

Serafica, Ramonette B.; Albert, Jose Ramon G.

Working Paper

Issues on digital trade

PIDS Discussion Paper Series, No. 2018-30

Provided in Cooperation with:

Philippine Institute for Development Studies (PIDS), Philippines

Suggested Citation: Serafica, Ramonette B.; Albert, Jose Ramon G. (2018) : Issues on digital trade, PIDS Discussion Paper Series, No. 2018-30, Philippine Institute for Development Studies (PIDS), Quezon City

This Version is available at:

<https://hdl.handle.net/10419/211050>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Issues on Digital Trade

Ramonette B. Serafica and Jose Ramon G. Albert



The PIDS Discussion Paper Series constitutes studies that are preliminary and subject to further revisions. They are being circulated in a limited number of copies only for purposes of soliciting comments and suggestions for further refinements. The studies under the Series are unedited and unreviewed. The views and opinions expressed are those of the author(s) and do not necessarily reflect those of the Institute. Not for quotation without permission from the author(s) and the Institute.

CONTACT US:

RESEARCH INFORMATION DEPARTMENT
Philippine Institute for Development Studies

18th Floor, Three Cyberpod Centris - North Tower
EDSA corner Quezon Avenue, Quezon City, Philippines

publications@mail.pids.gov.ph
(+632) 372-1291/(+632) 372-1292

<https://www.pids.gov.ph>

Issues on Digital Trade

Ramonette B. Serafica and Jose Ramon G. Albert

PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES

December 2018

Abstract

From trade in goods then trade in services, we now have digital trade. While there is no universally accepted definition, an emerging consensus on the scope of digital trade is that it includes all cross-border resident/non-resident transactions that are either digitally ordered, online platform enabled, and/or digitally delivered. Since it is a new and still evolving form of trade, the conceptual and measurement issues remain challenging and will continue to be so with innovations in technologies and business applications. Nonetheless, there are various strategies, policies and activities that the Philippines can pursue to keep up with technological advances and take advantage of the opportunities associated with digital trade. We should continue to exploit our strength in ICT and ICT-enabled services while at the same time develop new sources of export growth, particularly in digital products. To ensure that the benefits of e-commerce and digital trade are more widely enjoyed, constraints in terms of e-trade-readiness should be addressed. The inhibiting factors are not limited to connectivity although it is perhaps the most critical problem for the Philippines at this stage. Policy gaps and regulatory restrictions should be reviewed to create an enabling environment for digital trade.

Keywords: digital trade, e-commerce, data flows, ICT

Table of Contents

1. Introduction	1
2. Scope of digital trade	2
2.1 Definitions	2
2.2 Evolving conceptual framework	3
2.2.1 How? The digital nature of transactions	3
2.2.2 What? The product involved: goods, services, and data	4
2.2.3 Who? The nature of trading partners	4
2.3 Examples of digital trade	4
2.4 Case: Digital labor platforms	6
3. Estimates of digital trade	9
3.1 Digitally ordered	9
3.2 Platform enabled	11
3.3 Digitally delivered	14
4. Policy and regulatory issues in digital trade	16
4.1 National and regional strategies	16
4.2 Legal framework	16
4.3 Digital Trade Restrictiveness	18
5. Recommendations	21
5.1 Exploit the comparative advantage of the Philippines in digital trade	21
5.2 Develop industry roadmaps and export strategies for digital products	22
5.3 Improve ICT and e-commerce measurement and reporting	23
5.4 Address the policy gaps and regulatory constraints	24
6. Bibliography	27

List of Tables

Table 1. Examples of digital trade by category	5
Table 2. Internet economy of the Philippines: Market size (GMV, USD B)	12
Table 3. Philippine services trade in 2017 (USD million), BOP	14
Table 4. DTRI of the Philippines	18
Table 5. Fiscal Restrictions and Market Access ranking of the Philippines	19
Table 6. Establishment restrictions ranking of the Philippines	19
Table 7. Restrictions on data ranking of the Philippines	20
Table 8. Trading restrictions ranking of the Philippines	20
Table 9. RCA index of Potentially ICT-enabled services of the Philippines	21
Table 10. E-commerce assessment (2017)	25
Table 11. Indicators of etrade-readiness	25

List of Figures

Figure 1. Global flows of trade, finance and data	1
Figure 2. Dimensions of digital trade	3
Figure 3. Categorization of commercial digital labor markets	7
Figure 4. Share in total sales from e-commerce transactions (2015)	10
Figure 5. Digital intensity of each sector (E-commerce sales as a share of the total income), 2015 (%)	11
Figure 6. ICT activities in PSIC	24

List of Boxes

Box 1. Example of a digital labor platform: Freelancer.com	8
Box 2. Transactions involved in ride-sharing service	13

Issues paper on digital trade

Ramonette B. Serafica and Jose Ramon G. Albert*

1. Introduction

Globalization has gone digital (Tyson and Lund 2016). According to MGI (2016), whereas the 20th-century global economy was shaped by significant flows of physical goods and finance, the global economy today is increasingly defined by flows of data and information leading to a more digital form of globalization. As depicted in **Figure 1** below, used cross-border bandwidth was estimated to have grown 45 times from 2005 to 2014 and it is projected to accelerate further as digital flows of commerce, information, searches, video, communication, and intracompany traffic continue to surge (MGI 2016). Key technologies underpinning the digital transformation include advanced robotics, artificial intelligence (AI), the Internet of Things (IoT), cloud computing, big data analytics, block-chain, three-dimensional (3D) printing and electronic payments (UNCTAD 2017). These digital technologies, together with other emerging technologies (such as nanotechnologies, neurotech, synthetic biology, advances in energy production and storage), are disrupting traditional commerce and business models, thus ushering the Fourth Industrial Revolution (Dadios *et al.* 2018).

Figure 1. Global flows of trade, finance and data



Source: MGI (2016)

The Philippine Development Plan 2017-2022 (NEDA 2017) acknowledges the role of digital trade and e-commerce as part of developing high-value added, competitive, and sustainable sectors. While e-commerce has already been mainstreamed in the national agenda with the formulation of the Philippine E-commerce Roadmap 2016-2020, the concept of digital trade is relatively new.

The main purpose of this issues paper is to gain a deeper understanding of this new form of trade including its implications for policy and research. Specifically, we will: a) examine the scope of digital trade; b) present available estimates of digital trade; c) identify the opportunities and challenges for the Philippines; and d) recommend areas for further research.

* Senior Research Fellows, Philippine Institute for Development Studies.

2. Scope of digital trade

2.1 Definitions

Although there is no single standard definition of digital trade to date, the concept of e-commerce is a useful starting point. The World Trade Organization (1998) defined electronic commerce as the production, distribution, marketing, sale or delivery of goods and services by electronic means. In the Philippines, e-commerce is defined for statistical purposes as “the sale or purchase of goods and services, whether between businesses, households, individuals, governments, and other public or private organizations, conducted over computer-mediated networks. The goods and services are ordered over those networks, but the payment and the ultimate delivery of the good or service may be conducted on or offline”¹.

Digital trade builds on the concept of e-commerce to include the latest digital innovations and a cross-border element. Leading international trade economist Alan Deardorff describes international digital trade as “Commerce involving more than one country for which the product itself is digital and/or any of the following are accomplished at least in part by using the internet or a similar digital technology: advertising, ordering, delivering, payment, or servicing” (Deardorff 2017, p. 38). He further enumerates the different types of digital trade as follows:

- Physical (digital) music CD or movie DVD that is marketed internationally entirely by conventional mail;
- Physical products that are advertised, ordered, and/or paid for digitally, but transported by normal trade means;
- Digital products (music, movies, books, software) that are transmitted to purchasers via the internet and are most likely to be marketed and paid for via the internet as well;
- Services that are provided remotely by digital means;
- Data storage and computer applications accessible in the ‘cloud’; and
- Online platforms that serve an international audience and are supported by advertising, such as Facebook, YouTube, IMDB, Twitter, etc.

More broadly, López González and Jouanjean (2017) refer to digitally enabled trade, which has emerged due to several factors such as reductions in transport and coordination costs as well as the falling costs of connectivity and information transfer. New technologies and digital platforms are continuously transforming traditional physical trade and changing how products are being produced, packaged, and delivered, how services are being supplied, and how suppliers and consumers are being connected replacing traditional intermediaries. They add that this new form of trade, generally called as digital trade, has not only changed how and what we trade, but also how consumers, government, and businesses interact with each other through the use of data flows which are considered a “means of production, an asset that can themselves be traded, the means through which some services are traded, and the means through which GVCs are organized” (Ibid, page 10). In their conception, digital trade

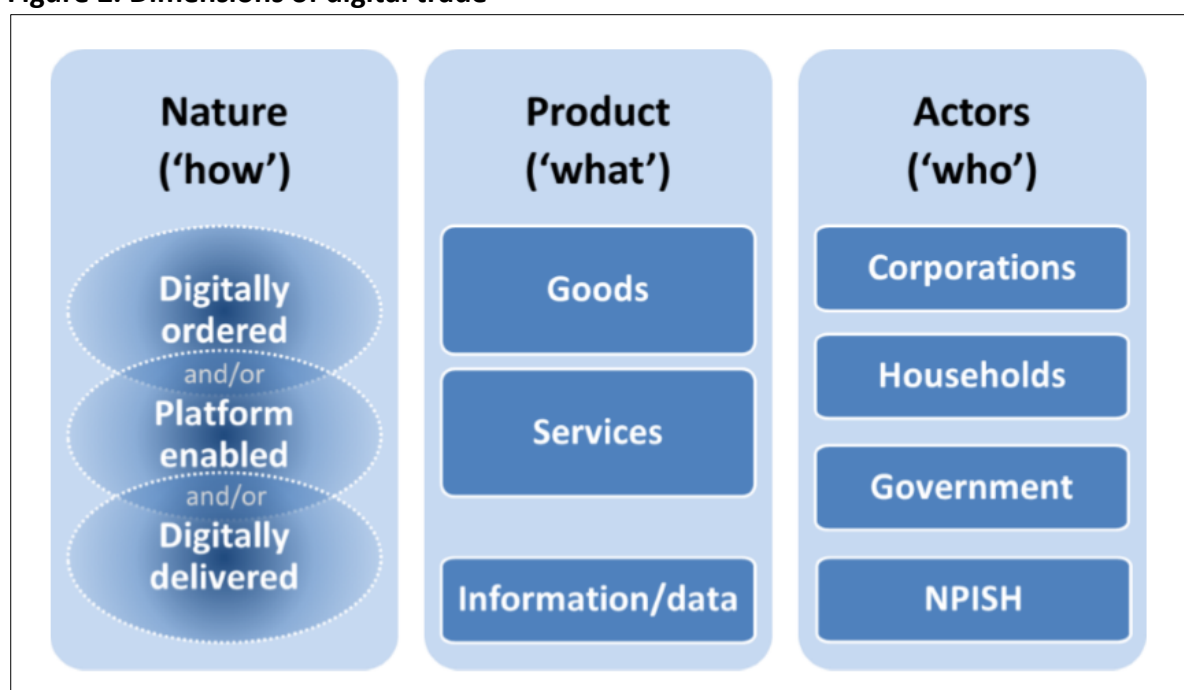
¹ <https://psa.gov.ph/content/e-commerce> (accessed on June 20, 2018)

encompasses digitally enabled transactions in trade in goods and services which can be digitally or physically delivered, and which involve consumers, firms, and governments.

2.2 Evolving conceptual framework²

A working definition of digital trade is being used by international organizations for purposes of measuring digital trade and developing internationally comparable statistics. It covers all cross-border resident/non-resident transactions that are either digitally ordered, online platform enabled, and/or digitally delivered. The conceptual framework adopted identifies three dimensions of digital trade: the nature of the transaction ('how'), the product ('what') and the partners involved ('who'). See **Figure 2**.

Figure 2. Dimensions of digital trade



Note: NPISH – non-profit institutions serving households

Source: IMF (2017)

2.2.1 How? The digital nature of transactions

The first component of the framework involves the nature of the transaction ('how') to distinguish between digital and non-digital cross-border transactions. As can be seen from Figure 2, digital transactions may have overlapping characteristics (hence, the inclusion of 'and/or'), reflecting the ordering process, the role of intermediaries, and the final delivery of the good or service concerned.

Digitally Ordered – this is the typical conception of e-commerce but with the additional requirement that it involve a cross-border element. An e-commerce transaction can be between enterprises, households, individuals, governments, and other public or private organizations. It includes orders that are made over the web, extranet or Electronic data interchange. E-commerce excludes are orders made by phone, fax or manually typed email.

² This section is based on OECD (2017) and IMF (2017).

Platform Enabled - these are transactions involving intermediary platforms. Examples of digital platforms include Amazon, Uber, Alibaba, or Airbnb. In these cases, it is not always clear where the intermediary resides which raises uncertainties on whether the underlying transactions are recorded as cross-border trade or as income flows. Additionally, even if the residence is known, it is not always clear whether cross border transactions should be recorded as 'gross' (including the value of underlying services provided between residents) or as 'net' (i.e., including only the value of the intermediation fee as cross-border).

Digitally Delivered - captures those services and data flows that are delivered digitally as downloadable products (e.g. software, e-books, data, and database services). Goods, as physical items, cannot be delivered digitally, although in the future 3D printing may result in a category of transactions that could be classified as trade in goods (i.e. digitally delivered goods).

2.2.2 What? The product involved: goods, services, and data

In addition to traditional statistics on cross-border transactions involving either goods or services, the notion of digital trade introduces a third category - information or data.

Data flows present the biggest measurement challenge for digital trade. In many cases, data flows do not result in a monetary transaction per se, but they may support one (such as generating advertising revenue). This is the case, for example, of social networking sites such as Facebook, or search engines such as Google, that offer "free" services to users who, in exchange, provide their data. There is no monetary transaction between Facebook, Instagram, Twitter, Youtube, LinkedIn, or Google, yahoo and their users (and in terms of existing international standards, no trade); however, the data collected by these enterprises forms the basis of their revenues from advertisers. While the advertising revenue monetary flow is captured in trade statistics, the data flows upon which they depend are not. In a similar manner, and because they are free, international accounting frameworks, such as the 2008 System of National Accounts (EC *et al.* 2009) and the Sixth Edition of the Balance of Payments (IMF, 2006), used by countries respectively for measuring economic performance and for recording economic transactions between residents of a country and the rest of the world, do not in general impute transactions related to the use of public goods (such as opensource or free software).

2.2.3 Who? The nature of trading partners

International trade is traditionally considered to take place between enterprises—and to a lesser extent between enterprises and governments. Technological change has, however, provided individual consumers (households) with the possibility to purchase goods and services from foreign suppliers on a scale that was hitherto impossible. Similarly, the possibility to sell online has lowered—or has in any case the potential to lower—the barriers to export, allowing, especially, smaller firms to market their products abroad.

2.3 Examples of digital trade

Table 1 provides examples of digital trade based on the dimensions described above. As noted earlier, a single transaction can involve one or all three forms of digitally-enabled trade.

Table 1. Examples of digital trade by category

How?			What?	Who?	Description
Digitally ordered	Platform enabled	Digitally delivered			
Y	N	N	Good	B2B	An enterprise in country A purchases a good online, directly at the supplier of the products located in country B, via the supplier's web-shop or EDI. For example, a component used in the production.
Y	N	N	Good	B2C	A consumer in country A purchases a good (e.g. clothes) online (for final consumption), directly at the web-shop of the supplier of this product located in country B.
Y	Y	N	Good	B2B	An enterprise in country A purchases goods, from a supplier in country B, via an online platform which may be located in country A, country B or elsewhere. For example, the ordering of office furniture via eBay.
Y	Y	N	Good	B2C	A consumer in country A purchases a good online from a supplier in country B, via an online platform, which may be located in country A, country B or elsewhere, for final consumption, for example ordering a book on Amazon.
Y	N	N	Service	B2B	An enterprise in country A purchases a service online, directly at the supplier, but the service is delivered physically (for example a transportation service).
Y	N	N	Service	B2C	A consumer in country A purchases a service online, directly at the supplier in country B, and the service is delivered physically (for example, a hotel reservation made directly at the hotel).
Y	Y	N	Service	B2B	An enterprise in country A purchases a service online from a supplier in country B, via an online platform, which may be located in country A, B or elsewhere. The service is subsequently physically delivered (for example standardised maintenance or repair services).
Y	Y	N	Service	B2C	A consumer in country A purchases a service from a supplier in country B, via an online platform; the services is subsequently physically delivered, for example, tourist ordering a ride-sharing service (Uber).
Y	N	Y	Service	B2B	An enterprise in country A purchases a service online, directly at the supplier, which is subsequently also delivered digitally (for example, standardised maintenance or repair services)
Y	N	Y	Service	B2C	A consumer in country A purchases a service online, directly at the supplier from country B, which is subsequently also delivered digitally, for example an insurance policy

Y	Y	Y	Service	B2B	An enterprise in country A purchases a service from a supplier in country B via an online platform, which may be located in country A, B or elsewhere. The service is delivered digitally. For example, a firm orders a logo design via a platform for graphical designers.
Y	Y	Y	Service	B2C	A consumer in country A purchases a service from a supplier in country B, via an online platform, which may be located in country A, B or elsewhere. The service is delivered digitally. For example, music streaming subscriptions.
N	N	Y	Service	B2B	An enterprise in country A places an offline order for a service at a supplier in country B, the service is subsequently digitally delivered. For example bespoke consultancy services, BPO services.
N	N	Y	Service	B2C	A consumer in country A purchases a service offline at a supplier in country B, but the service is digitally delivered. For example educational services with online lectures.
Y	Y	N	Service	C2C	A consumer in country A purchases a service from another consumer in country B, via an online platform, located in country A, B or elsewhere. The service is physically delivered. For example accommodation sharing (Airbnb).
Y	Y	N	Good	C2C	A consumer in country A purchases a good from another consumer in country B, via an online platform, located in country A, B or elsewhere. For example second hand goods transactions via online market places.

Source: OECD (2017), pages 9-10.

2.4 Case: Digital labor platforms

Of importance to the Philippines is the rise of digital labor platforms. Schmidt (2017) developed a typology of digital labor platforms based two questions: (1) are the services and tasks coordinated via the platform bound to a specific location and (2) are these services and tasks bound to a specific person. He explains that the answer to these questions have significant implications for how the platforms operate, the situation of the independent contractors, the legal framework that applies and potential regulatory measures.

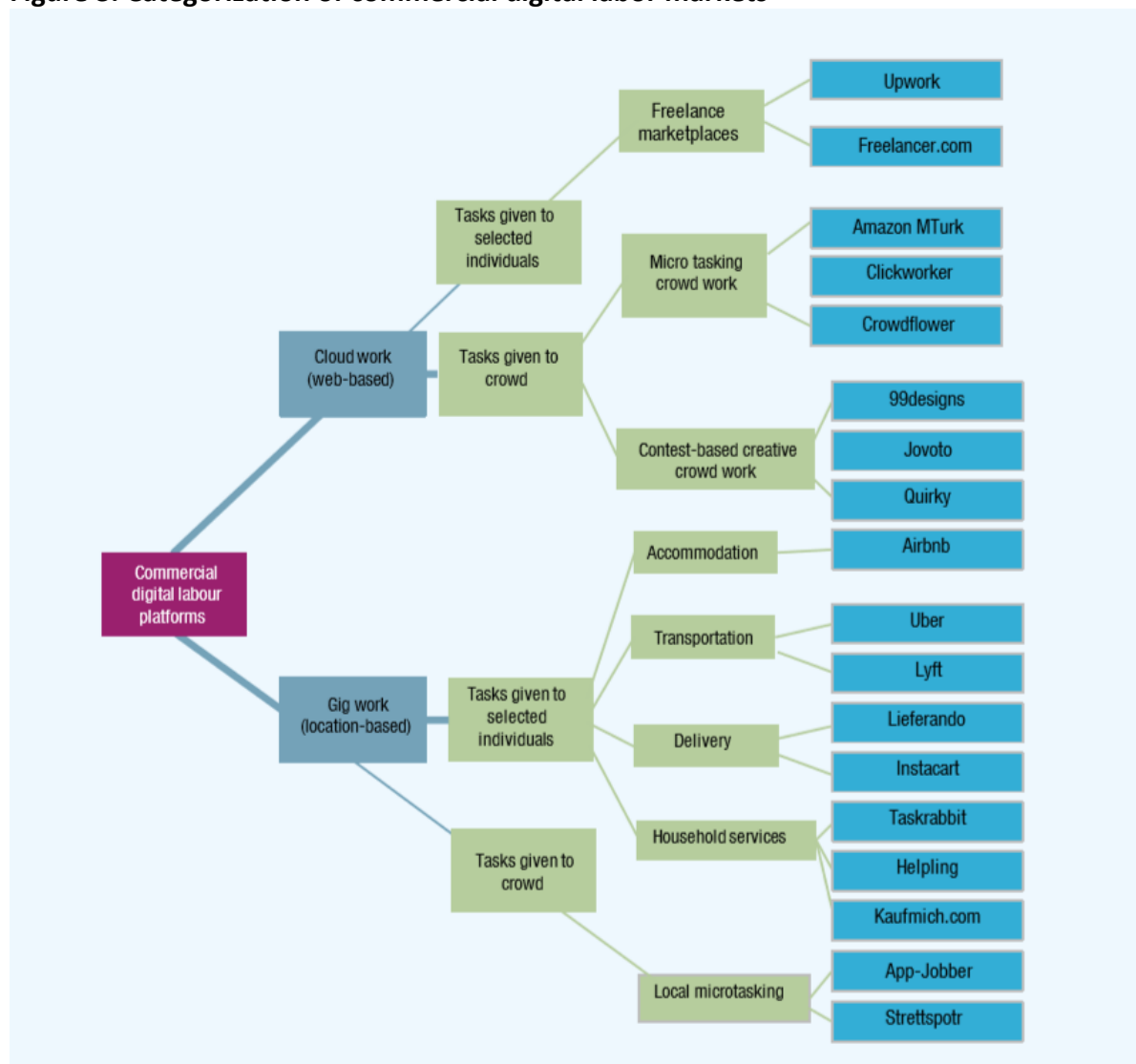
If the task is not location-based and can be done remotely via the internet, it is **cloud work**. If the task is not given to a specific individual but to an undefined group of people online, it is **crowd work**. If the task is further subdivided into tiny units for piecemeal work, each paid for with an equally tiny amount of money, it is **micro tasking crowd work**. If the task cannot be subdivided but is solved in a redundant fashion, in parallel, by an entire crowd, while in the end only one result is used and paid for, it is **contest-based crowd work**. It is considered **gig work** when a task has to be done at a specific location and time, by a specific person that is responsible for task. Location-based services are further differentiated by the degree of personal involvement necessary and the degree of opportunities and risks they entail for the independent contractor. Based on these factors, Schmidt (2017) identified six basic types of

digital labor platform although in practice, there are many hybrid platforms and further subcategories:

- Cloud work (web-based digital labor) - freelance marketplaces; micro tasking crowd work; and contest-based creative crowd work
- Gig work (location-based digital labor) – accommodation; transportation and delivery services; and household services and personal services.

See **Figure 3** for the different types of digital labor platforms. As discussed above, to be recorded as cross border trade, the transactions should involve a resident and a non-resident. Since digital platforms are multi-sided markets, at least one of the parties - the supplier of the service, the consumer of the service, an advertiser (if any), or the intermediary (i.e. platform) must be a non-resident.

Figure 3. Categorization of commercial digital labor markets



Source: UN (2017, page 48) reproduced from Schmidt (2017)

According to UNCTAD (2017), the largest numbers of online jobseekers are located in India and the Philippines indicating possible spillover effects of business process outsourcing (BPOs). Box 1 provides an example of a digital labor platform which caters to Filipino freelance workers.

Box 1. Example of a digital labor platform: Freelancer.com

Freelancer.com, a global crowdsourcing marketplace website has more than 30 million registered users. With 1.1 million registered users, the Philippines is the fourth largest market of the platform next to India, the United States, and Pakistan. About 70 to 75 percent are millennials or people between 18 and 37 years old. Women make up round 30 percent of the users, up from a 10 percent share in the past.

There are 1,000 different jobs in the Freelancer.com platform. The number one category is IT such as website development, app development, programming, etc. Next would be design, and within design, there is banner design, logo design, graphic design, industrial design, 3D modelling. The other is marketing and communications such as copywriting, book writing, article writing and Google ads, Facebook ads, Instagram ads, etc. The five leading job categories for Filipino freelancers using the platform are data entry clerks, PHP developers, graphic designers, Excel experts, and Photoshop designers.

The leading clients for local freelance workers are India, USA, Philippines, Australia, and UK. While registration is free, Freelancer earns from its share once jobs are awarded. The client is charged 3 percent of the total amount of the job while the freelancer is charged 10 percent. The average project or job which can take from four hours to two days is \$196.

Sebastian Siseles, Vice president for international operations of Freelancer International Pty. Ltd, believes that on-demand work is the future of the job market. "Forbes magazine said that by 2027, the largest portion of workers will be freelancers. Why is this happening? First is connectivity. People are connecting at a very fast rate. Second, the millennials are joining the workforce. This job market is disrupting the classic way of working, thanks to the millennials. So connectivity and millennials joining the workforce are the two biggest things that are disrupting the job market," he says.

Sources: dela Cruz (2018) and de Leon (2018)

3. Estimates of digital trade

The conceptual framework proposed by international organizations is part of a bigger effort to capture digital trade in national macroeconomic accounts and develop internationally comparable statistics. As can be gleaned from the previous discussions, even with a workable conceptual framework the task of measuring digital trade is fraught with many challenges. For one, technological innovations are creating new business models, products and services that do not fit exactly within traditional classifications (e.g. Grab is a ride hailing app which traverses transport services, business services, ICT services, and now financial services³). Additionally, more liberal tariff regimes to encourage global e-commerce means that merchandise with a value below the de minimis threshold enter freely and may not be recorded in official statistics when they cross borders (i.e. small value transactions are not captured in trade statistics). Even if these were recorded in trade statistics, there is no way of determining whether the goods were purchased online or resulting from a digitally enabled transaction (López González and M. Jouanjean 2017)

Quantifying and valuing data flows is quite difficult. Not only is the concept of digital trade still evolving but as The Economist⁴ lamented, “Trade in data seems very important, but there are no good, er, data on it.” It notes that even though a highly cited McKinsey study, MGI (2016), yields impressive numbers, it still relies on rough measures, which are valued using statistical correlations rather than precise measurements. Furthermore, statisticians face the following problems: (1) current trade data does not usually record how services are provided, (2) there is no clear correlation between the volume of data and its value, and (3) identifying where exactly data are adding value. The data that crosses borders are mostly unpriced and tend to generate value only indirectly. In social networking sites and search engines for example, the information flows are free on one side of the platform but are of high value on the other side supporting economic activities such as advertising. These advertising streams maybe eroding revenue streams of some traditional businesses, such as television networks⁵.

In this chapter, we explore some possible estimates of digital trade of the Philippines using as a guide the working definition which covers all cross-border resident/non-resident transactions that are either digitally ordered, online platform enabled, and/or digitally delivered.

3.1 *Digitally ordered*

UNCTAD (2017) estimates that global e-commerce sales amounted to \$25.3 trillion in 2015 (\$22.4 trillion for B2B plus \$2.9 trillion for B2C). Global B2B sales were estimated based on official data for China, Japan, the United States and the EU, which accounted for 67 per cent of world GDP in 2015. It notes that despite growing interest in cross-border e-commerce (a component of the working definition of digital trade), “there are virtually no official statistics on its value, as few countries publish official estimates of such transactions” (Ibid, page 32). Based on the limited information from official statistics and market research, UNCTAD estimates that cross-border B2C e-commerce in 2015 amounted to \$189 billion, with some 380 million consumers making purchases on overseas websites.

³ <https://www.philstar.com/business/2018/09/28/1855268/grab-expands-e-payment-service>

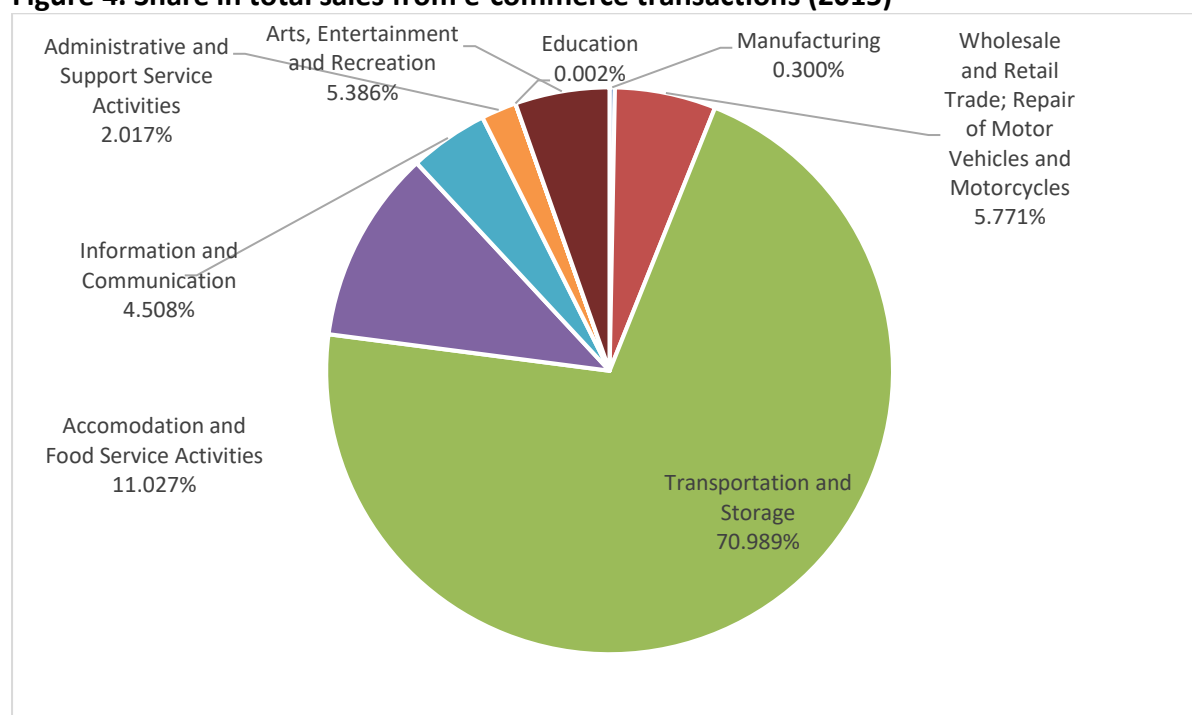
⁴ <https://www.economist.com/finance-and-economics/2016/06/16/priceless>

⁵ <https://business.inquirer.net/255258/abs-cbn-h1-income-41>

The UPU, UNCTAD, OECD and WTO are collaborating to measure cross-border e-commerce transactions, generally recognized as one important dimension of digital trade (OECD 2017). This work makes use of existing enterprise surveys of economic activity. Further, attempts to address some data gaps are being explored with the use of innovative data sources, such as big data from financial, transport firms and internet trading platforms, as well as postal data.

For the Philippines, based on the 2015 Annual Survey of Philippine Business and Industry (ASPBI), conducted by the Philippine Statistics Authority (PSA), which covers the formal sector only, sales from e-commerce transactions in 2015 reached PHP44.4 billion. See Figure 4 for the share of each sector in the total e-commerce sales.

Figure 4. Share in total sales from e-commerce transactions (2015)

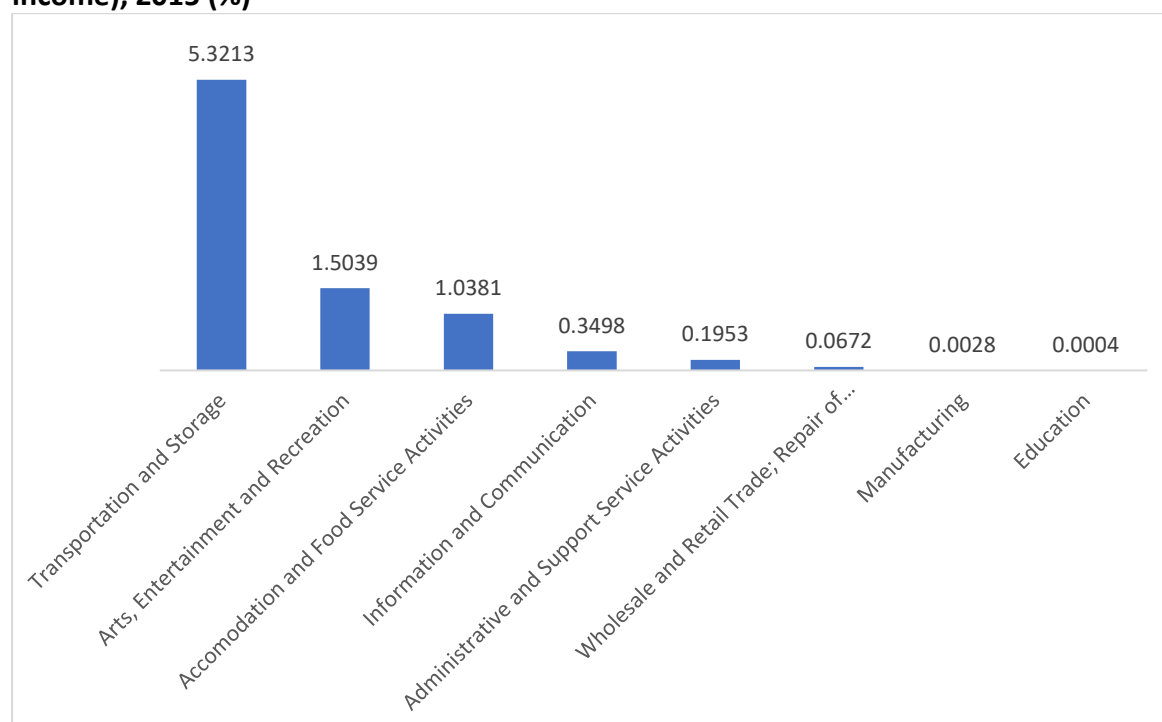


Source: PSA (2018)

The following sectors did not report any e-commerce transaction for 2015: Agriculture, Forestry and Fishing; Mining and Quarrying; Electricity, Gas, Steam and Air Conditioning Supply; Water Supply; Sewerage, Waste Management and Remediation Activities; Construction; Financial and Insurance Activities; Real Estate Activities; Professional, Scientific and Technical Activities; Human Health and Social Work Activities; and Other Service Activities.

The proportion of online sales to total sales is one indicator of digital intensity (USITC 2013). For the Philippines, e-commerce sales accounted for 0.3 percent of total income in 2015. See **Figure 5** for the digital intensity of each sector.

Figure 5. Digital intensity of each sector (E-commerce sales as a share of the total income), 2015 (%)



Source: PSA (2018)

Unfortunately, the relevant indicator for measuring digital trade, viz., cross-border e-commerce, is not reported. While the share of sales to customers outside the Philippines is included in the questionnaire of the PSA's Survey on Information and Communication Technology (SICT) but to date, this has not been reported in official e-commerce statistics by the PSA.

Another estimate of the size of e-commerce in the Philippines based on industry research is presented in the next section.

3.2 Platform enabled

There are currently no figures on the value of transactions through digital platforms. One estimate, the size of the internet economy, covers both platform and non-platform digital transactions⁶. According to Google and Temasek (2018) the size of the Philippines' internet economy in 2018 is about USD 5 billion or 1.6% of GDP. Their estimate covers four key sectors of the internet economy: Online Travel (Flights, Hotels, Vacation Rentals); Online Media (Advertising, Gaming, Subscription Music and Video on Demand); Ride Hailing (Transport, Food Delivery); and e-Commerce (First-Hand Goods). It does not include other sectors of the internet economy that are still in the early stages of development or lack reliable

⁶ As noted earlier, digital platform acts as an intermediary between two or more distinct sets of users or customers. Not all e-commerce transactions are platform-enabled. For example, booking a flight or accommodation directly with the airline or hotel through their respective websites is an e-commerce transaction that does not involve a digital platform.

data sources, such as Education, Financial Services, Healthcare, and Social Commerce. See **Table 2**.

Table 2. Internet economy of the Philippines: Market size (GMV, USD B)

Category	2015	2018	CAGR (2015-2018)
E-commerce - includes e-Commerce sales from businesses to consumers (B2C) and sales on marketplaces where first-hand goods are sold by small and medium businesses to consumers (SMB-2-C). It does not include sales of second-hand goods by consumers to consumers (C2C) nor sales conducted via social media platforms (Social Commerce), for which estimates vary due to lack of reliable sources.	0.5	1.5	42%
Online media - includes Online Advertising, Gaming, and Subscription Music & Video on Demand*	0.4	1.3	45%
Online travel - includes Online bookings for flights, hotels, and Online Vacation Rentals*	1.1	1.8	16%
Ride hailing - includes Online transport and Online Food Delivery*	0.3	0.5	29%
TOTAL INTERNET ECONOMY	2	5	30%

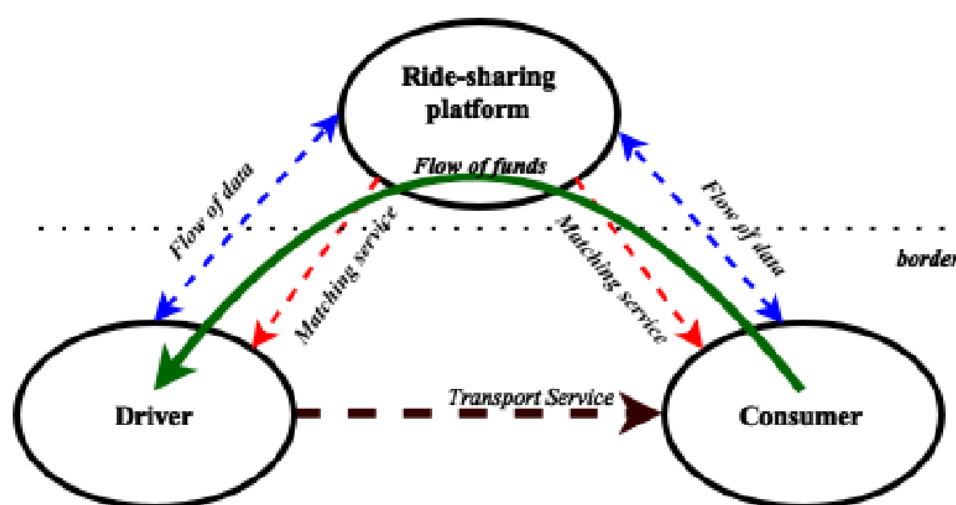
* added in 2018; GMV – gross merchandise value

Source: Google and Temasek (2018)

As in the previous case, the challenge is in determining the cross-border aspect of a platform-enabled digital transaction. López González and Jouanjean (2017) provide the example of a ride-sharing service, which involves the purchase of a transport service. They explain that how the service is provided determines whether or not there is a trade transaction in the first place and importantly how this transaction is to be measured. See Box 2.

Box 2. Transactions involved in ride-sharing service

In the “physical world”, a taxi would pass in front of a customer who would pay for the ride in cash or by card. The ride-sharing matching platform adds a new tradable digital service enabling the transaction by matching the car driver and the customer and managing payment. The transaction between the driver and the rider (consumer) takes place in a particular country, but the supporting transactions, the provision of the matching services, payments and insurance cover, are potentially provided from another country (assuming, as in this example that the ride-sharing platform is not operating through a mode 3 local presence). The unpacking reveals two other components – a payment made to the platform reflecting its intermediation role, and a payment to the driver who ultimately provides the transport service. Arguably the former service could be considered ‘digitally delivered’ and the latter ‘physically delivered’.



Note: The figure is schematic and is used for illustrative purposes only, it does not purport to reflect how ride-sharing businesses are run.

Source: López González and Jouanjean (2017), pp. 15-16

For the Philippines, it is likely that most of the transactions using a digital platform qualify as digital trade, even if both sides of the market in a two-sided platform are locally based (same applies with a multi-sided platform). This is because most of the popular digital platforms used domestically are foreign brands. Even if they have commercial presence in the country, the payments to these platforms typically go directly to their overseas affiliate (the regional headquarters). As such, the intermediary services provided by the platform are imported. If payments go to the local affiliate, then the service provided will not be considered as cross border supply (or Mode 1 services trade recorded as a trade flow) but rather as supply through commercial presence (or Mode 3 services trade recorded in primary income flows). Both are considered trade in services but the location of the service provider or how a multinational company is configured determines how trade in services occurs and how it should be measured. Indeed, one of the impacts of digitalization is that it has reduced the need for a physical presence to service foreign markets (Gestrin and Staudt 2018, UNCTAD 2017). Location decisions can be based on fiscal considerations, among other things.

Of course, if one of the participants is a non-resident then digital trade occurs regardless of the platform's location. If the supplier of a service is a Philippine resident selling to a non-resident (for example, through a digital labor platform described earlier) then the Philippines is exporting in this case.

3.3 Digitally delivered

Services trade statistics capture the third type of digital trade transactions which involve services and data flows that are delivered digitally. However, the precise value cannot be determined since services trade statistics from either the Balance of Payments or the National Accounts do not contain information on the mode of delivery (i.e. whether the service was delivered digitally or in person). Additionally, the data only captures trade with a monetary exchange. Many cross-border data transactions, which have zero monetary value are not reflected despite being valuable to businesses and consumers.

Digitally delivered trade comprise:

- **ICT services** are those services that are used to facilitate information processing and communication. It includes three categories of services from statistics on international trade in services: telecommunications services, computer services, and charges for the use of intellectual property associated with computer software.
- **ICT-enabled services (ITES)** conceptually include “activities that can be specified, performed, delivered, evaluated and consumed electronically” (UNCTAD 2015, page 9). Lacking an internationally agreed upon definition, it has been proposed that ITES be defined as “services products delivered remotely over ICT networks (i.e. over voice or data networks, including the Internet)” (Ibid.). This broad definition includes a variety of types of services, excluding those services types that necessarily involve the movement of physical objects or people or those that require face-to-face contact. ICT-enabled services include insurance, financial services, information services, R&D, professional services, technical and trade related services such as training services, and audio-visual and related services.

As noted above, although the various ITES products could be delivered remotely, there is no information to confirm whether they were actually delivered digitally. Thus, ICT and ITES are collectively referred to as **Potentially ICT-enabled (PICTE)** services (Grimm 2016, UNCTAD 2015).

Table 3 displays the value of Philippine services trade in 2017. It shows that the Philippines enjoys a net surplus in Potentially ICT-enabled services (covering both ICT services and ICT-enabled services) given that the category ‘Technical, trade-related, and other business services’ primarily reflects call center activities.

Table 3. Philippine services trade in 2017 (USD million), BOP

Notes	Category	Exports	Imports	Balance
	Total Services	35,605	26,109	9,496
Non-PICTE	Goods-related services	2,847	132	2,715
Non-PICTE	Transport	2,281	4,795	(2,514)
Non-PICTE	Travel	6,986	11,904	(4,918)
	Other services	23,492	9,279	14,213
Non-PICTE	- Construction	57	63	(6)
ITES	- Insurance and pension services	82	1,440	(1,358)
ITES	- Financial services	490	485	5
PICTE –	- Charges for the use of intellectual property n.i.e.	17	811	(794)

Notes	Category	Exports	Imports	Balance
Mix of ICT services (Software) and ITES (Trademarks, Franchise fees, etc.)				
	- Telecommunications, computer, and information services	5,762	873	4,889
ICT	Telecommunications services	426	447	(22)
ICT	Computer services	5,333	391	4,942
ITES	Information services	4	34	(31)
	- Other business services	16,874	5,126	11,747
ITES	Research and development (R&D)	24	15	10
ITES	Professional and management consulting services	73	215	(143)
Mix of ITES and non-ITES	Technical, trade-related, and other business services	16,777	4,897	11,880
	- Personal, cultural, and recreational services	191	188	3
ITES	Audiovisual and related services	56	66	(10)
Mix of ITES (e.g. education) and non-ITES	Other personal, cultural, and recreational services (other than audiovisual and related)	135	122	13
	- Government goods and services n.i.e.	19	294	(275)

Notes: ICT – Information and Communications Technology

ITES – ICT-enabled services

PICTE – potentially ICT-enabled

Source: UNCTADSTAT <https://unctad.org/en/Pages/statistics.aspx> (accessed on December 12, 2018)

4. Policy and regulatory issues in digital trade

4.1 National and regional strategies

The **E-commerce Roadmap 2016-2022** is the main policy initiative of the government to develop e-commerce in the country. It contains 53 action agenda items spanning six strategic areas, namely:

1. Infrastructure - The need for an appropriate supply chain, communications, and applications infrastructure;
2. Investment - The ability to promote and support a range of investment opportunities from Foreign Direct Investments to capital flows;
3. Innovation - The ability to foster and support innovation, including the ability to protect innovation and investment in research and development;
4. Intellectual Capital - The ability to foster the appropriate skills and training from technological to linguistic to entrepreneurship;
5. Information Flows - The ability to use, transfer, and process information – the currency of the digital economy – while promoting privacy and a trusted Internet environment; and
6. Integration: The ability to connect domestic industries with the global economy.

The six areas are aligned with the **APEC Digital Prosperity Checklist**. Developed in 2009, the checklist outlines specific actions or steps economies could take that would enable them to promote the use and development of ICTs as catalysts for economic growth and development, as well as the benefits associated with each action. A recent regional initiative, the **ASEAN Agreement on e-Commerce** was signed by the ASEAN Economic Ministers in 2018. It seeks to create an enabling environment for the growth of e-commerce by advancing trade rules in e-commerce and promoting greater digital connectivity in the region.

Another major national initiative to help spur the growth of e-commerce is the **National Retail Payment Systems (NRPS)**, which seeks to facilitate more convenient, affordable and secure electronic fund transfers and payments. BSP Circular No. 980 on the Adoption of National Retail Payment System (NPRS) Framework (2017) aims to “to create a safe, efficient, affordable and interoperable electronic retail payment system.” Establishment of automated clearing houses (ACHs) which would process payment and transfer instructions given through digital channels, which include online and mobile banking. The NRPS aims is to increase adoption of electronic retail payments from 1% electronic payments in 2013 to 20% electronic payments by 2020.

4.2 Legal framework

Electronic transactions and signatures have been legally accepted since the legislation of the Republic Act (RA) 8792, also known as the Electronic Commerce Act of 2000, which gives legal recognition to electronic forms of data messages, documents, signatures, transactions and storage of information. It provides for penalties for access of data without consent; piracy; hacking; and other violations.

The e-Commerce Act, together with RA 7394, otherwise known as The Consumer Act of the Philippines, provide consumer protection for online purchases/transactions. Additionally,

DTI-DOH-DA Joint Department Administrative Order (AO) No. 1 (2008) – “Rules and Regulations for Consumer Protection in a Transaction Covered by the Consumer Act of the Philippines (R.A. 7394) through Electronic Means under the E-commerce Act (R.A. 8792)” or the E-Consumer Protection Guidelines. Issued by the Department of Trade and Industry (DTI), the Department of Health (DOH) and the Department of Agriculture (DA), it ensures consumer protection for e-commerce transactions. Part of the guidelines includes mandating minimum requirements that e-commerce sites must comply with, e.g., privacy policy, information about retailer, seller, distributor, products and services, and consumer transaction, including the setting-up of a help desk to internally resolve consumer complaints. Amendments to the Consumer Act of the Philippines to include e-commerce-related provisions are currently being deliberated in both the executive and legislative branches of government.

As far as privacy of personal information is concerned, this is safeguarded by the Data Privacy Act of 2012 or RA 10173. Personal information is defined in the law as “any information whether recorded in a material form or not, from which the identity of an individual is apparent or can be reasonably and directly ascertained by the entity holding the information, or when put together with other information would directly and certainly identify an individual.” These include a person’s residence, place of birth, the amount of salary, etc. The law further classifies personal information as sensitive personal information when they are: “1) about an individual’s race, ethnic origin, marital status, age, color, and religious, philosophical or political affiliations; 2) about an individual’s health, education, genetic or sexual life of a person, or to any proceeding for any offense committed or alleged to have been committed by such person, the disposal of such proceedings, or the sentence of any court in such proceedings; 3) issued by government agencies peculiar to an individual which includes, but not limited to, social security numbers, previous or current health records, licenses or its denials, suspension or revocation, and tax returns; and 4) specifically established by an executive order or an act of Congress to be kept classified.”

The Data Privacy Act grants specific rights to data subjects or persons whose personal or sensitive personal information are subject to processing, as contemplated by law. Processing includes “collection, recording, organization, storage, updating or modification, retrieval, consultation, use, consolidation, blocking, erasure or destruction of data.” The Act also imposes strict restrictions on the use of such information by third parties to ensure an individual’s right to privacy.

Finally, the Cybercrime Prevention Act of 2012, also called RA 10175, regulates access to and use of the cyberspace and imposes penalties for violations enumerated under this law. The general types of punishable acts include Offenses against the confidentiality, integrity and availability of computer data and systems; Computer-related Offenses; Content-related Offenses; and Other offenses.

Pending legislation on open access in data transmission has been lodged at both the Senate and the House of Representatives to improve regulations for faster and cheaper internet services that is likely to further enhance digital trade. The speed though at which legislative agenda and regulatory framework on the digital economy is being produced in the country is, however, not commensurate to the pace of changes in digital technologies and their use.

4.3 Digital Trade Restrictiveness

The European Centre for International Political Economy (ECIPE) recently launched the Digital Trade Restrictiveness Index (DTRI), which maps and measures policy restrictions to digital trade in 65 countries including the Philippines (Ferracane, *et al.*, 2018). It is the first of its kind and it aims to increase transparency in how governments restrict digital trade. The DTRI covers many trade policy restrictions in the digital economy varying from tariffs on digital products, restrictions on digital services and investments, restrictions on the movement of data, and restrictions on e-commerce. Similar to other trade restrictiveness indices such as the OECD's, the DTRI varies between 0 (i.e. completely open) and 1 (i.e. virtually closed).

The DTRI is a simple average based on the four cluster areas:

(A) Fiscal Restrictions. This cluster includes chapters on Tariffs and Trade Defense, Taxation and Subsidies and Public Procurement;

(B) Establishment Restrictions. This cluster covers chapters on Foreign Investment Restrictions, Intellectual Property Rights, Competition Policy and Business Mobility;

(C) Restrictions on Data. This cluster covers chapters on Data Policies, Intermediate Liability and Content Access; and finally;

(D) Trading Restrictions. This cluster includes chapters on Quantitative Trade Restrictions, Standards and Online Sales and Transactions.

According to Ferracane, *et al.* (2018), digital openness boosts productivity and investments in so-called knowledge-based intangibles such as research and development (R&D), design, (digital) training and data, which spurs growth in digital and non-digital sectors. Moreover, open digital borders combined with a friendly domestic regulatory climate for businesses promotes economic expansion. In contrast, digital protectionism undermines a country's capacity to develop on the back of new technologies in an increasingly data-based global economy.

The ranking shows that China has the most restrictive policy environment for digital trade while New Zealand is the most open with a score of 0.70 and 0.09, respectively. The Philippines, with the score of 0.22, is in the middle of the pack where the average DTRI is 0.24. **Table 4** shows the score and ranking of the Philippines in the overall DTRI and sub-indices.

Table 4. DTRI of the Philippines

	DTRI	Fiscal restrictions & Market access	Establishment restrictions	Restrictions on data	Trading restrictions
Rank (out of 65)	32	20	16	61	33
Score (0 to 1.0)	0.22	0.27	0.34	0.11	0.17

Note: For Rank, the lower the number the more restrictive. For Score, the closer to 1.0 the more restrictive.
Source: Ferracane, *et al.* (2018)

Fiscal Restriction covers policy measures in Tariffs and Trade Defense, Taxation and Subsidies, and Public Procurement. This includes tariffs for digital goods and their inputs, restrictions related to taxation of digital goods and products, digital services and data usage, and limitations to participate in public procurement, among others. **Table 5** shows the rank of the Philippines in terms of fiscal restrictions and the sub-policy areas.

In the case of the Philippines, government procurement laws and regulations favor Philippine-controlled companies and locally produced materials and supplies. The RA 9184 (2002) / Government Procurement Reform Act (GPRA) applies to all branches of government (including government owned and controlled corporations). For the procurement of goods and consulting services, foreign participation is limited to 40%, with consideration of reciprocity. The Philippines is also not a signatory to the WTO Agreement on Government Procurement. Although the applied tariffs on digital goods is at 2.7%, it is ranked low (highly restrictive) relative to other countries.

Table 5. Fiscal Restrictions and Market Access ranking of the Philippines

Fiscal restriction & Market Access	Tariffs and trade defense	Taxation & Subsidies	Public Procurement
20 (score: 0.27)	11	63	23

Note: For Rank, the lower the number the more restrictive.

Source: Ferracane, *et al.* (2018)

Establishment Restrictions covers policy measures in four main areas: Foreign Investment Restrictions, IPRs, Competition Policy, and Business Mobility. Not surprisingly, the Philippines ranks very low (very restrictive) in foreign direct investment (FDI) restrictions and business mobility (See **Table 6**). According to Ferracane, *et al.* (2018), establishment restrictions in digital trade are likely to cause strong negative consequences on the extent to which countries can take advantage of new foreign technologies and benefit from spill-over effects of FDI, including the adoption of foreign technologies by domestic companies. Plotting DTRI on Establishment Restrictions against technology adoption and the ability to profit from technology transfer through FDI, their analysis shows a negative relationship on both counts.

Table 6. Establishment restrictions ranking of the Philippines

Establishment restrictions	Foreign investment	IPR	Competition Policy	Business Mobility
16 (score: 0.34)	7	54	38	10

Note: For Rank, the lower the number the more restrictive.

Source: Ferracane, *et al.* (2018)

Data restrictions cover policy measures in three main areas: Data Policies, Intermediate Liability and Content Access. These would cover, for example, data localization measures (e.g. requirement to use local server for processing of data, local storage), absence of safe harbor mechanisms⁷, and content blocking, among others. As shown in **Table 7**, the Philippines is quite liberal with respect to the regulation of data flows.

⁷ In this context, safe harbor means internet intermediaries between content producers and the internet (e.g. ISPs, search engines and social media platforms) are shielded from the responsibility for the user's actions as long as it acts promptly when notified of an illicit behavior.

Table 7. Restrictions on data ranking of the Philippines

Data restrictions	Data Policies	Intermediary Liability	Content Access
61 (score: 0.11)	41	63	64

Note: For Rank, the lower the number the more restrictive.

Source: Ferracane, *et al.* (2018)

The final cluster on Trading Restrictions covers policy measures in three main areas: Quantitative Trade Restrictions, Standards, and Online Sales and Transactions. This covers import and export restrictions, restrictive standards, burdensome and invasive testing procedures, and restrictions on express delivery, among others. In the case of the Philippines, reports of corruption and irregularities in customs processing persist, including undue and costly delays. A recent reform was the adjustment of the de minimis rule. Following the Customs Modernization and Tariff Act (CMTA) or RA 10863 and Customs Administrative Order (CAO) No. 2-2016, imported goods valued at P10,000 and below are no longer subject to duties and taxes. Prior to this reform, the de minimis value was P10. See **Table 8**.

Table 8. Trading restrictions ranking of the Philippines

Trading restrictions	Quantitative Trade Restrictions	Standards	Online Sales and Transactions
33 (score: 0.17)	36	26	25

Note: For Rank, the lower the number the more restrictive.

Source: Ferracane, *et al.* (2018)

Overall, the ECIPE Digital Trade Restrictiveness Index reveals that the Philippines is mid-way between the most restrictive and least restrictive countries when it comes to digital trade. Of the various policy areas, foreign investment, business mobility and tariffs and trade defense are the areas where restrictions are most severe compared to other countries. In contrast, the Philippines is relatively open when it comes to the movement of data being one of the most open, second only to Taiwan, in content access.

5. Recommendations

Digital trade is a relatively new phenomenon which will continue to evolve and expand with technological advances. Although conceptual and measurement issues remain challenging, the Philippines should take advantage of the opportunities while managing the risks associated with digital trade.

5.1 *Exploit the comparative advantage of the Philippines in digital trade*

Deardorff (2017) noted that for the past two hundred years, the Law of Comparative Advantage (LCA) has been used to predict the pattern of trade and the gains from trade. For the pattern of trade, the law predicts that if trade is not distorted by policy, countries will export goods for which they have relative lower cost of production than their trading partners. In terms of gains from trade, the law explains that if countries trade based comparative advantage can reduce the overall costs of what people everywhere are able to consume.

Looking at the different forms of digital trade, Deardorff (2017) suggests that the LCA can be applied to the following cases: digitally enabled trade in physical products; digital products delivered electronically; and services provided remotely. In these situations, the products will be produced where their cost of production (or delivery) is relatively low, just as the Law predicts. The two cases where it may not apply are with respect to cloud services and digital platforms. He argues that the provision of digital cloud services requires different inputs, which need not be located in the same place. For example, a country with access to cheap energy may host the giant server farms, while the highly skilled human capital required to deliver the services may be located elsewhere. Acting alone, neither country has comparative advantage in the provision of cloud services but together, they do. For digital platforms, although they still depend on the usual inputs of human and physical capital, a distinct feature that make them successful is the presence of network effects. Thus, the timing of a firm's entry and the size of the market that they are able to serve initially matter a lot for predicting the pattern of trade.

As **Table 9** shows, the Philippines has comparative advantage in both ICT and ICT-enabled services.⁸ Thus, the government and the private sector must continue to promote the country as the preferred supplier of these services and ensure that we are able to maintain our cost advantages.

Table 9. RCA index of Potentially ICT-enabled services of the Philippines

YEAR	2011	2012	2013	2014	2015	2016	2017
CATEGORY							
Insurance and pension services	0.27	0.21	0.27	0.30	0.29	0.17	0.18
Financial services	0.11	0.09	0.07	0.13	0.28	0.25	0.29
Charges for the use of intellectual property n.i.e.	0.01	0.01	0.00	0.01	0.01	0.01	0.01
Telecommunications, computer, and information services	2.84	2.51	2.61	2.28	2.13	3.16	3.01
- Telecommunications services	1.38	1.53	1.49	0.92	0.77	n.a.	n.a.
- Computer services	3.64	3.06	3.22	2.93	2.73	4.17	3.85
- Information services	0.03	0.04	0.02	0.03	0.04	0.04	0.03

⁸ The RCA index, (Balassa Index), is the product's share in a country's exports divided by the product's share in world exports. An RCA value above one indicates a comparative advantage in the product.

YEAR	2011	2012	2013	2014	2015	2016	2017
Other business services	4.85	4.12	4.51	4.06	4.82	3.88	3.92
Research and development (R&D)	0.06	0.05	0.04	0.13	0.20	0.10	0.04
Professional and management consulting services	0.02	0.03	0.04	0.04	0.04	0.06	0.05
Technical, trade-related, and other business services	n.a.	7.72	8.57	7.67	9.22	7.67	7.75
Personal, cultural, and recreational services	0.50	0.60	0.74	0.96	0.93	0.97	1.03

Source of data: UNCTADSTAT <https://unctad.org/en/Pages/statistics.aspx> (accessed on December 12, 2018)

5.2 Develop industry roadmaps and export strategies for digital products

Given the country's pool of creative talent, in addition to the services where the Philippines has revealed comparative advantage, attention should be given to the promotion of digital products. An export strategy could be developed promoting the creative industries such as copyright-based industries (CBIs), specifically core CBIs whose outputs can be digitally delivered over the internet. According to Francisco, *et al.* (2014, p. 26-27), "WIPO (2003) defines core copyright industries as industries that are wholly engaged in creation, production and manufacturing, performance, broadcast, communication and exhibition, or distribution and sales of works and other protected subject matter." As such, the activities and operations of core CBIs would either be completely or substantially altered without copyrights. Core CBIs are divided into nine groups, namely:

- 1) press and literature;
- 2) music, theatrical productions, operas;
- 3) motion picture and video;
- 4) radio and television;
- 5) photography;
- 6) software and databases;
- 7) visual and graphic art;
- 8) advertising services; and
- 9) copyright collective management societies.

Copyright-based industries linked to the digital revolution have grown faster than the traditional sectors of the economy (WIPO 2005). According to Francisco, *et al.* (2014), in the case of the Philippines core CBIs contributed 5.11% of GDP and 8.83% of total employment in 2010. In terms of trade, exports of core CBIs grew to USD 21 million in 2012, a 133% increase from 2010 when exports reached USD 9 million (or an annual growth rate of 53%). The PSA should be regularly providing specific information and statistics on the creative economy, especially given the potentials of creative industries for enhancing employment and economic output. Government should be looking more closely at the opportunities for

supporting CBIs, especially given likely risks to jobs from the full impact of the fourth industrial revolution.

5.3 Improve ICT and e-commerce measurement and reporting

There are various estimates of e-commerce that are reported. For example, in the Philippine E-commerce Roadmap (PECR), it was estimated that e-commerce contributed 10% of GDP in 2015 and the goal is to increase this to 25% by 2020. The 2015 figure is significantly higher than official statistics or industry estimates. Although it only covered the formal sector, PSA (2018) statistics presented earlier indicate low e-commerce intensity at 0.3% of total income. In the case of Google and Temasek (2018) they estimate that the internet economy represents 1.6% of GDP with e-commerce accounting for 30 percent.

Agenda 53 of the PECR identifies official e-commerce indicators as part of the PECR implementation and monitoring. It recognizes the need for the Philippines to generate official e-commerce indicators that will measure the adoption and impact of e-commerce across different sectors in order for the government to formulate the appropriate interventions to nurture e-commerce in the country. In the context of digital trade, exports of goods and services by MSMEs could be prioritized. In addition, e-commerce and digital trade utilization of households should also be measured.

The Survey on Information and Communications Technology (SICT) is supposed to generate information on the availability, distribution and access/utilization of ICT in business and industry in the country. It has been conducted every two years since 2002 and the 2017 survey currently being conducted is the 7th to date. Together with the ASPBI, estimates of digital trade could be developed since, as noted earlier, respondents are asked about the shares of e-commerce revenues from within and outside the Philippines.

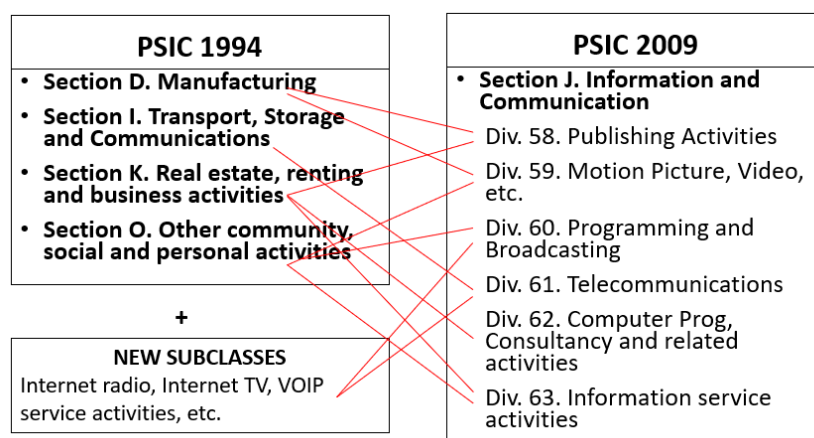
Published results typically show use of ICT among core and non-core ICT industries but the data generated by the SICT could be further analyzed to provide insights on the demand side factors which affects ICT utilization and e-commerce adoption. For example, the questionnaire includes factors that limit or prevent e-commerce transactions. Benefits derived from e-commerce transactions are also asked. The PSA should be providing more statistics from SICT. Panel data analysis could also help provide evidence-based recommendations to grow and harness e-commerce in line with the roadmap and PDP 2017-2022.

The SICT should also be able to capture the use of new ICT technologies and applications. The 2017 survey included questions on gender proportion and use of social media. Additional questions to be included in future surveys could include new technologies such as cloud computing, big data and the use of Internet of Things. The PSA may also need to keep abreast of ongoing work in the development community on making use of establishment surveys as well as innovative data sources to address data gaps for measuring digital trade, and for monitoring innovation in the economy (Albert *et al.* 2017).

Another factor that significantly constrains the analysis of the ICT sector and its contribution to the economy is the industry classification used. Whereas the latest Philippine Standard Industrial Classification (PSIC) 2009, which is based on International Standard Industrial Classification (ISIC) version 4.0, includes a separate ICT sector (Section J. Information and Communications), the national accounts are still compiled and reported using PSIC 1994, which is based on the old ISIC version 3.1. The difference in the treatment of ICT-related activities in the two versions can be seen in **Figure 6**. In PSIC1994, there is no ICT sector.

Instead the various ICT-related activities are spread across four different sectors (Sections D, I, K, and O). Additionally, new activities which did not exist then (e.g. internet radio, internet TV) have emerged and are now included in PSIC 2009. Since PSIC 1994 is still used to this day, the estimates on GDP by industrial origin released quarterly by the PSA do not report gross value added in the ICT sector and its sub-components. The PSA has plans to make use of the new PSIC in Apr 2020 when it releases overall revision and rebasing to 2018. The PSA should be giving this more priority especially in the wake of urgent need to examine data on digital trade. Government will need to provide the PSA with whatever resources needed toward this end.

Figure 6. ICT activities in PSIC



Source: Author's illustration

5.4 Address the policy gaps and regulatory constraints

According to Google and Temasek (2018), at 1.6% of GDP, the internet economy in the Philippines is still a relatively untapped opportunity. Despite having the second largest internet user base (estimated at 75 million) in Southeast Asia, the Philippines has not yet generated unicorns⁹ nor has it shown the dynamism of the Indonesian and Vietnamese markets where it has reached 2.9% and 4.0% of GDP, respectively. To unlock the full potential of the internet economy, they identified six key challenges to be solved in the following decade (Google and Temasek (2018, p.24):

- 1) internet infrastructure improvements to provide reliable and affordable internet access;
- 2) increase in consumers' trust for internet economy services;
- 3) the ability for internet economy companies to attract talented professionals;
- 4) the development of logistics networks able to handle the expected increase of e-commerce deliveries;
- 5) widely adopted digital payment solutions to enable Southeast Asian internet users to transact conveniently online and offline; and,

⁹ In the venture capital industry, a unicorn refers to any tech startup company that reaches a \$1 billion-dollar market value as determined by private or public investment. <https://www.divestopedia.com/definition/5114/unicorn>

- 6) the availability of sufficient venture capital investments to fund internet economy companies in their expansion.

In various benchmarking exercises, the Philippines does not rank high in terms of its readiness for e-commerce. See **Table 10**.

Table 10. E-commerce assessment (2017)

Indicator	Rank of the Philippines
UNCTAD B2C E-commerce Index	96/144
ITU ICT Development Index	101/176
WEF Networked Readiness Index	77/139

Note: 1 = Best

Source: <https://etradeforall.org/ressources/data-indicators/> (accessed on December 10, 2018)

Table 11 presents the country's performance across the various dimensions of etrade-readiness.

Table 11. Indicators of etrade-readiness

ICT Infrastructure and services (2016)		
	World	Philippines
Internet users (per 100 inhabitants)	-	55.5
Fixed broadband subscriptions (per 100 inhabitants)	-	5.5
Active mobile broadband subscriptions (per 100 inhabitants)	-	46.4
Fixed broadband Internet tariffs, PPP \$/month	Tariffs in 50% of economies are below – 34.1	49.7
Payments (2014)		
Per 100 inhabitants	World	Philippines
Debit card used in the past year	21.9	11.9
Credit card used in the past year	13.5	2.2
Used an account to make a transaction through a mobile phone	8.5	2.5
Trade logistics (2016)		
	World	Philippines
Percent of population having mail delivered at home	83.3	64.0
Postal reliability index (100 = Best)	56.0	28.2
Days to clear direct exports through customs	7.7	14.5
Legal and regulatory frameworks (2017)		
Electronic transactions	Legislation	
Consumer protection	Legislation	
Privacy and data protection	Legislation	
Cybercrime	Legislation	
Skills development (2013-2017)		
	World	Philippines
Percentage of firms using e-mail to interact with clients/suppliers	70.7	80.4
Financing for e-commerce (2014-2015)		
	World	Philippines

Percentage of firms identifying access to finance as a major constraint	18.4	10.7
---	------	------

Source: <https://etradeforall.org/ressources/data-indicators/> (accessed on November 13, 2018)

To harness digitalization in support of trade, UN (2017) stressed that investments in ICT infrastructure need to be complemented by an appropriate set of regulations and institutions, and support for skills development. Indeed, there are a number of policy and regulatory areas that need to be addressed. As discussed previously, based on the ECIPE Digital Trade Restrictiveness Index the Philippines is mid-way between the most restrictive and least restrictive countries when it comes to digital trade. The policy areas where restrictions are most severe in the Philippines compared to other countries include foreign investment, business mobility, and tariffs and trade defense. With the current government providing increased support to infrastructure, it should also put in place investments in enhancing innovation to finding lasting solutions to economic challenges, and to facilitating sustainable development and technological progress.

6. Bibliography

- Albert, J. R. G., F. M. A. Quimba, R. B. Serafica, G. Llanto, J. F. V. Vizmanos, J. C. A., Bairan, 2017. Measuring and Examining Innovation in Philippine Business and Industry. PIDS Discussion Paper Series 2017-28. <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1728.pdf> (accessed on December 16, 2018)
- dela Cruz, Roderick T. 2018. Filipinos propel freelance economy. Manila Standard. 15 December <http://manilastandard.net/business/biz-plus/283045/filipinos-propel-freelance-economy.html> (accessed on December 16, 2018)
- Dadios, E. P., A. B. Culaba, J. R. G. Albert, V. B. Paqueo, A. O. Orbeta, Jr., R. B. Serafica, A. A. Bandala, and J. C. A. Bairan. 2018. Preparing the Philippines for the Fourth Industrial Revolution: A Scoping Study. PIDS Discussion Paper Series 2018-11. <https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1811.pdf> (accessed on December 16, 2018)
- Deardorff, Alan V. 2017. Comparative advantage in digital trade in Evenett, S. J. (ed.) Cloth for Wine? The Relevance of Ricardo's Comparative Advantage in the 21st Century. London: CEPR Press, pp 35-44
- Department of Commerce (DOC). 2016. Measuring the value of cross-border data flows. U.S. Department of Commerce <https://www.ntia.doc.gov/report/2016/measuring-value-cross-border-data-flows> (accessed on June 12, 2018)
- European Commission (EC), International Monetary Fund (IMF), Organisation for Economic Cooperation and Development (OECD), United Nations (UN), and World Bank (WB). 2009. System of National Accounts 2008. New York, NY: EC, IMF, OECD, UN, and WB. <https://unstats.un.org/unsd/nationalaccount/sna2008.asp> (accessed on July 1, 2018).
- Ferracane, Martina Francesca, Hosuk Lee-Makiyama, and Erik van der Marel (2018) Digital Trade Restrictiveness Index. <http://ecipe.org/dte/dte-report/> (accessed on July 1, 2018).
- Francisco, Emma Carino, Jose Rowell T. Corpuz, Christopher John P. Lao, and Michael O. Timbang (2014, November 25). Updating the 2006 WIPO Study of the Economic Contribution of Copyright-Based Industries in the Philippines Using Methodologies Established by the World Intellectual Property Organization. <https://www.ipophil.gov.ph> (accessed on June 1, 2018).
- Gestrin, Michael V. and Julia Staudt. 2018. The digital economy, multinational enterprises and international investment policy. Paris: OECD. www.oecd.org/investment/the-digital-economy-mnesand-international-investment-policy.htm (accessed on June 30, 2018)
- Google and Temasek. 2018. e-Conomy SEA 2018. <https://www.thinkwithgoogle.com/intl/en-apac/tools-research/research-studies/e-economy-sea-2018-southeast-asias-internet-economy-hits-inflection-point/> (accessed on December 3, 2018)

- Grimm, Alexis. 2016. Trends in U.S. Trade in Information and Communications Technology (ICT) Services and ICT-Enabled Services. Bureau of Economic Analysis. https://apps.bea.gov/scb/pdf/2016/05%20May/0516_trends_%20in_us_trade_in_ict_servics2.pdf. (accessed on June 12, 2016)
- International Monetary Fund (IMF). 2009. Balance of payments and international investment position manual. Sixth Edition (BPM6). Washington, D.C.: IMF. <http://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf> (accessed July 2, 2018).
- IMF. 2017. Measuring Digital Trade: Results of OECD/IMF Stocktaking Survey. Prepared jointly by the Organisation for Economic Co-operation and Development and the IMF's Statistics Department for Thirtieth Meeting of the IMF Committee on Balance of Payments Statistics in Paris, France on October 24–26, 2017 BOPCOM—17/07 <https://www.imf.org/external/pubs/ft/bop/2017/pdf/17-07.pdf> (accessed on May 4, 2018)
- de Leon, E. A. A. 2018. Freelance jobs platform solves issues of non-payment among Pinoy freelancers. Newsbytes. 09 December <http://newsbytes.ph/2018/12/09/freelance-jobs-platform-solves-issues-of-non-payment-among-pinoy-freelancers/> (accessed on December 10, 2018)
- López González, J. and M. Jouanjean. 2017. Digital Trade: Developing a Framework for Analysis. OECD Trade Policy Papers, No. 205, OECD Publishing, Paris. <http://dx.doi.org/10.1787/524c8c83-en>
- McKinsey Global Institute (2016) Digital Globalization: The New Era of Global Flows. March 2016.
- National Economic Development Authority (NEDA). 2017. The Philippine Development Plan 2017-2022.
- Organization for Economic Cooperation and Development (OECD) 2002. Measuring the Information Economy. <https://www.oecd.org/sti/ieconomy/1835738.pdf> (accessed on July 2, 2018).
- OECD. 2017. Measuring Digital Trade: Towards a Conceptual Framework. OECD Statistics Directorate. Committee on Statistics and Statistical Policy. Working Party on International Trade in Goods and Trade in Services Statistics. STD/CSSP/WPTGS(2017)3 http://unctad.org/meetings/en/Contribution/dtl_eWeek2017c04-oecd_en.pdf (accessed on July 2, 2018).
- Philippine Statistics Authority (PSA). n.d. <https://psa.gov.ph/content/e-commerce> (accessed on June 20, 2018)
- PSA (2018). ASPBI Economy-wide Final Reference Number: 2018-280. Release date October 19, 2018 <https://psa.gov.ph/content/2015-annual-survey-philippine-business-and-industry-economy-wide-all-establishments-final> (accessed on October 28, 2018)

- Schmidt, F. A. 2017. Digital labour markets in the platform economy: Mapping the political challenges of crowd work and gig work. Friedrich-Ebert Stiftung. Bonn.
- Tyson, Laura and Susan Lund. 2016. Digital Globalization and the Developing World (Mar 25, 2016 <https://www.project-syndicate.org/commentary/digital-globalization-opportunities-developing-countries-by-laura-tyson-and-susan-lund-2016-03> (accessed on June 10, 2018)
- United Nations Conference on Trade and Development (UNCTAD). 2015. October. International Trade in ICT Services and ICT-Enabled Services, Proposed Indicators from the Partnership on Measuring ICT for Development. Technical Note No. 3 unedited. TN/UNCTAD/ICT4D/03 OCTOBER 2015 http://unctad.org/en/PublicationsLibrary/tn_unctad_ict4d03_en.pdf. (accessed on July 2, 2019)
- UNCTAD. 2017. Information Economy Report 2017: Digitalization, Trade and Development. United Nations
- World Intellectual Property Organization (WIPO). 2003. Guide on Surveying the Economic Contribution of the Copyright-Based Industries, Technical report, WIPO, Geneva.
- WIPO. 2005. Copyright-based Industries: Assessing their weight (WIPO Magazine Issue 3/2005). http://www.wipo.int/wipo_magazine/en/2005/03/article_0012.html (accessed on June 15, 2018).
- World Trade Organization (WTO). 1998. Work Programme on Electronic Commerce. WT/L/274 30 September 1998 https://www.wto.org/english/tratop_e/ecom_e/ecom_e.htm (accessed on Jun 15, 2018)