

14th Management Seminar for Heads of National  
Statistical Offices in Asia and the Pacific:  
The Future of Economic Statistics

# Measuring the Digital, Platform & Sharing Economy

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## Agenda

### 1. Introduction : Digital Transformation

- Growth of Internet Use in PH
- E-commerce in PH

### 2. Measuring Digital, Platform & Sharing Economy

- Digital Sector, Digital Economy
- Platform & Sharing Economy
- Indicators and Data Sources for Measuring Platform Economy

### 3. Summary and Ways Forward

# 1. Digital Transformation

- Markets of all kinds are becoming more **digital, and digitalized**
- Transformation driven by **digital data** and **platform-centric ecosystems**

 <b>UBER</b> The world's largest taxi company, <b>owns no vehicles.</b>	 <b>FACEBOOK</b> The world's most popular media owner, <b>creates no content.</b>	 <b>ALIBABA</b> The world's most valuable retailer, <b>has no inventory.</b>	 <b>AIRBNB</b> The world's largest accommodation provider, <b>owns no real estate.</b>
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- Digitalization offers **new (market) possibilities** to businesses (and governments) and benefits to consumers, enabling 'innovative forms of production, consumption, collaboration and sharing through digital interactions' (OECD, 2018). They can also yield **disruptions at scale** adding to
  - **V**olatility, **U**ncertainty, **C**omplexity, and **A**mbiguity

# 1. Digital Transformation

## Benefits

- More connected
- Social good
- Innovations in financial market and payment systems



## Costs

- Digital divides: Dividends not inclusive within and among economies
- Erosion of privacy
- Pressure on fair competition

## Policies Needed on

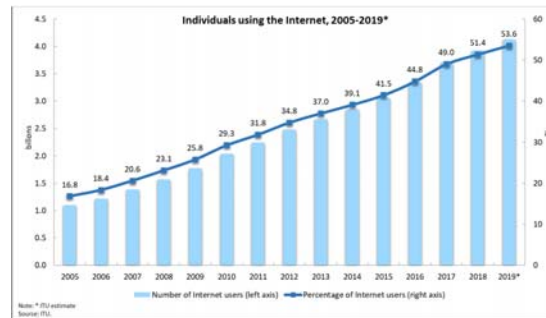
### Digital Economy

	<b>INCLUSION</b>	<b>EFFICIENCY</b>	<b>INNOVATION</b>
<b>BUSINESSES</b>	Trade	Capital utilization	Competition
<b>PEOPLE</b>	Job opportunities	Labor productivity	Consumer welfare
<b>GOVERNMENTS</b>	Participation	Public sector capability	Voice

Source: 2016 World Development Report

# 1. Digital Transformation

- Digitalization is raising **measurement issues** and **new data needs**. Measurement of digital products and transactions, especially platforms, could improve various statistics, e.g., inflation, productivity; various economic & financial statistics.
- The digital transformation is being brought about by **rapid use of internet**. ITU estimates that by end 2019, 53.9% of global popn (4.1B) are using internet.



Source: ITU

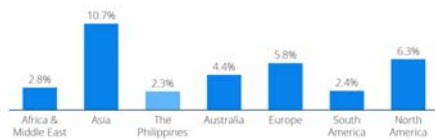
## 1.1. Growth of Internet Use in PH

- **Internet penetration and social media** use growing also in PH. Net penetration in PH is 60.1 % in 2017 up from 2.0% in 2000 (ITU).
- WeareSocial : As of Jan 2019, **PH (10 hours) leads in the "average amount of time spent per day"** on internet. Average time on social media is 4 hours. Number of FB users in PH was 79M.
  - Slightly more than half (52%) of FB users in PH are female; the bulk (17%) among young aged 18-24; In contrast, females (65%) with bigger share in IG, bulk (29 %) also between 18-24
- In 2019, **IG was most popular online platform channel used by beauty influencers** in PH.
  - Social media has become a popular avenue for beauty "influencers" and they have highly influenced consumer's buying behavior.

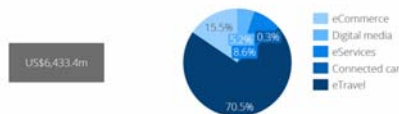


## 1.2. E-commerce in PH

Digital expenditures<sup>1</sup> as share of consumer spending per capita in 2019<sup>2</sup>



Total digital revenues<sup>1</sup> in this country and breakdown in 2019



The ecommerce market in PH is still relatively small: the country delivers the lowest average revenue per ecommerce user of any country. Removing online travel, average Filipino ecommerce shopper spent just US\$18 on online consumer goods purchases.

- GlobalWebIndex:  $\frac{3}{4}$  of net users aged 16 - 64 already shop online
- Statista: Filipinos spent US\$4.7B on online purchases in 2018, with more than  $\frac{3}{4}$  of this –US\$3.5 billion – on online travel purchases.
  - Data validated by PSA data which suggests that transportation and storage accounted for 71 per cent of turnover from B2C e-commerce in 2015, most likely from online purchases of travel services.

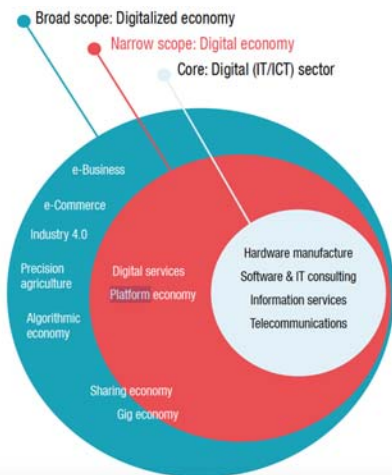
## 2. Measuring Digital, Platform & Sharing Economy

### Challenges

- Digital economy is not currently measured by many NSOs given **absence of commonly accepted definition of “digital economy” and “digital sector”**.
  - In 2016, the OECD surveyed countries on national accounts compilation practices regarding the digital economy. The 29 responses generally showed slow progress in developing estimates of the digital sector.
  - In 2017, the IMF extended the survey to some non-OECD countries, with 11 responses. Many responses indicated that measuring the digital sector was not a priority
  - Malaysia is developing an ICT satellite account that includes online platforms.

## 2. Measuring Digital, Platform & Sharing Economy

### Digital Economy



- Available evidence on digital sector suggests that digital economy is < 10 % of most economies, if measured by valued added, or employment.
  - UNCTAD [Digital Economy Report 2019](#) : global digital economy can range from a 4.5% of world's GDP (using narrow definition) to 15.5% of GDP (using broad definition) based on 67 economies (15 of these in Asia-Pacific).
- Ten developing economies compile data on the ICT sector through special ICT satellite accounts or through aggregation of the appropriate International Standard Industrial Classification (ISIC) codes.
- For PH, UNCTAD estimate of digital economy based on 2-digit ISIC is 4.5% of GDP as of 2015 (employment share of ICT to total employment is 1.0%)

## 2. Measuring Digital, Platform & Sharing Economy

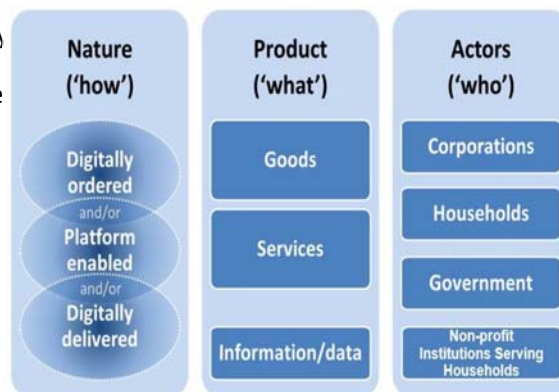
### • Defining *digital transactions* is an alternative to defining the digital economy.

- OECD advisory expert groups on a digital economy satellite account in national accounts and on digital trade in balance of payments statistics take this approach. Possible criteria for distinguishing digital transactions include *how* the transaction is made, *what* is transacted, and *who* is involved

#### ▪ Need to differentiate:

Internet economy	Freelance economy
Sharing economy	Peer economy
Collaborative economy	Access economy
On-demand economy	Crowd economy
Gig economy	Digital economy
	Platform economy

### Dimensions of Digital Transactions



Source: Fortanier and Matei (2017).

## 2.1. Platform Economy

### Challenges & Partial Solutions regarding Platform Economy Measurement

- Platform economy is **cross-sectoral** & doesn't easily fit in classifications.
  - Another challenge is **transactions are not always financial**. Economic variables such as revenue and employment are also difficult to trace since platforms spread supply across small-scale non-professional providers. Earnings and employment of these platforms may be under-estimated in traditional business/labor force surveys. Many platforms do not publish their accounts or disaggregate them across country boundaries.
  - Online platforms and providers may not be physically located in a country concerned, therefore their economic transactions are not directly part of national statistics
  - A further challenge is that **businesses are not the only actors** in the platform economy; a large numbers of individuals also participate in platforms
  - **Ad hoc methods, e.g., web scraping of site usage**, together with conduct of **new surveys**, are used by data providers other than government (such as Statista, GlobalWebIndex, GSMA Intelligence, App Annie). **Direction and extent of bias in methods and coverage unknown.**

### 2.1.1. Defining Platforms

- We can define an online platform as a digital intermediary, which matches supply and demand (of goods, services and/or information) in a multi-sided market of actors through the internet.
  - Platforms facilitate transactions, networking and information exchange

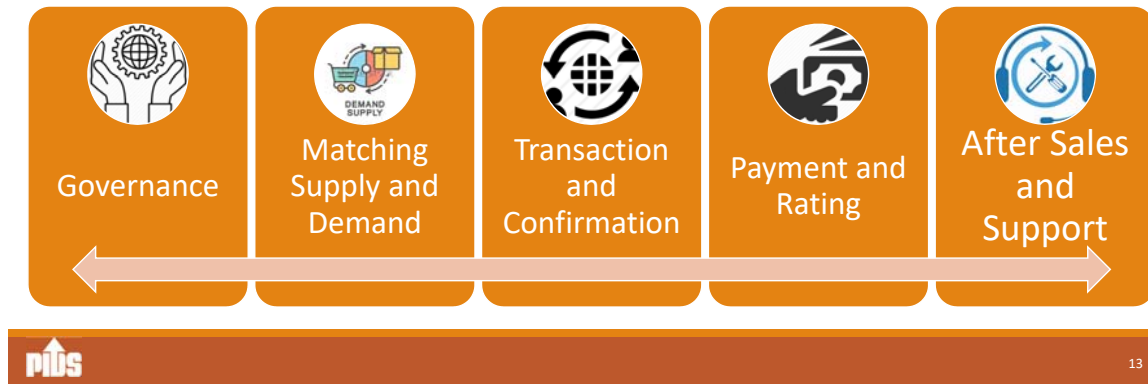
**Table 1. Possible relations between providers and users of online platform**

		User			
		Consumer	Business	Government	Science
Provider	Consumer	C2C	C2B	C2G	C2S
	Business	B2C	B2B	B2G	B2S
	Government	G2C	G2B	G2G	G2S
	Science	S2C	S2B	S2G	S2S

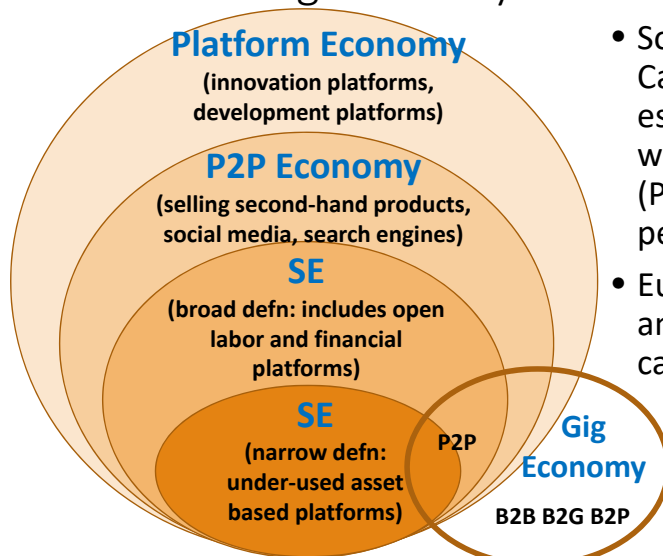
## 2.1.2. Understanding Platform Processes

- At least three groups of actors are always active within the ecosystem of online platforms, i.e. providers (supply side), users (demand side) and the digital platform (intermediary) itself

### Process Elements of Online Platforms



## 2.2. Sharing Economy



- Some NSOs, e.g. UK ONS, Statistics Canada and Eurostat, have started to estimate the **'sharing economy'** (SE), which narrows the platform economy (PE) down to mostly C2C, i.e., peer-to-peer (P2P) relations and transactions.
- Eurostat (2018) only considers sharing and lending of assets, such as homes, cars etc., as part of the sharing economy.
  - Supply of labour for small jobs (i.e., 'gig economy') and crowd funding are not seen as part of sharing economy, but as separate categories of peer-to-peer economy.

## 2.3. Main Characteristics of Platforms

- Based on an infrastructure enabled by internet technologies
- A multi-sided and mostly open market, that involves an ecosystem of at least 3 groups of actors: (i) providers (ii) users (iii) platforms. Fourth actor is advertisers
- Facilitates multi-sided matching and interactions of providers and users, actively as well as passively. For SE, interactions are limited to those of P2P, P2B and P2G.
- Enables transactions that can benefit the provider and the user, as well as the online platform.
- New business models.
  - Turnover from transaction or access commissions or advertisements or a combination; or from inclusion of extra services (insurance, logistic services or cancellation fees)
- Governed and driven by user and provider-generated data

## 2.4. Indicators for Measuring Platform Economy

### Specific data needed on online platforms and their operations

#### ■ Nature of Platform

Name and address of owner of platform (incl. HQ).  
Url(s) of the platform(s);  
Birth date of the online platform(s);  
Geographic reach of the platform's operations (local – global);  
What is exchanged between providers and users: asset and service mix (econ. activity group)  
Business model: profit - non-profit, commission-based – advertisement-based or a combination.  
Other sources of income from other services or add-ons. Or more general: how does platform make money?

#### ■ Employment

Number of persons employed (employers + employees)  
Characteristics of employed: sex, hours worked and number of jobs.

#### ■ Economic Information

Turnover, including source of the turnover  
Value added;  
Investments in platform, including type of partners;  
Type of providers: non-commercial and commercial;  
Verifying providers and their offers and checking for illegal content;  
Advertisement parties involved;  
Collection of data of providers and users and the uses of these data (e.g. algorithms and selling of data);  
Number of online platforms within an economic activity group;  
Ratio turnover online platforms – total turnover by economic activity group;



## 2.4. Indicators for Measuring Platform Economy

### Specific data needed on providers

- Total number of unique providers (active or passive) and listings;
- Background characteristics;
- Reasons to use an online platform;
- Number of transactions per year (including turnover).
- Costs made to use the platform (commission and/or access);
- Type of goods or services offered (what; economic activity group);
- International trade/cross-border transactions (percentage compared to all transactions);
- If working relationship to an online platform (relates mostly to the indirect employment): hours worked and earnings

### Specific data needed on users

- Total number of unique users;
- Background characteristics;
- Number of visits to an online platform per year;
- Number of transactions per year (money spent, including the commission to the platform);
- Type of goods or services bought or shared;
- Reasons to use online platform(s);
- Trust in platforms (e.g. role of reviews and rating systems);
- International trade/cross-border transactions (percentage compared to all transactions);

## 2.5. Data Sources for Measuring Platform Economy

### Possible options

- Make use of existing surveys, e.g., LFS (working conditions); business surveys; ICT usage of households, and ICT surveys of firms
- New survey of platforms: general (international) experience is that most online platforms are not very willing to share their information. Besides, they often have less information about their users. Issue is also how to make platforms supply their data to NSOs, even when their HQ is outside a country. Dedicated surveys, possibly coordinated at regional levels for developing economies, that could target providers and users as well as the platforms themselves
- Web scraping

### 3. Summary and Ways Forward

- New data needs arising regarding digital and platform economy. UNCTAD and some countries have worked on measuring digital economy.
  - Eurostat, UK ONS, Statistics Canada focus on sharing economy.
  - Platform economy measurement is a challenge because of complexity, cross-sector and cross-border capacity, and rapid growth
  - Data producers outside of NSOs (e.g. Statista, GlobalWebIndex, AppAnnie) are also collecting some data (including usage in platforms), and generating reports and insights on digital economy.
- NSOs can conduct new surveys or use existing surveys (e.g. LFS, business surveys, HH and Business Surveys on ICT usage) for new data, and complement traditional data with innovative sources.
- Measurements on platform economy have wide policy implications for ensure this positive dynamic of social good of platform continues while preventing abuse in the foundation layer below



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Service through  
policy research

#### Selected References

- Beck 2017. [The feasibility of measuring the sharing economy](#)
- Eljas-Taal *et al.* 2018. [A methodology for measuring the collaborative economy](#)
- Heerschap *et al.* 2018. [Measuring online platforms](#)
- IMF 2018. [Measuring the digital economy](#)
- UNCTAD 2019. [Digital Economy Report](#)
- WeAreSocial 2019. [Digital 2019 Philippines](#)

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