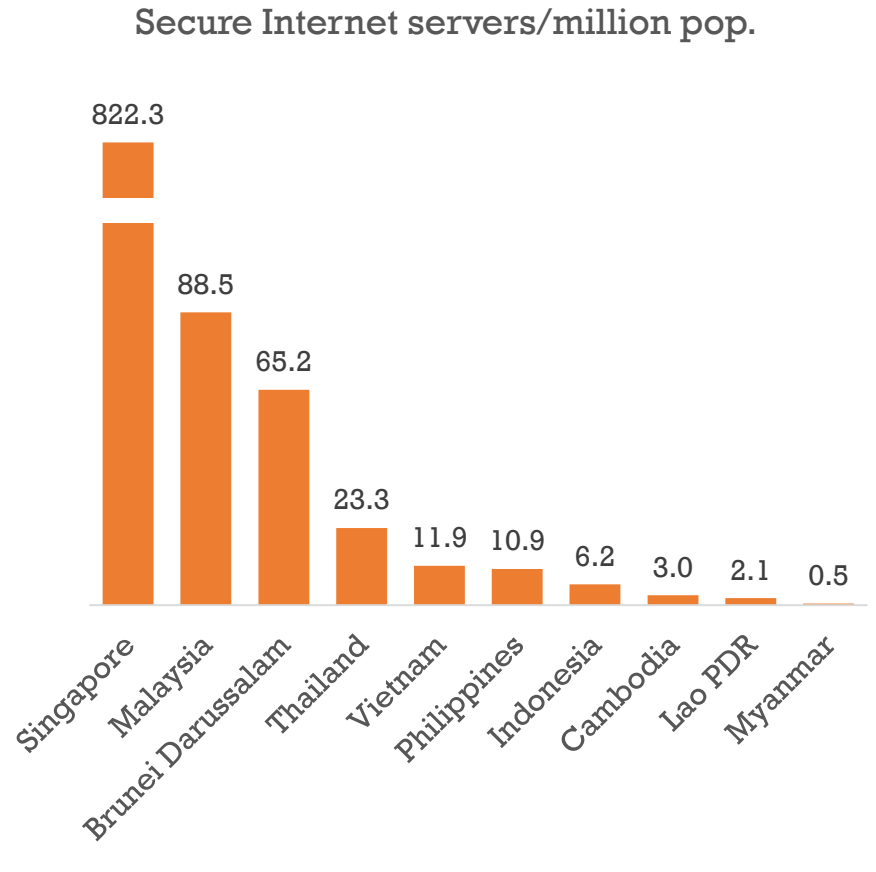


Affordability: Cost of access have been falling and relatively low, Philippines and Brunei higher + secure (Singapore and Malaysia highest)

Myanmar and Philippines have the highest cost to access internet

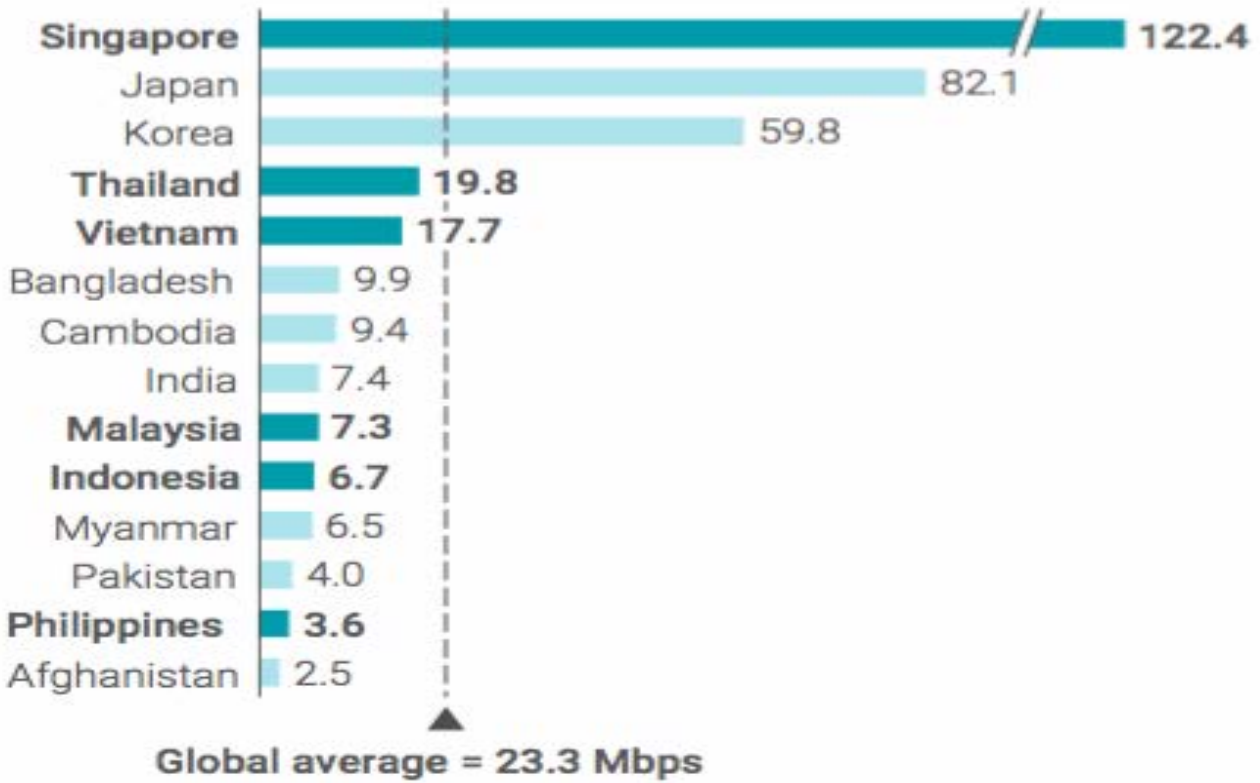
Singapore and Malaysia with higher digitization index have more secure internet servers





4 SEA internet speeds outside Singapore range from 3.6 to 19.8 mbps (vs global average of 23.3 mbps)

Average download speed (Mbps)



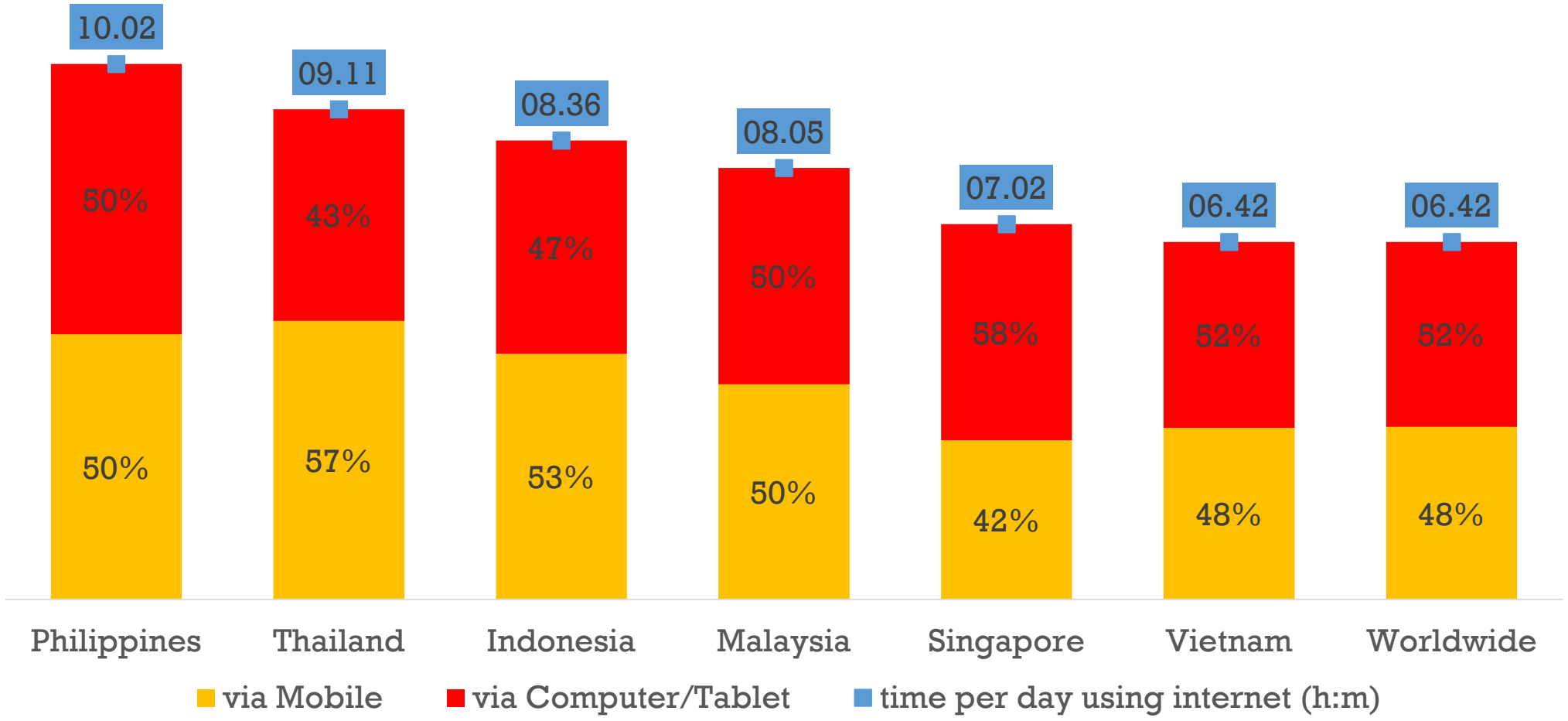
SEA country

- Although internet speed and penetration is rapidly growing in SEA, all countries except Singapore still have internet speeds that are slower than the global average
- Indonesia and Philippines have slowest internet due to difficult topographical compositions and unfavorable regulatory structures

SOURCE: Ookla speed test (speedtest.net)

Internet use via Mobile and time spent on internet

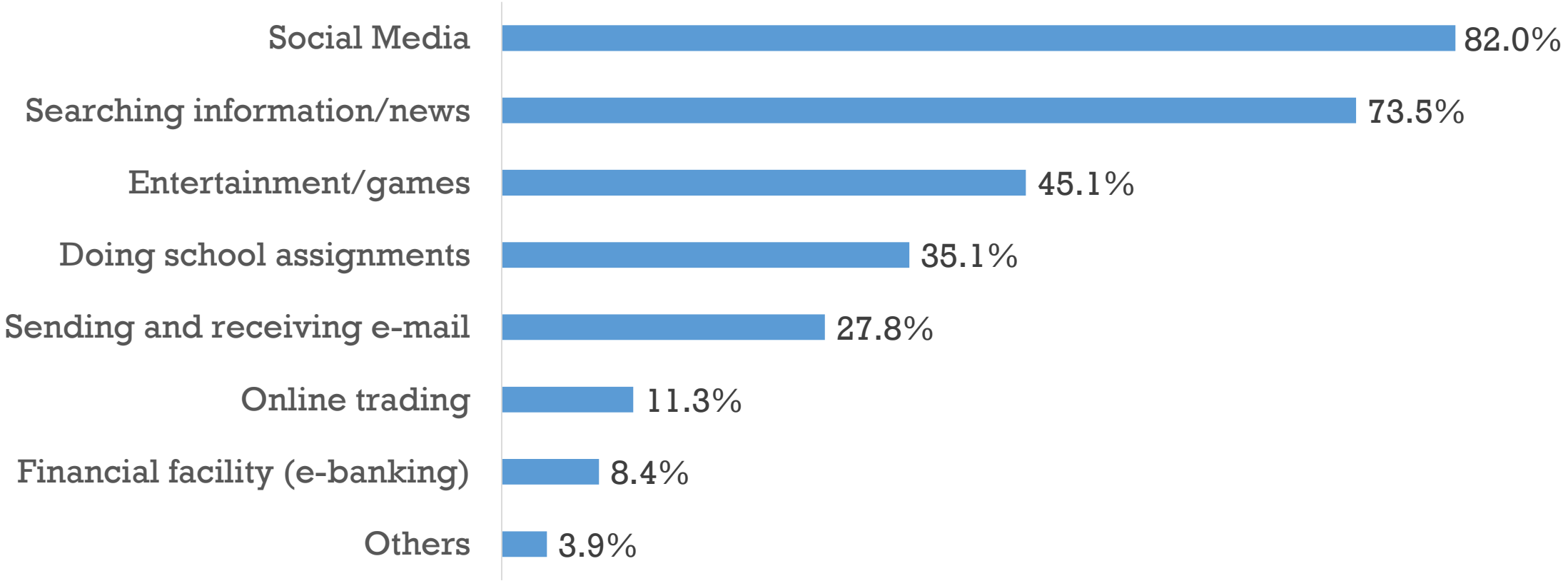
Philippines spent nearly 10 hours per day, making them the heaviest internet users in the world



Source: WeAreSocial. Hootsuite, Jan 2019

Purpose of using Internet in Indonesia is mainly for Social Media

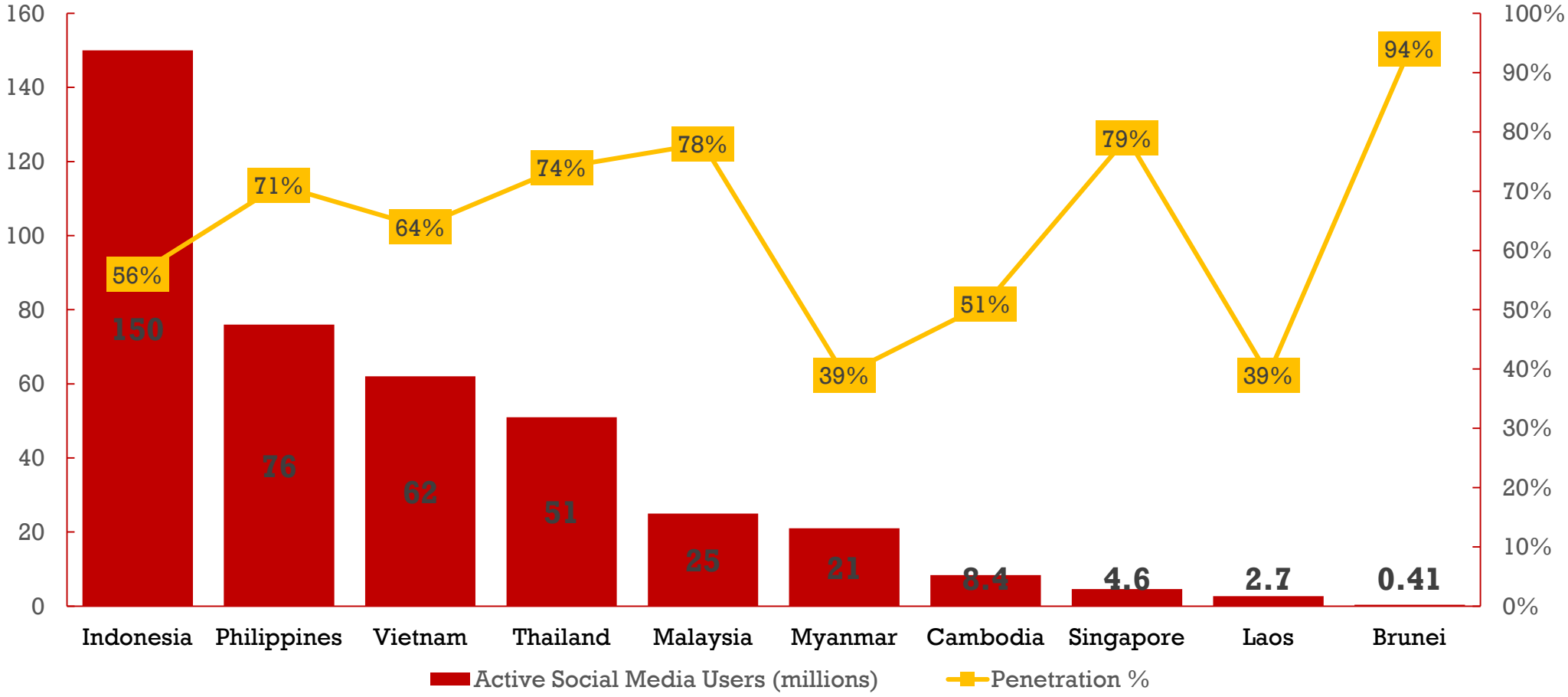
82% out of 50 million people who are recently accessing internet have Social Media as the main objective of using the internet



Source: Susenas, 2014

ASEAN Social Media Population

ASEAN has 401 million Social Media active users (65% of population), which is higher than Europe's social media penetration rate of 56%



ASEAN

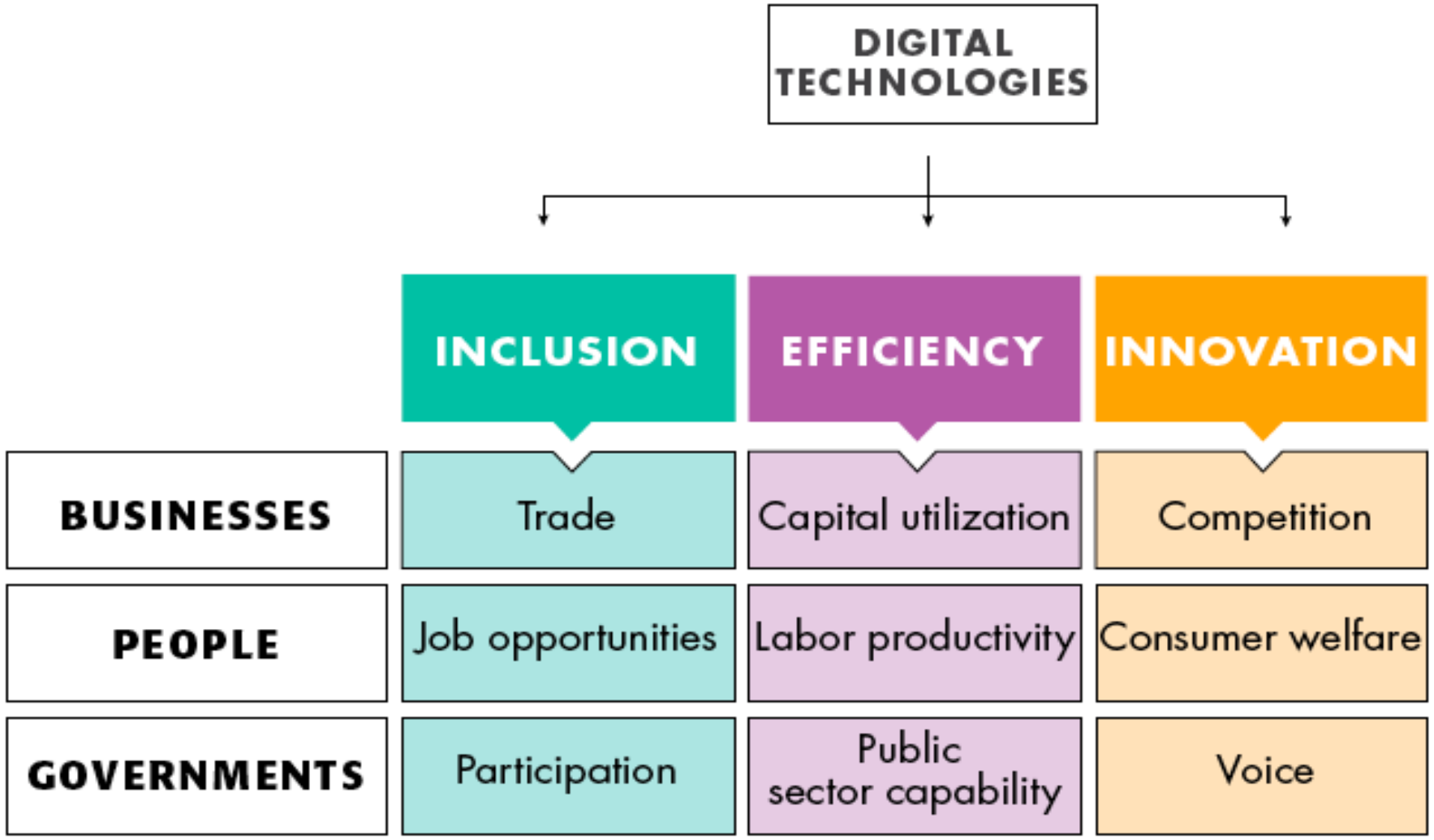
92% access via mobile phone

Source: WeAreSocial, Hootsuite Jan 2019

Digital Economy and Digital Dividends

Dividends: growth, jobs and service delivery

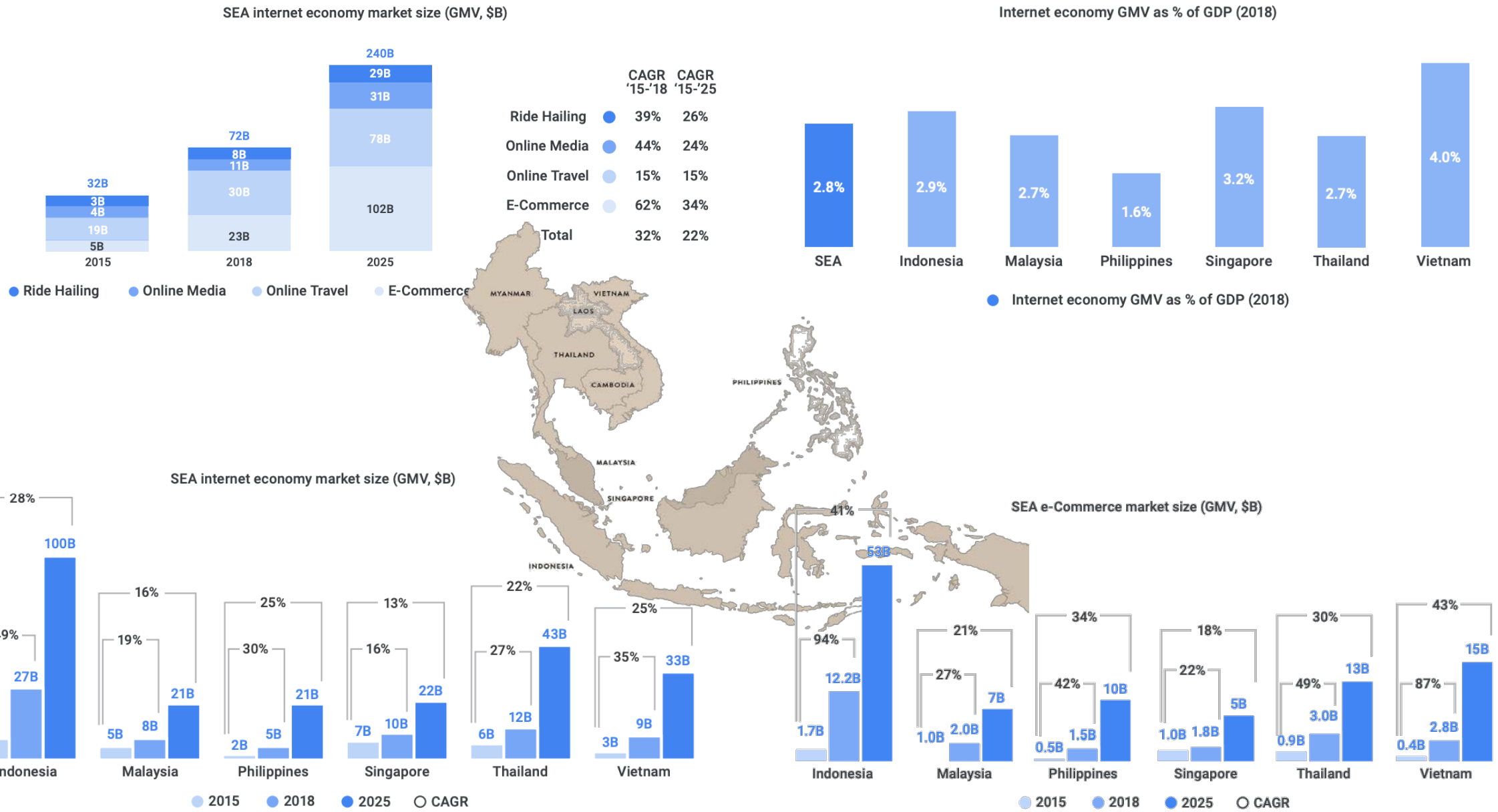
How the three channels affect business, people & governments



Source: WDR 2016 team.

Inclusiveness story

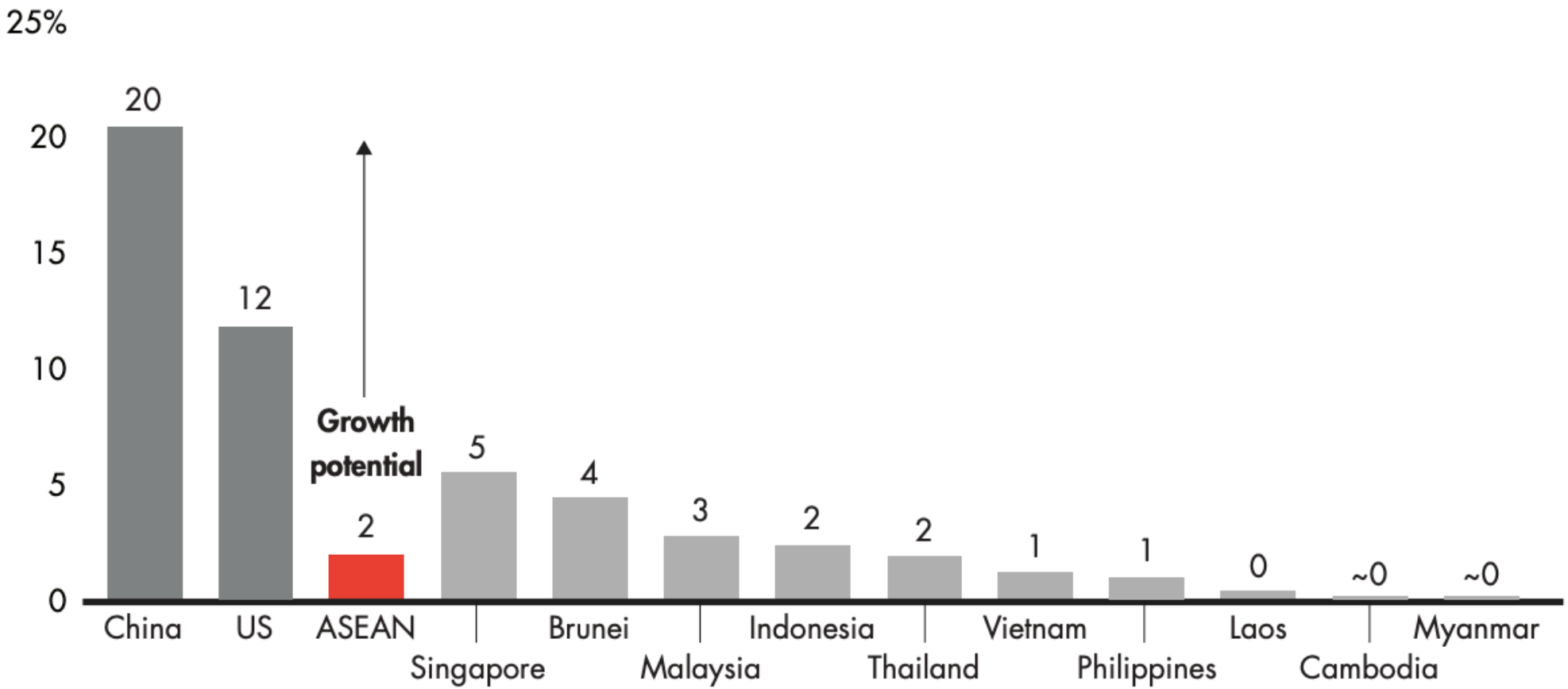
Internet Economy and E-Commerce Market Share



Source: Google Temasek, as presented by Jemi Confido of Bukalapak

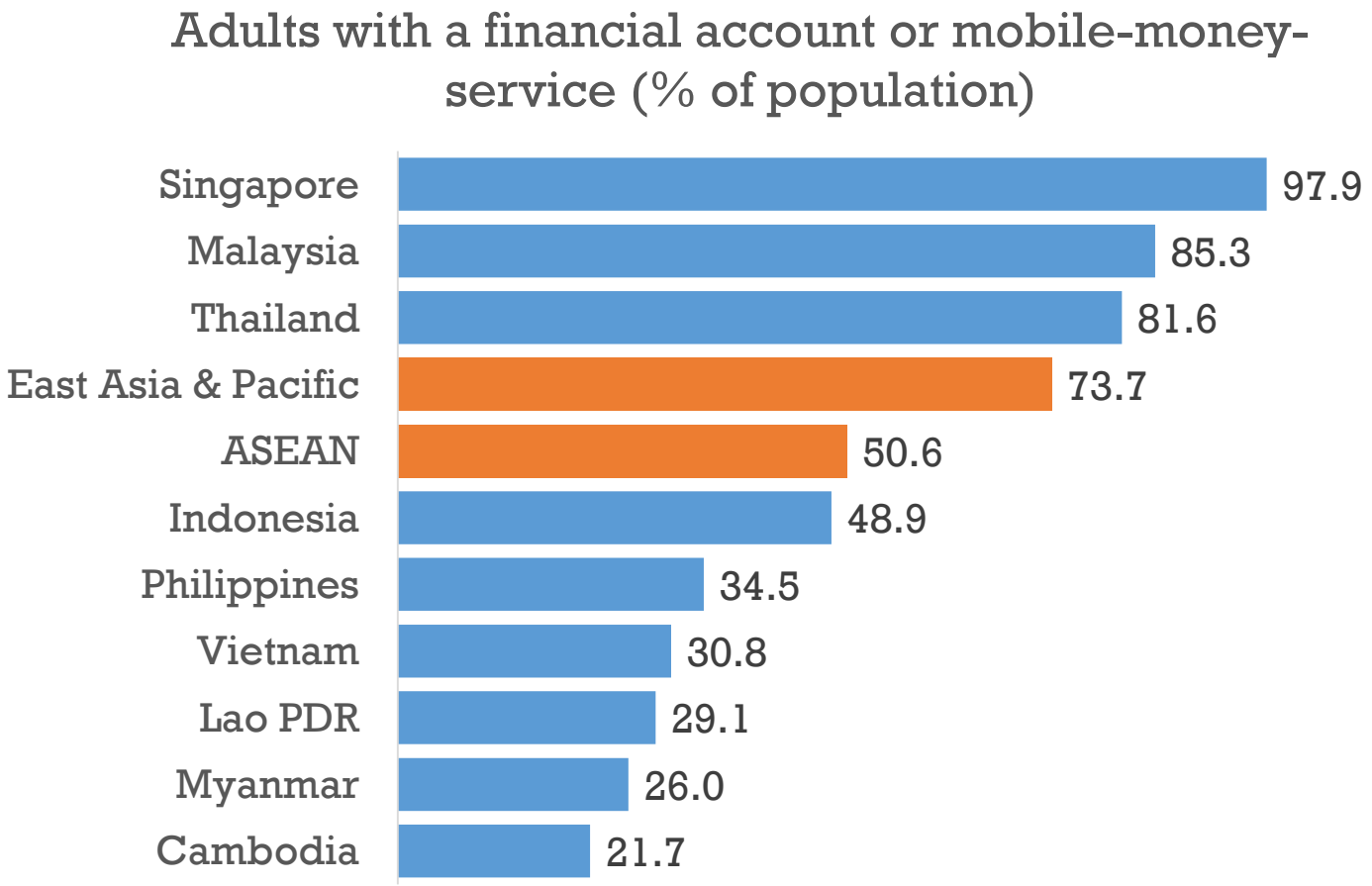
Inclusiveness: Businesses entering into e-commerce (SME and Retail Trade)

B2C and B2B2C e-commerce sales as percentage of total retail sales, 2017



Note: Excludes consumer-to-consumer (C2C) platforms, social media selling, and sales of travel, events and holiday packages
Sources: Euromonitor; eMarketer; Forrester; Frost & Sullivan; Bain analysis

Half of ASEAN does not have access to banking services



Source: World Bank

Size of fintech in ASEAN

In 2016, investments in the Southeast Asian FinTech market increased to US$252 million, compared with US$190 million in 2015, a rise of about 33 per cent

Singapore as the fintech hubs in ASEAN, holding the biggest share of FinTechs in ASEAN, at 39 per cent

Fig. 1.2: FinTech funding ASEAN

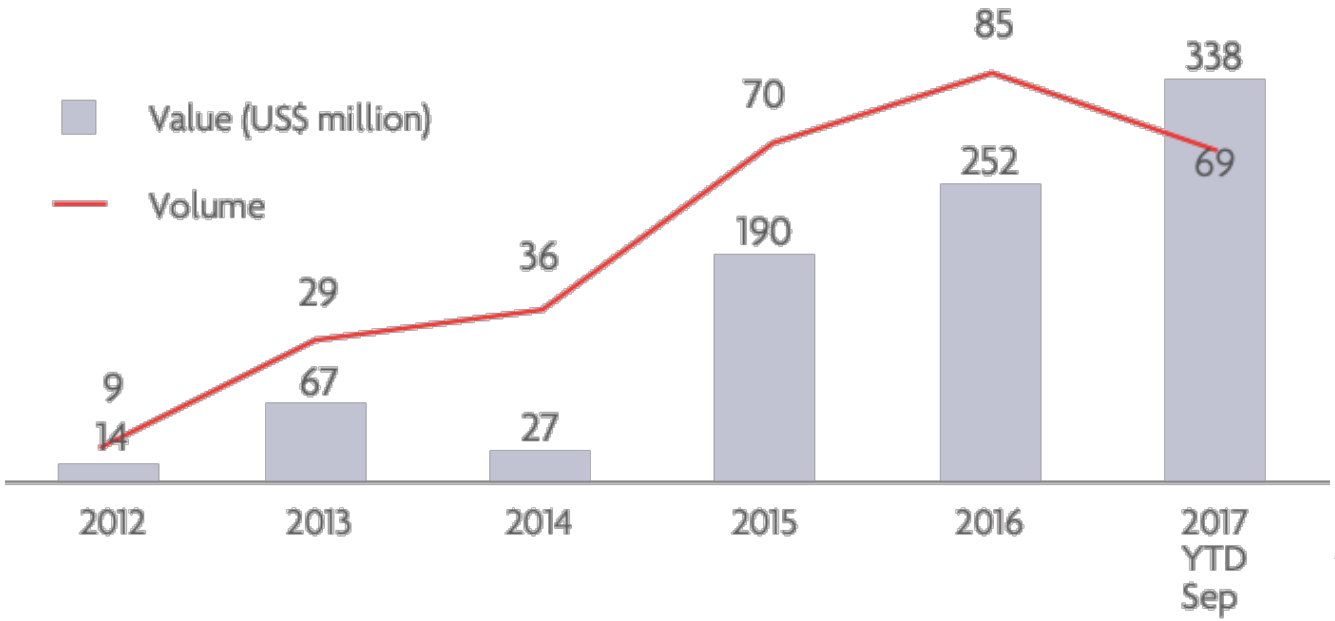
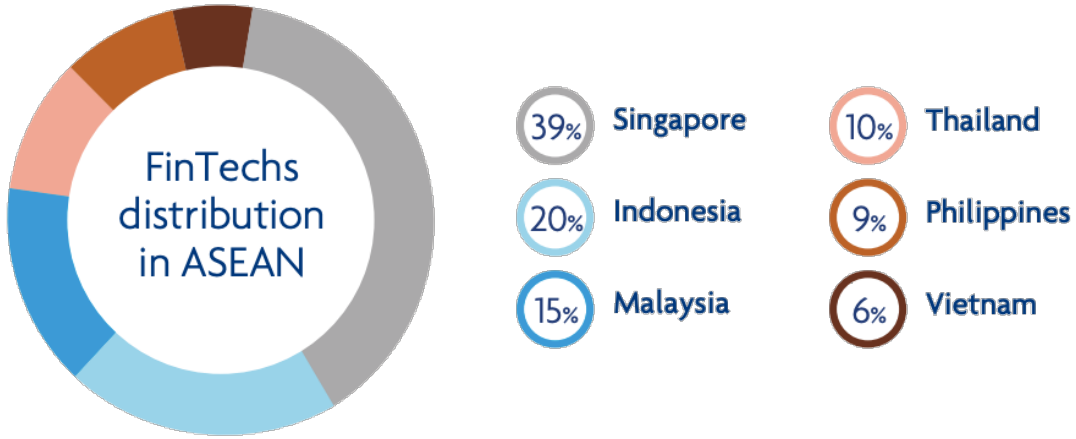


Fig. 1.3: FinTech distribution in ASEAN



Source: EY, Tracxn, Total number of FinTechs – 1228 in six countries

Example of Benefits

- Studies by Lembaga Demografi and CSIS Indonesia estimated that Go-Jek and Grab contributes Rp 44.2 trillion (US$ 2.9 billion) and Rp 48.9 trillion (US$ 3.4 billion) to the Indonesian economy.
  - Offering opportunities for the informal workers to have higher income. Go-jek and Grab partners has seen their income increase by 50% - 100% after join the platform. Their income is now higher than the average minimum wage of Rp 3.9 million per month.
  - Grabcar opens opportunity for new work: 35% of Grab drivers did not have any income prior joining Grab.
  - With minimum investment, SME merchants can have increase of sales.
  - Not exclusive to certain age group, as 32% of the drivers are middle-aged and senior workers.

Survey was conducted between Nov and Dec 2018, involved 3,418 Grab Indonesia's partners in 5

GRAB'S ROLE IN UNLOCKING INDONESIA'S INFORMAL ECONOMY IN 2018

TENGGARA STRATEGICS

CENTRE FOR STRATEGIC AND INTERNATIONAL STUDIES

Grab's technology innovation helps increase partners' productivity

GrabBike driver partners' average income increased by

▲ 113%

Rp4 MIL PER MONTH

GrabCar driver partners' average income increased by

▲ 114%

Rp7 MIL PER MONTH

GrabFood helps increase sales & market access for MSMEs

GrabFood average sales in five cities increased by

▲ 25%

Rp1.85 MIL PER MONTH

from only Rp 1.4 mil/month prior to partnering with Grab

60% GrabFood merchant partners

enjoy extra sales

Rp11 MIL PER MONTH

without extra investment

GrabBike & GrabCar create new employment

GrabBike

38%

GrabBike driver partners had no income prior to joining

- 19% Unemployed
- 9% Laid off
- 10% Failed business

GrabCar

33%

GrabCar driver partners had no income prior to joining

- 14% Unemployed
- 7% Laid off
- 12% Failed business

Grab's technology is inclusive of older driver partners

29% GrabBike driver partners

are 41 years old or above

36% GrabCar driver partners

are 41 years old or above

Grab's contribution to Indonesia's economy in 2018

Rp48.9 TRILLION

with details of the added-value as follow:

Rp15.7 TRILLION

Rp9.7 TRILLION

Rp20.8 TRILLION

Rp2.7 TRILLION

Kudo creates new jobs and increases sales

31% Kudo agents

who had no income prior to joining Kudo now receive an average income of

Rp2 MIL PER MONTH

Kudo merchant partners' sales increased by

▲ 51%

Rp10 MIL PER MONTH

from Rp 6.1 mil/month before partnering with Kudo

Labor services (BPO etc) + Desainer Kampung: from kampung to global market

- Most of them are **self-taught**, humbly refer themselves as "logo crafter" instead of designers
- Most designers have other jobs as farmers, construction workers, even head of sub-village (kepala dusun) with relatively **low-level education**
- **Do not speak English**, use Google Translate to communicate with clients and to pitch in contests
- **Earn 200-2000 USD per month** (while regional minimum wage rate is approximately 100 USD per month). Increase in income, reduction in crime and migration
- Mostly get payments through **shared PayPal account** (difficulty in getting credit card)

Government and public sector

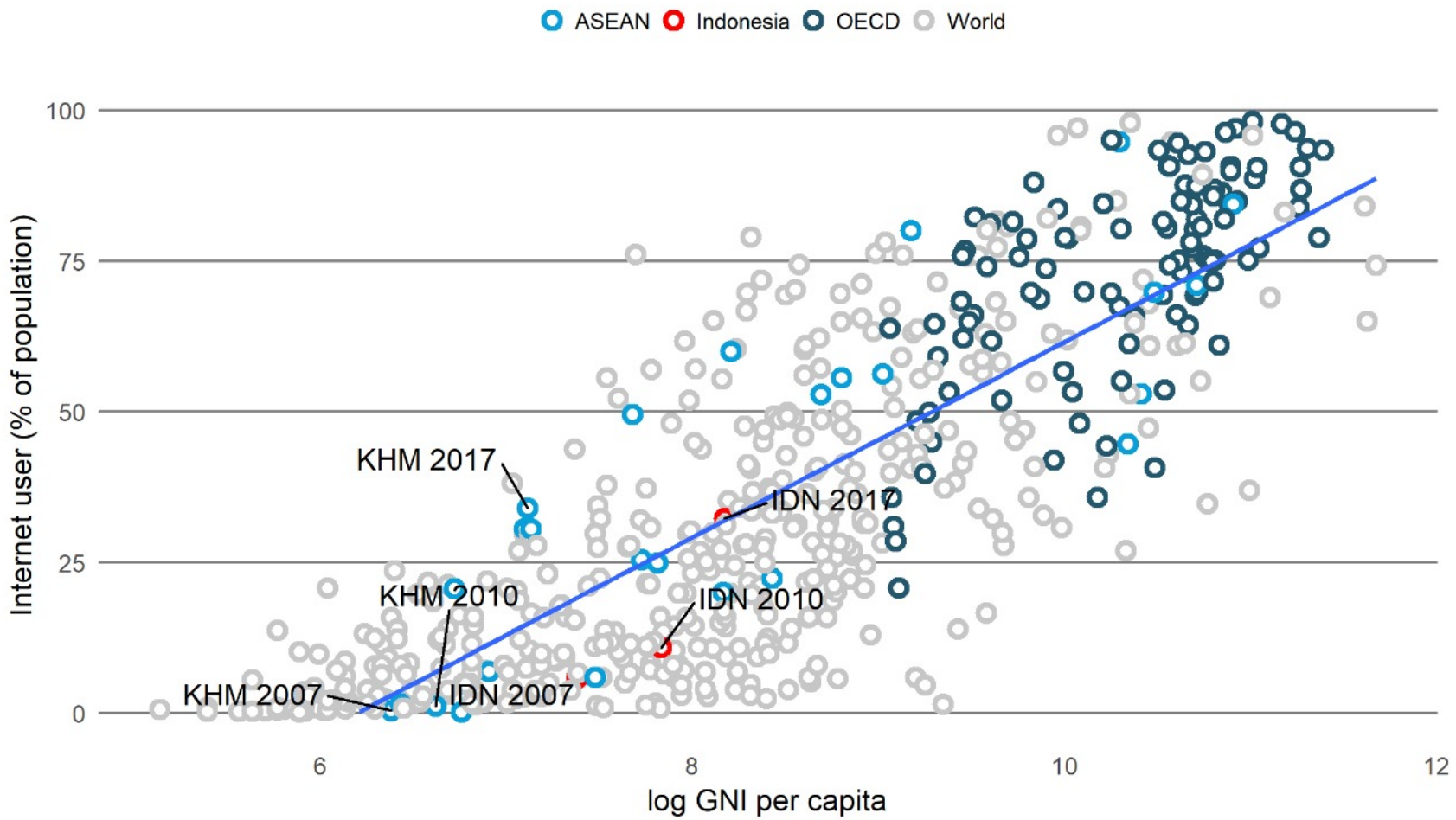
- E-government in many ASEAN countries (different levels of development) – on line applications, government procurement, taxation; and at city government level
- Citizen reporting and monitoring: a number of cities in Indonesia (Surabaya, Jakarta etc)
- Indonesian elections: kawal pemilu, PSI new party – open recruitment and interviewing (posted on you tube)
- Greater transparency, inclusiveness and efficiency

Efficiency Story

Efficiency outcome

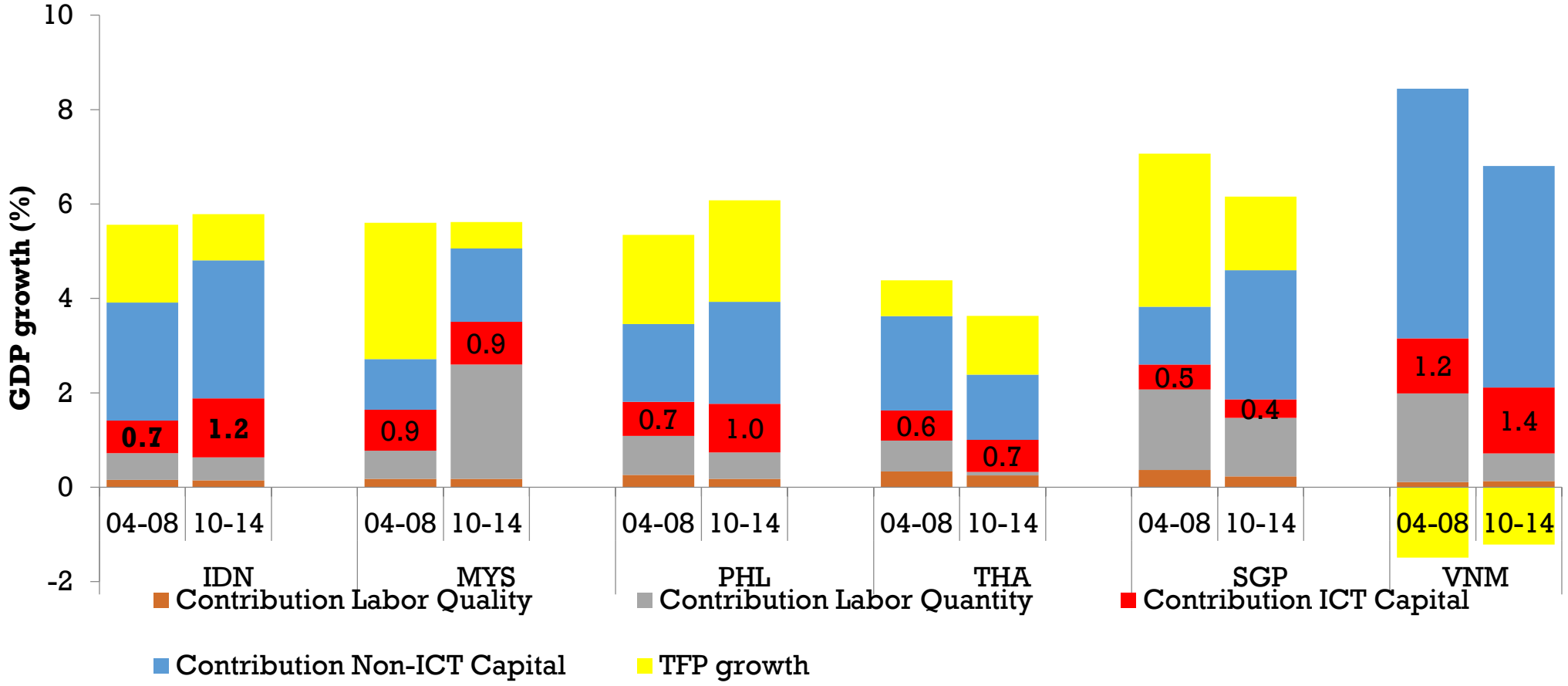
Showing the positive correlation between the usage of internet and the income per capita.

Visibly that Indonesia has improved in terms of internet usage and income per capita – but Cambodia just increase more rapidly to join the upper part of average trend.



Source: World Bank

6 ASEAN Countries: contribution of ICT capital towards total factor productivity

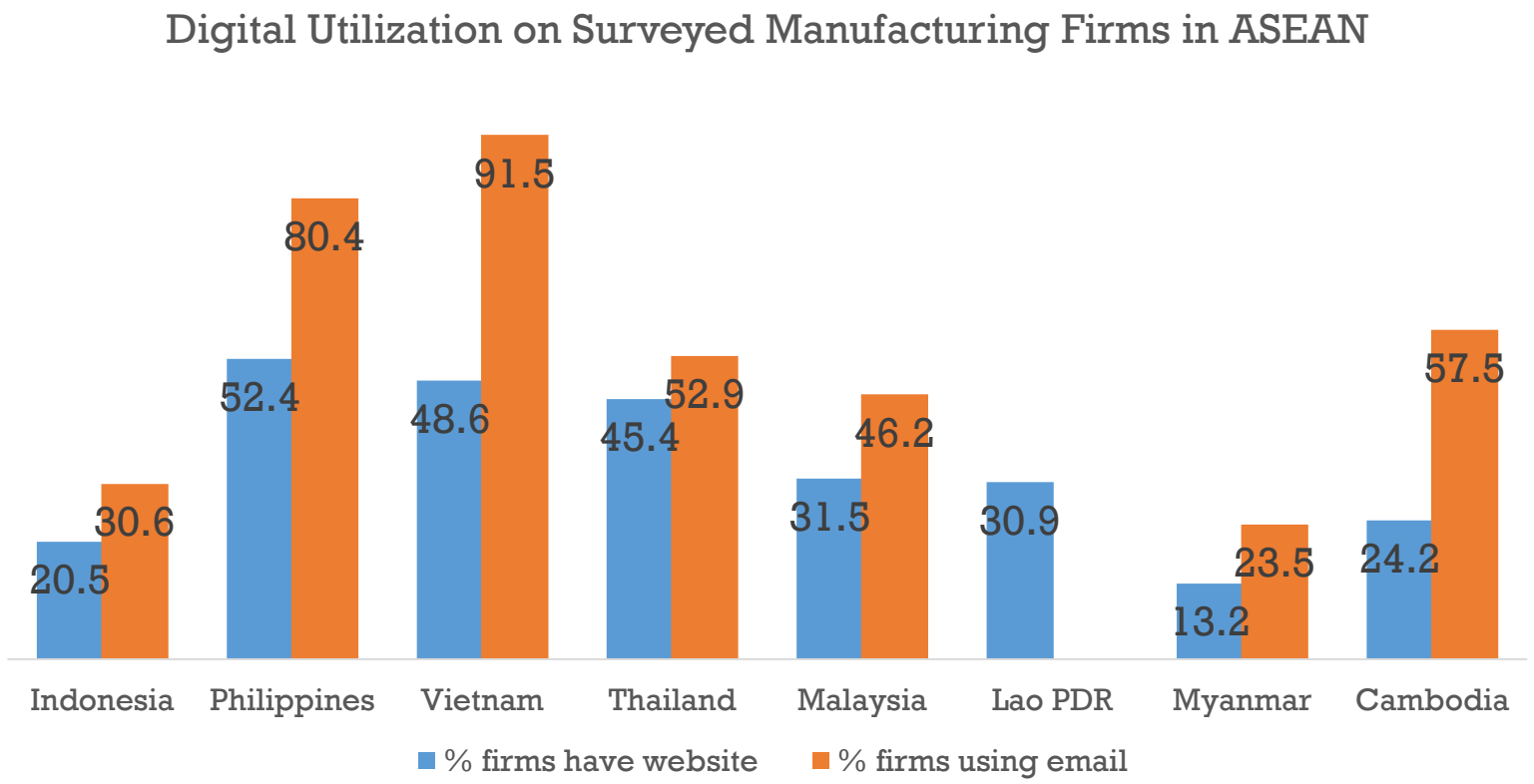


Source: The Conference Board

Studies that try to estimate technology adoption, productivity and GDP growth

- PWC, Bakkers and other researchers using CGE modelling, introduce a productivity shock (Automationm robotics, big data, e-commerce) across sectors with different assumptions – main finding is that productivity can add 1% to GDP growth world wide
- Study for Indonesia (Arief Anshory) – effect on digitization, robotics and AI, estimated that between 2020-2040, contribution to productivity increase will lead to 0.55% to growth p.a.
- Study for Indonesian manufacturing sector – mainly automation and robotization (56%)
- Sectors disrupted – adopt or not? Retail (omni channel), Automotive (ride sharing), Banks (digital, collaborate with fintech)
- **Adoption rates: ICT capital (import flow), cost, competition, digital capacity of SMEs etc,**

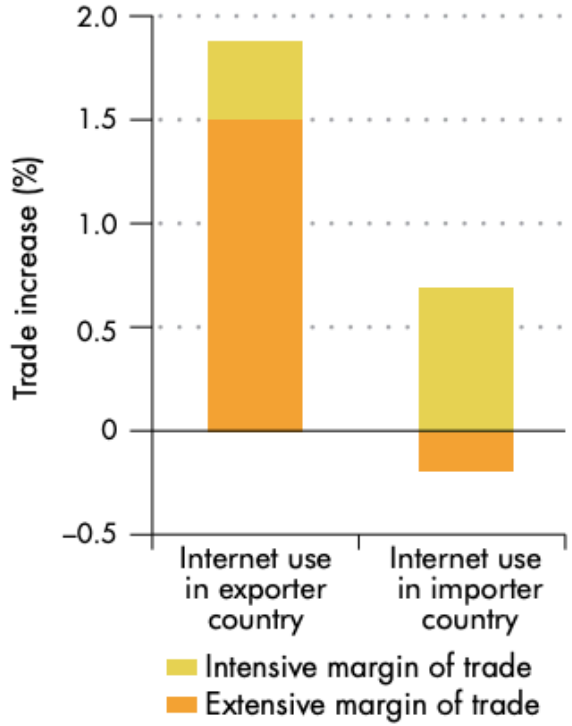
Indonesia is among the lowest countries in ASEAN at utilizing digital communication tools like website and email



Source: Enterprise Surveys (http://www.enterprisesurveys.org), The World Bank

Internet facilitates international trade and increases firms productivity

Figure 1.8 The internet enables more firms to reach new markets, 2001–12

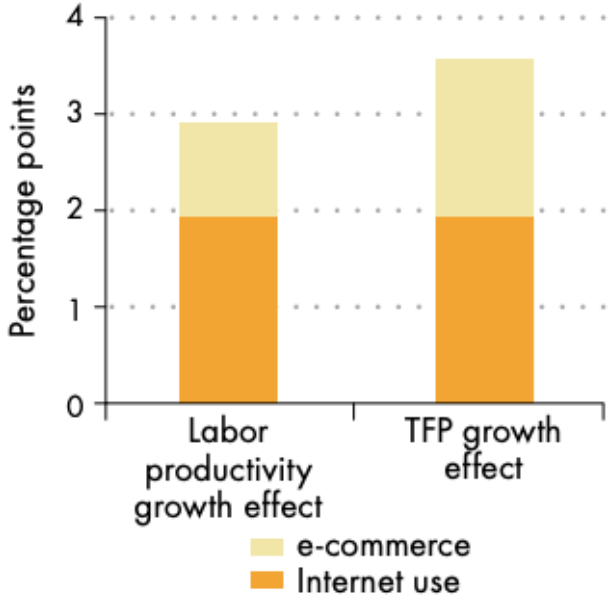


Source: Osnago and Tan 2015. Data at http://bit.do/WDR2016-Fig1_8.

Note: Extensive margin of trade: more firms start to export and more products get exported; *intensive margin of trade:* exporters increase the amount of their exports for the same products.

- Online platforms allow smaller firms to become exporters.
- Marketing goods globally become cheaper
- Enable trade in tasks – "second unbundling"
- Firms productivity increase due to efficient allocation between capital and labor

Figure 1.9 Vietnamese firms using e-commerce have higher TFP growth, 2007–12



Source: Nguyen and Schiffbauer 2015 for the 2016 WDR. Data at http://bit.do/WDR2016-Fig1_9.

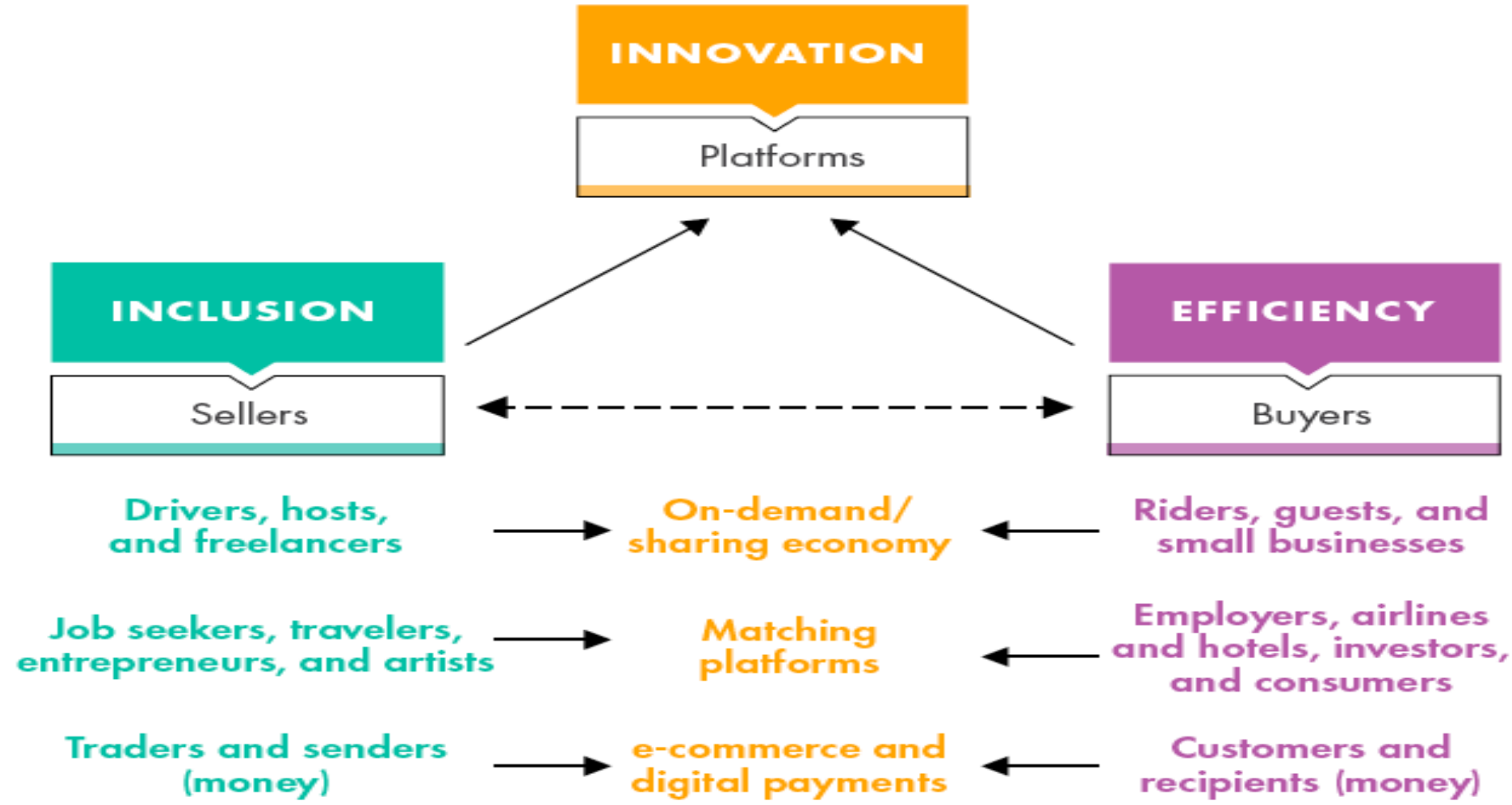
Using the WB Enterprise data to measure associated impact of digitalization in Indonesia

1. To firm productivity (level: firm)
   - **Firms with email** have 1.8x higher productivity than those without.
   - **Firms with website** have 1.6x higher productivity than those without.

2. To firm export (level: firm)
   - **Firms with email** have 7.4x higher export percentage than those without.
   - **Firms with website** have 8.6x higher export percentage than those without.

Innovation Story

Many digital transactions involve all three mechanisms in a two sided market: value from scale and data



Source: WDR 2016 team.

Pattern of innovation

- Follows path of other countries in terms of disruption and adjustment: media, travel, retail, fintech and now integration of platforms
- Beginnings of government innovative use
- Last 5-7 years rapid development in ecosystem: start ups, financing, ASEAN Based unicorns (Gojek, Grab) and attracting large players (Ten Cent, Alibaba, Softbank, Sequia)
- And the emergence of ASEAN based unicorns – attracting the large players

	GO-JEK	Grab
Valuation (December 2018)	**$9 billion+**	**$11 billion+**
Apps Download (Android, December 2018)	**50,000,000+**	**100,000,000+**
Payment Service	**Go-Pay**	**Ovo**
Services	**Transportation, Delivery, Food, Ticketing, Shop, Medical, Cleaning Service, PPOB etc.**	**Transportation, Delivery, Food, Phone Credit**

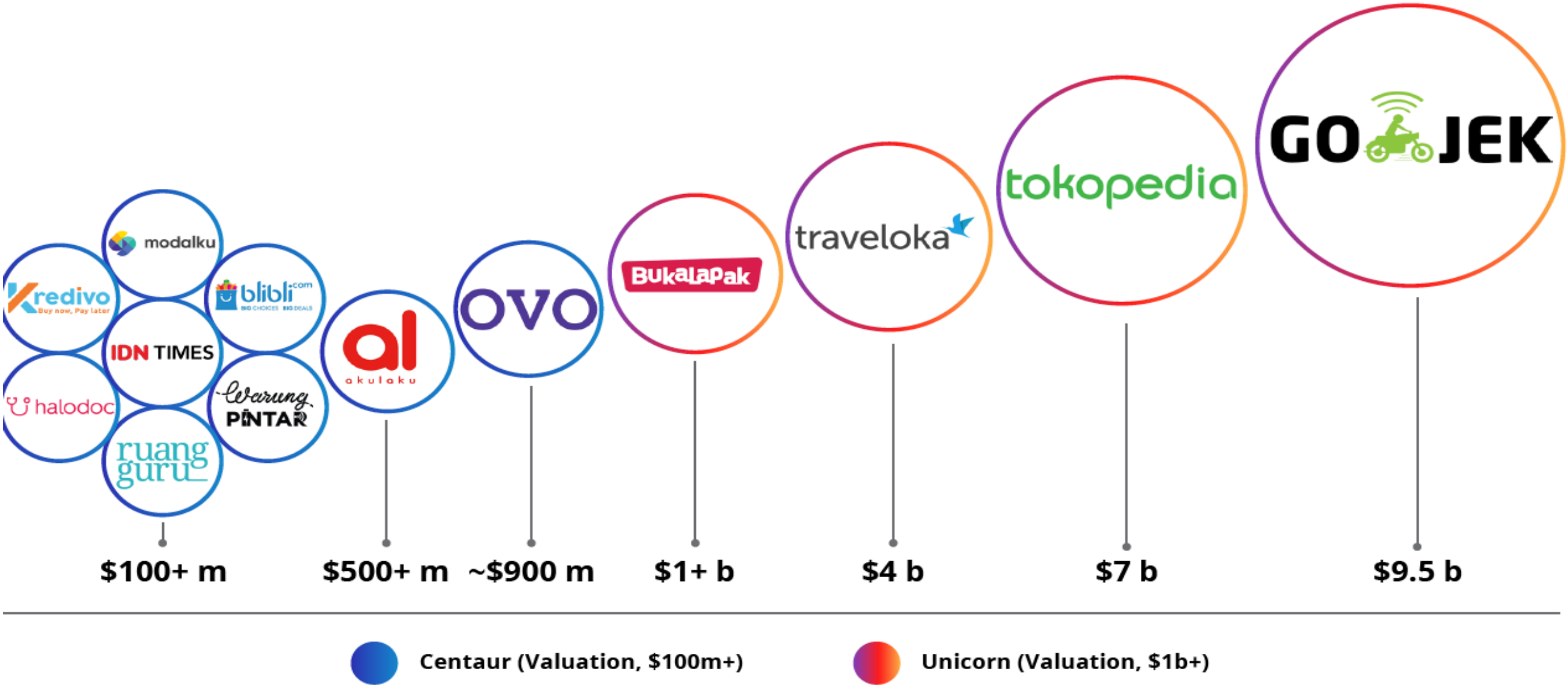
Source: Daily Social, Startup Report, 2018

Two of ASEAN Unicorn

Indonesian and Malaysian Founders

Both already enter other ASEAN markets

Indonesia Centaur and Unicorn Startup by Valuation



Source: Daily Social, Startup Report 2018

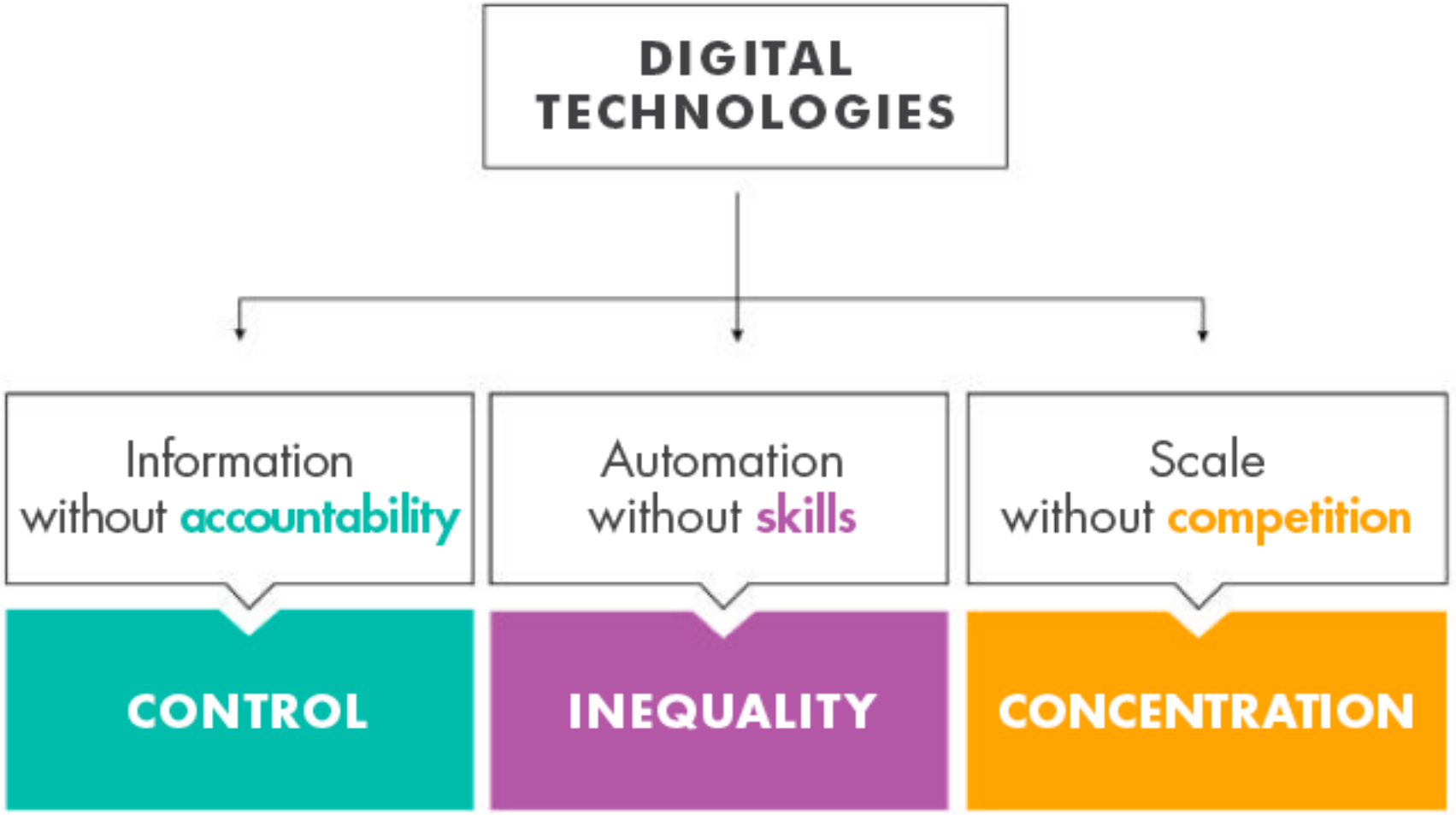
The E-Commerce Battle in ASEAN

- Shopee (SEA) which is Singapore based, with investments from Ten Cent
- Lazada which is Singapore based and ASEAN base, invested by Alibaba
- Alibaba also invested in Tokopedia
- Emtek invested in Bukalapak

	Shopee	tokopedia	LAZADA .CO.ID	BukaLapak
Big Player Supporter	**Sea Group**	**Alibaba Group**	**Alibaba Group**	**EMTEK Group**
Popularity on Google Play (Q4 2018)	**1**	**2**	**3**	**4**
DailySocial Survey (Q2 2018)	**1st (33,63%)**	**2nd (28,18%)**	**4th (14,30%)**	**3rd (17,50%)**

What are the Risks?

Without a Strategy Opportunities may turn to Risks



Source: WDR 2016 team.

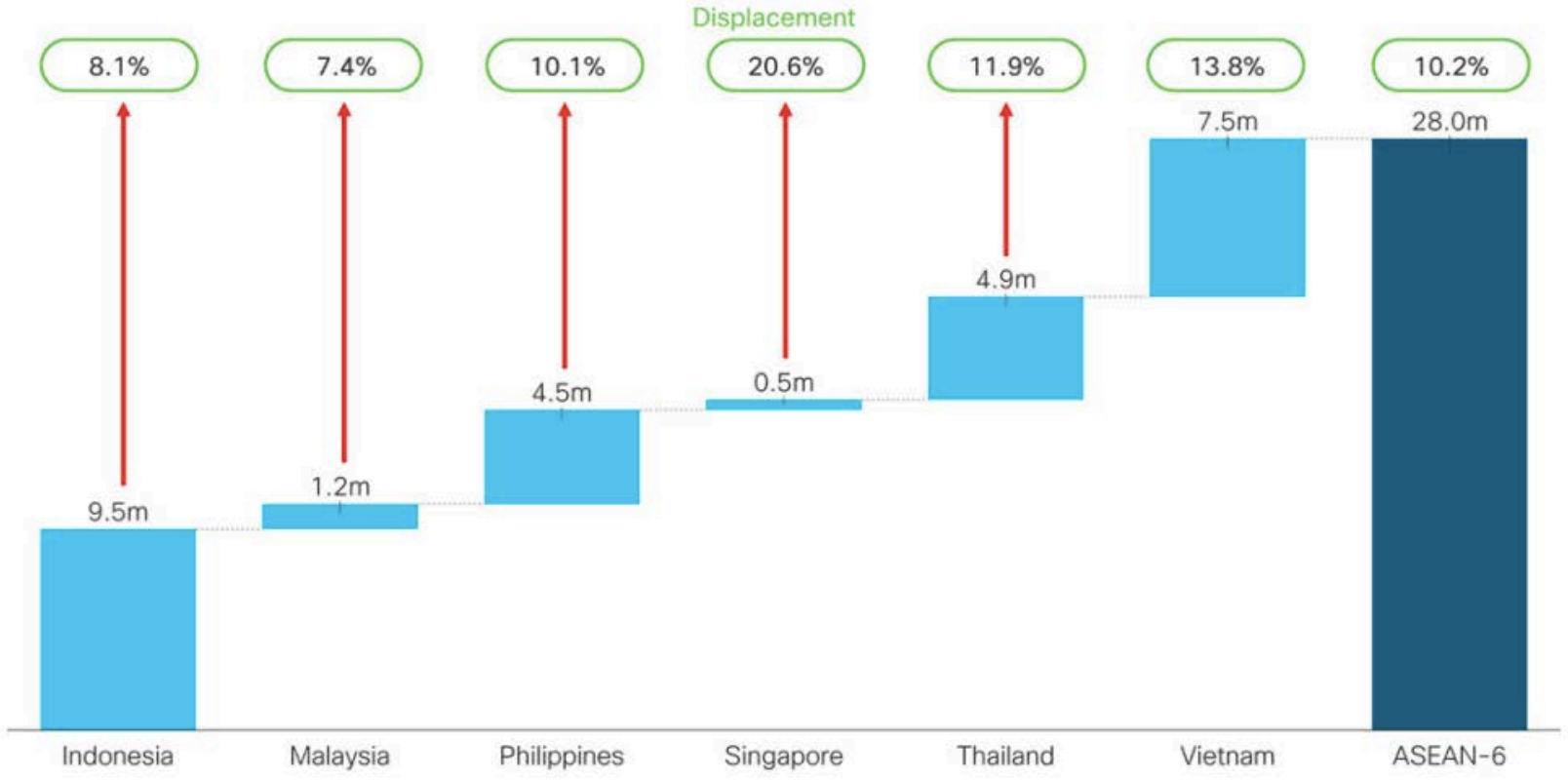
Risk: Growing Inequality

- Inequality (as measured by Gini Coefficient): connectivity only sufficient condition, lack of capacity and skill to benefit will widen inequality, adjustments are painful and take time (transition from old to new industries and jobs)
- Global trends:
  - Share of national income to labor (especially routine labor) has fallen sharply in many developing countries (also developed countries – influencing political elections)
  - Hollowing out of labor market
    - share of high and low skilled workers going up, but medium skill down (except China).
    - Unlike mechanization which replaces low end jobs, affect more middle level skill jobs
  - Historically – job displacement and losses part of technological disruption and increasing productivity and creates more decent work.
  - How to respond is the key: race between technology and education – skill upgrading.

By 2028, 10.2% of ASEAN-6 workforce will be displaced by automation

Indonesia and Vietnam will be the most affected – losing 9.5 mil and 7.5 mil workers – since the economies are heavily dependent on Agriculture sector, which accounts for 13% and 17% of the GDP.

Fig. 4. Jobs that will be displaced under our new technology scenario, by country
(Number of workers (label), share of workforce (box) 2018-2028)



Displacement, millions of full-time equivalent (FTE) workers
Source: Oxford Economics, Cisco

Technological-driven displacement in ASEAN-6 will intensively occur in Agriculture sector – affecting 13% of workforce or 10 million workers

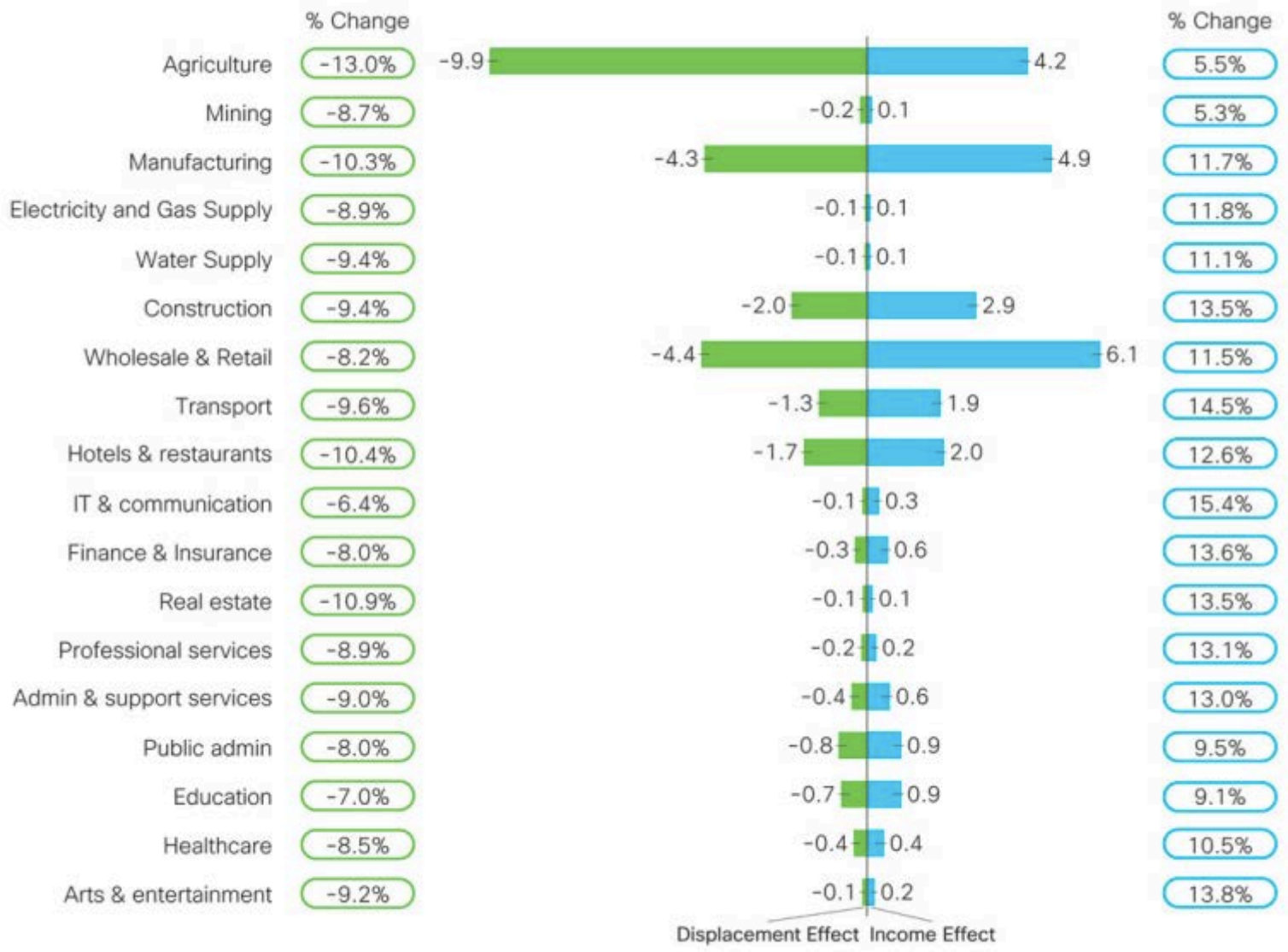
Fig. 5. Technology-driven displacement of ASEAN-6 jobs, by industry
(ASEAN-6, number of workers (axis), percentage of workforce (labels), 2018-2028)

Source: Oxford Economics, Cisco

Job lost but also created

Only Agriculture sector which visibly has net loss of jobs

Fig. 15. Displacement vs income effects of new technology scenario, by industry sector
(ASEAN-6, number of workers (axis), percentage of workforce (labels), 2018-2028)



Source: Oxford Economics, Cisco

Risk: Growing Concentration

1. Concentration of traditional industries through protection and vested interests can affect the speed of adjustment needed by these firms and others. Competition and adjustment slowed by market distortions and protection
2. Scale and concentration of on line platforms: in the face of protest from disrupted off line businesses and workers, Innovation, lower prices and convenience to consumers vs regulations to protect public safety, security issue and minimum service levels, "managing" transition
3. Dominant player issue: enjoy high profits, buy out competitors or develop rival service, local players can be outcompeted, and privacy issues regarding data (investigations of anti competitive behavior)
4. Grab and Gojek race

3. What are the Policy Implications at National and Regional level such as ASEAN?

In Brief: The Major Issues

- The Big Issue :
  - digitization means need for freedom of data flows (seamless) and allowing innovation to enter "uncharted" and "unregulated" territory **vs**
  - managing tensions i.e. 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 (openness to trade and investment – what is status on global and regional cooperation)

In Brief: The Major Issues

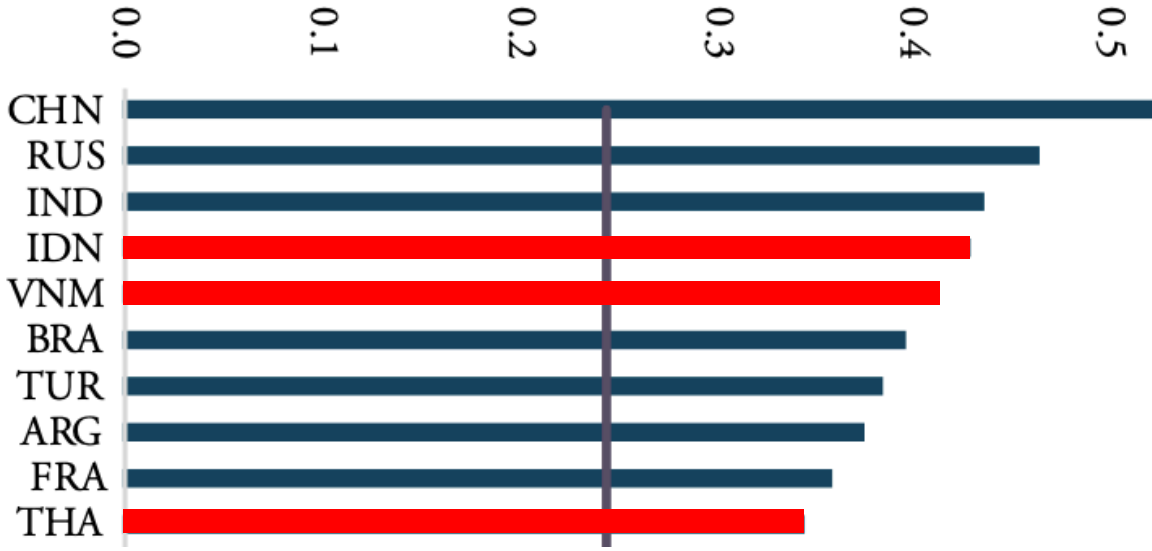
- At the same time there is the danger of a new digital divide: workers and businesses losing out and increased concentration/inequality with those who have access and capacity gaining exponentially more than the losers : how to manage transition
- Businesses need to innovate and be agile: investment in innovation will benefit from larger market (continued importance of openness – goods, services, investment, labor and now DATA - regional integration and addressing the old and new issues + interoperability and seamless flow + Trust and Data Governance)

Policy Assessment: National Level

Most have some kind of blue print and targets (quantitative and other)

- National policies focus on: ICT Infrastructure, skills development/education, E-government, regulations (general, financial – fin tech)
- Institutional structure for implementation: needs political will and whole of government approach (infrastructure, standards, regulations) + intense involvement of stakeholders (sand box for innovations)
  - Minister of Digital Economy and Society like in Thailand or National Task Force – most important is their link to the real players in the sector
  - Role for learning best practices and regional cooperation
  - Understanding the direction of regional and global regulations in this space
    - including pressures from the US – case in point India e-commerce restrictions vs GSP withdrawal, Indonesia and localization of servers), telcom technologies

Digital Restrictiveness in ASEAN



3 of the top 10 most restrictive countries are ASEAN: Indonesia, Vietnam, and Thailand

All have some form of data localization

	DTRI	Fiscal Restrictions & Market Access	Establishment Restrictions	Data Restrictions	Trading Restrictions
Indonesia	0.43	0.43	0.36	0.44	0.48
Vietnam	0.41	0.22	0.50	0.43	0.51
Thailand	0.35	0.27	0.54	0.29	0.28
Malaysia	0.34	0.2	0.45	0.35	0.35
Brunei	0.26	0.27	0.32	0.38	0.08
Philippines	0.22	0.27	0.34	0.11	0.17
Singapore	0.15	0.02	0.24	0.25	0.11

Source: ECIPE, Digital Trade Restrictiveness Index

Elements of National Digital Strategy

1. Priority - Connectivity: access, affordable and open and safe & reducing digital divide (capacity)

Physical infrastructure:

increased mobile penetration but internet penetration and usage for economic purposes still low, telecom policy (internet gateways, speed, backbone networks, spectrum management)

Technology: 5G?

Investment in ICT: tariffs on ICT related goods, and services that support digital economy

Elements of National Digital Strategy: 1. Connectivity and Digital Divide

1. Connectivity: access, affordable and open and safe and digital divide

Digital Infrastructure: open and safe & capacity

- 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

Social safety net program:

Managing Transition for jobs lost and sectors in transition: unskilled, middle skilled (routine and repetitive tasks), agriculture sector and traditional technology/standard technology sectors

Skills subsidy, training and investments by companies

2. Conducive Business Environment: balancing innovation and regulation

- Disruption of traditional sectors (protecting sectors/workers – regulations and restrictions) vs allowing innovation and adjustments
- Competition issues: concentration, winner takes all, data privacy and ownership issues
- Taxation: taxed at point of production of consumption, e.g. Google
- Openness will lead to high adoption rates and rapid adjustment: competition domestically and internationally, sourcing of inputs and talent and services (openness to goods, services, investment and people) and of course DATA (fifth freedom) --- openness vs legitimate restrictions (safety, security – privacy)

Priority for ASEAN: adapt AEC Vision and address old and new issues

- AEC Vision for economic integration: free flow of goods, services, investment, skilled labor, and freer flow of capital
- How about
  - free flow of data, seamless exchange of data? Interoperability of systems (standards)?
  - Differences in tax and investment treatments causes location in one place to deliver creative services elsewhere (digital economy – google case)?
  - E-Commerce and its challenges (level playing field – tax, standards, regulations)

Policy Assessment at Regional and International Level

- International and Regional Cooperation: where and how to organise the relevant international cooperation to deal with these issues?
- No multilateral/international governance yet but accelerating discussions/negotiations in this space
- CPTPP, USMCA, ASEAN: E-commerce chapters
- APEC: Privacy Standards (non binding)
- WTO Joint Statement and plurilateral initiative (76 countries – including US, EU, Japan and China, and a number of ASEAN countries: Brunei, Laos, Malaysia, Myanmar, Singapore, and Thailand – not yet Indonesia, Philippines, Vietnam and Cambodia)
- G20 – DFFT (Data Free Flow with Trust)

Framework of WTO E-Commerce and other International Agreements

- Enabling Digital Trade/E-commerce
  - Customs, digital trade facilitation and logistics: paperless trading, deminimis, market access to logistics and distribution services
  - Facilitating electronic transactions: on line payment
  - solutions and security, Returns processes, Electronic transaction
  - Customs duties moratorium on electronic transmissions, Definitions, Revenue and taxation implication

Framework of WTO E-Commerce and other International Agreements

- Openness and Digital Trade/E-Commerce
  - Market access: goods and services market access (ITA and ITA expansion, services relevant to e-commerce e.g. computer related services)
  - Flow of information: cross border transformation, localization of computing facilities (scope of exceptions and definitions – legitimate public policy exceptions), transparency, ownership of data
  - Access and non discrimination: open networks and internet (not unjustified filter/block, access to public/government data, treatment of digital products

Framework of WTO E-Commerce and other International Agreements

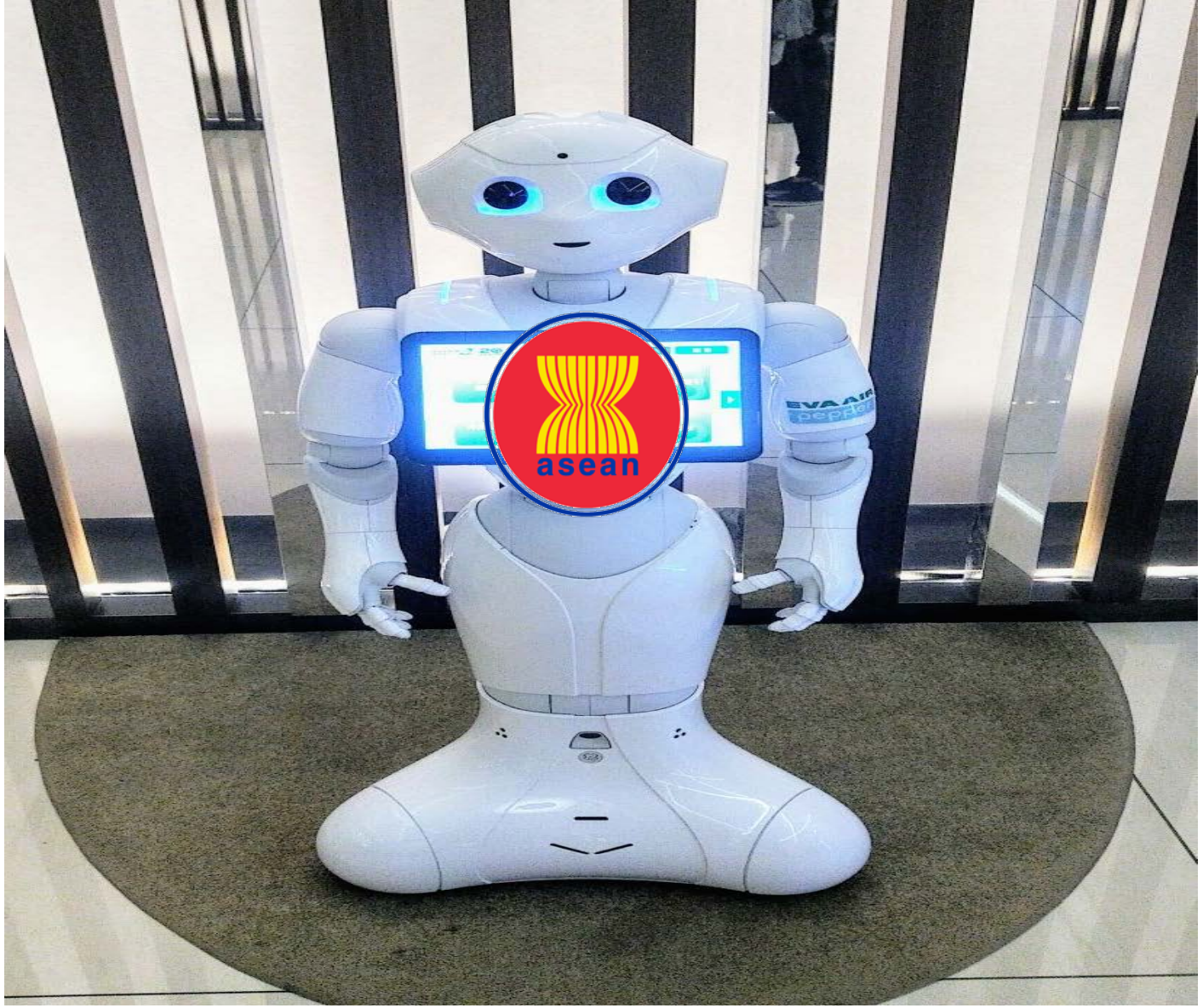
- Trust and Digital Trade/E-Commerce
  - **Business Trust**: (not mandate access to proprietary information s.t. legitimate public policy objectives) protection of industry data; source code, trade secrets and algorithm; forced technology transfer, encryption of technologies, discriminatory technology requirements, cyber security
  - **Consumer Trust**: consumer protection (consumer safety, fraud etc), protection of personal information/privacy of consumers, compatibility of different personal information protection regimes, spam, digital skills cooperation, stanadrs for supply of payment services in e-commerce
  - **IPR:** increase transparency regarding renumearation of copryright and related righ s in digital environment, copyright issues

Framework of WTO E-Commerce and other International Agreements

- Cross cutting issues:
  - Transparency: publication and accessibility of measure an dopportunities, mechanisms for reporting
  - Infrastructure Gaps and digital divide: relevant market accesst commitments, regulatory aspecs aidf or trade cooepration between international organizations and members, technical assistance and iplementation time frames
  - Mechanisms for cooperation

Maraming po.

Kop Khun Kha.



Khowp jai

Gam Uhn

Jeesu ba

Thank you. Terima Kasih. Xie xie.