

Philippine Digital Economy Satellite Account

I. Introduction

The use of digital media and transactions has been part of many activities globally. With the technological advancement in various industries, the digital economy has evolved, and the use of digital technologies has become more accessible. Although these advances in technology resulted in a more complex measurement of the digital economy, there are various country efforts done to measure the contribution of digital activities to the Gross Domestic Product (GDP). However, it was noted that measuring digital activities has been challenging due to issues on definition, classification, and measurement.

In 2019, Philippine Statistics Authority (PSA) through the Macroeconomic Accounts Service (MAS) collaborated with the World Bank (WB) in estimating the size of digital economy and its contribution in the country's economy. While there is still no internationally agreed definition and classification for the digital economy, the PSA builds on earlier initiatives of other institutions such as the Organisation for Economic Cooperation and Development (OECD), and US Bureau of Economic Analysis (BEA), and the experiences and insights gained through these initiatives.

With the results of the PSA-WB Project, the PSA is committed to continue improving its methodology and exploring other indicators to capture the contribution of digital economy. In 2020, the World Bank released the Philippines Digital Economy Report with initial estimates providing the share of digital economy to GDP.

The pilot estimates on the size and contribution of the digital economy was first released by PSA in October 2022. The estimates provide information on the Gross Value Added (GVA) of e-commerce, digital media/content, and digital-enabling infrastructure, which includes: 1) Computer, electronic and optical products; 2) Wholesale trade, except of motor vehicles and motorcycles; 3) Telecommunication services; 4) Professional and Business services, and 5) Repair of computers and communication equipment. In 2024, Government digital services was included as a new component of the digital economy following the structure of BEA methodology.

In 2025, some sub-components were renamed, and additional sub-components were added to the digital-enabling infrastructure.

Table A. Comparison of sub-components

2024 Release	2025 Release
Digital-enabling infrastructure	Digital-enabling infrastructure
Computer, electronic and optical products	ICT Manufacturing industries
Wholesale trade, except of motor vehicles and motorcycles	ICT Trade industries
	ICT Services industries

2024 Release	2025 Release
Telecommunication services	Telecommunication services
<i>Lumped in Digital media/content</i>	Software publishing
<i>Lumped in Telecommunication services</i>	Computer Programming and consultancy
<i>Lumped in Digital media/content</i>	Data Processing, hosting, and web portals
Repair of computers and communication equipment	Repair of computers and communication equipment
	ICT-Enabled services
Professional and business services	Professional and business support services
<i>New sub-component</i>	Digital payment services
Digital media/content	Digital content and media
E-commerce	E-commerce
Government digital services	Government digital services

II. Data and Data Sources

The data used for the compilation of the preliminary estimates on digital economy are obtained from several sources. Below are the major data sources for the estimation of the size and contribution of the digital economy.

Table B. List of data source and source agency

Data	Description / Use	Source Agency
Supply and Use Tables (SUT)	<p>The SUT provides more disaggregated information on the structure of the Philippine economy.</p> <p>It also serves as the primary source of information for the technical coefficients or ratios used in estimating the Gross Output (GO) and GVA of Digital-enabling infrastructure, Digital content and media, and E-commerce.</p>	PSA
National Accounts of the Philippines (NAP)	<p>Primary source of information of the overall production and consumption of the economy each year.</p> <p>The GO of Information and publishing, Manufacturing of computer, electronic and optical products, Wholesale trade, Communications, Professional and business services, and Other</p>	PSA

Data	Description / Use	Source Agency
	services of NAP are used as data inputs in the estimation process.	
Annual Survey of Philippine Business and Industry (ASPBI) and Census of Philippine Business and Industry (CPBI)	Provides information on the GO of selected industries, and sales from e-commerce transactions in digital economy industries.	PSA
List of Establishments (LE)	Provides information on the employment in identified digital-related industries and percentage of establishments with e-commerce transactions.	PSA
Survey on Information and Communications Technology (SICT)	Provides information on the ratio of establishments which received orders for goods and services via the Internet, as well as percentage of employees using computers with Internet connection or access.	PSA
Labor Force Survey (LFS)	Provides information on the total number of employed persons by industry each year.	PSA
General Appropriations Act (GAA)	Provides information on the proposed budget allocation of government agencies related to ICT services.	Department of Budget and Management (DBM)
Staffing Summary	Indicates the number of filled and unfilled plantilla positions in each government agencies.	DBM
Annual Financial Report (AFR)	Provides the audited financial report of government agencies.	Commission on Audit
National Retail Payment System (NRPS) - Reports on E-Payments Measurement	Provides indicators on volume and value of transactions, assesses the developments in digital payments ecosystem, measures the progress made in the digitization of payments	Bangko Sentral ng Pilipinas (BSP)

Data	Description / Use	Source Agency
Real Time Gross Settlement (RTGS) System: PhilPaSS ^{plus} Statistics	Provides information on individuals, businesses and the government money transactions through several channels – check, ATM, InstaPay and PESONet.	BSP

III. Methodology

III.A. Estimation Methodology

The estimation on the size and contribution of the digital economy in the Philippine economy is measured using the Production Approach or Value-Added Approach. This method consists of summing the GVAs of all industries that are identified as part of the digital economy.

The list of core ICT industries of the Philippines which was classified using the Philippine Standard Industrial Classification (PSIC) serves as the basis in defining the statistical coverage of the digital economy. These industries represent the digital-enabling infrastructure and digital content and media components of the digital economy. In addition, for more comprehensive coverage, digital transactions or electronic commerce (e-commerce) of the country is also included. Estimates for this component are computed using the percentage of industries with e-commerce transactions or those non-core ICT industries which received orders via the Internet. Additionally, the e-commerce gross revenue from CPBI and ASPBI were also utilized in the estimation.

For each industry classified as part of the digital economy, the GO is estimated. The GVA ratio from NAP was applied to GO of each industry to derive the GVA. The sum of GVAs of industries identified as part of digital economy is the total GVA for digital economy.

The benchmark estimates were derived using data from the CPBI and SUT. For the non-benchmark years, relevant indicators from the National Accounts are used to derive the estimates for the corresponding gross output and gross value added of the different components and sub-components.

Digital-enabling infrastructure and digital content and media

For the Digital-enabling infrastructure (DE1) and Digital content and media (DE2), the gross output will be computed by the following steps.

$$GO_{DEd2018} = \frac{GO_c}{\sum_{i=1}^n GO_{c_i}} * GO_{2018d}$$

$$GO_{DE2_{2018}} = \sum_{d=1}^p GO_{DEd2018}$$

$$GO_{DE1_{2018}} = \sum_{d=1}^m GO_{DEd2018}$$

Where:

GO_{DE2018} = estimated GO for digital-enabling infrastructure and digital content and media in 2018

$GO_{DEd2018}$ = estimated GO for 2-digit industry under digital-enabling infrastructure and digital content and media

i = industry, 1 to nth industry in the 2-digit industry classification

c = 5-digit industry i within the 2-digit industry (CPBI/ASPBI sub-class)

d = 2-digit industry (CPBI/ASPBI sub-class)

n = number of 5-digit industry i within the 2-digit industry (CPBI/ASPBI sub-class)

m = number of 2-digit industry in digital-enabling infrastructure (DE1)

p = number of 2-digit industry in digital content and media (DE2)

GO_{2018d} = GO of major industry available in the 80-industry classification in the 2018 SUT

Table C. List of all included PSIC Division (2-digit industry) in digital-enabling infrastructure and digital content and media

Sub-component	PSIC Division (2-Digit Industry)
Digital-enabling infrastructure	
ICT Manufacturing industries	C26 - Manufacture of computer, electronic and optical products
ICT Trade industries	G46 - Wholesale trade, except of motor vehicles and motorcycles
ICT Services industries	
Telecommunication services	J61 - Telecommunications
Software publishing	J58 - Publishing activities
Computer Programming and consultancy	J62 - Computer programming, consultancy and related activities

Sub-component	PSIC Division (2-Digit Industry)
Data Processing, hosting, and web portals	J63 - Information service activities
Repair of computers and communication equipment	S95 - Repair of computers and personal household goods
ICT-Enabled services	
Professional and business support services	N78 - Employment activities N82 - Office administrative, office support and other business support activities
Digital content and media	J58 - Publishing activities J59 - Motion picture, video and television programme production, sound recording and music publishing activities J60 - Programming and broadcasting activities J63 - Information service activities

For the non-benchmark years, the gross output of digital-enabling infrastructure and digital content and media are derived using the results from NAP and the structure of the five-digit industries/activities from the CPBI.

Table D. List of all included PSIC Subclasses (5-digit Industry) in digital-enabling infrastructure and digital content and media

PSIC Code	Description
ICT Manufacturing industries	
C26110	Manufacture of electronic valves and tubes
C26121	Manufacture of sensors
C26122	Manufacture of actuators
C26123	Manufacture of oscillators
C26124	Manufacture of resonators
C26129	Manufacture of semi-conductor devices and other electronic components, n.e.c.
C26200	Manufacture of computers and peripheral equipment and accessories
C26300	Manufacture of communication equipment
C26400	Manufacture of consumer electronics
C26800	Manufacture of magnetic and optical media
ICT Trade industries	
G46510	Wholesale of computers, computer peripheral equipment and software
G46521	Wholesale of electronic valves and tubes
G46522	Wholesale of semi-conductor devices
G46523	Wholesale micro-chips and integrated circuits
G46524	Wholesale of printed circuits

PSIC Code	Description
G46526	Wholesale of blank audio and video tapes and diskettes, magnetic and optical disks (CDs, DVDs)
Telecommunication services	
J61101	Wired (landline) services
J61102	Wired internet access service activities (e.g. DSL, leased line, dial-up)
J61103	Telegraph, facsimile/telefax, and telex services
J61109	Other wired telecommunications activities
J61201	Wireless landline services
J61202	Mobile telecommunications services
J61203	Wireless internet access services (e.g. Internet Service Provider, broadband)
J61209	Other wireless telecommunication services, n.e.c.
J61300	Satellite telecommunications activities
J61901	Telephone access in facilities open to the public service activities
J61902	Internet access in facilities open to the public service activities
J61903	Voice Over Internet Protocol (VOIP) service activities
J61909	Other telecommunications service activities, n.e.c.
J61101	Wired (landline) services
Software publishing	
J58200	Software publishing
Computer Programming and consultancy	
J62011	Game design and development
J62019	Other computer programming activities
J62020	Computer consultancy and computer facilities management activities
J62090	Other information technology and computer service activities
Data Processing, hosting, and web portals	
J63111	Data processing
J63112	Website hosting services
J63113	Application hosting services
J63120	Web portals
Repair of computers and communication equipment	
S95110	Repair of computers and peripheral equipment
S95120	Repair of communications equipment
S95210	Repair of consumer electronics
Professional and business support services	
N78103	On-line employment placement agencies
N82211	Customer relationship management activities
N82212	Sales and marketing (including telemarketing) activities
N82219	Other call centers activities (voice), n.e.c.
N82221	Finance and accounting activities
N82222	Human resources and training activities
N82223	Administrative support activities
N82224	Document processes activities

PSIC Code	Description
N82225	Payroll maintenance and other transaction processing activities
N82226	Medical transcription activities
N82227	Legal services activities
N82228	Supply chain management activities
N82229	Other back office operations activities, n.e.c
N82291	Engineering outsourcing activities
N82292	Product development activities
N82293	Publishing outsourcing activities
N82294	Research and analysis activities
N82295	Intellectual property research and documentation activities
N82296	Security outsourcing activities
N82297	Knowledge process outsourcing (KPO) activities
N82299	Other non-voice related activities, n.e.c.
Digital content and media	
J58110	Book Publishing
J58120	Publishing of directories and mailing lists
J58130	Publishing of newspapers, journals and periodicals
J58190	Other publishing activities
J59111	Complete production of motion picture, video and television programme activities
J59112	Pre and main production of traditional and 2D animation
J59113	Pre and main production of 3D animation
J59119	Pre and main production of other motion films and etc.
J59121	Post production of traditional and 2D animation
J59122	Post production of 3D animation
J59129	Post production of other motion films and etc.
J59130	Motion picture, video and television programme distribution activities
J59140	Motion picture projection activities
J59201	Sound recording activities
J59202	Publishing of music
J60101	Radio broadcasting and relay station and studios
J60102	Radio program production
J60103	Radio broadcasting activities over the Internet (Internet radio stations)
J60201	Television broadcasting and relay stations and studios including closed circuit television services
J60202	Television program production
J60203	Television broadcasting activities over the Internet (Internet television stations)
J63910	News agency activities
J63990	Other information service activities, n.e.c.

The estimation for digital payment services incorporated the data available from BSP's reports on NRPS and PhilPaSS^{plus}. To estimate the gross output, the volume of digital

transactions, derived average transaction values, and transaction fees in these payment systems were utilized.

E-commerce

For E-commerce, the steps described below are used to compute for the gross output with due consideration to available data. Thus, the parameters are estimated subject to some assumptions.

For the benchmark data, the estimation of GO of e-commerce transactions utilized the structure of non-core ICT establishments that received orders for goods and services via the internet from SICT and number of establishments from LE, and the average sales per establishment from e-commerce transactions from CPBI.

$$GO_{DEi2018} = N_{i2018} * Sales_{i2018}$$

$$GO_{DE32018} = \sum_{i=1}^q GO_{DEi2018}$$

Where:

$GO_{DEi2018}$ = estimated GO for industry i under E-commerce

N_{i2018} = estimated number of establishments which received orders for goods and services via internet in 2018

$Sales_{i2018}$ = estimated e-commerce sales per establishment in 2018

$GO_{DE32018}$ = estimated GO for E-commerce in 2018

i = industry

q = number of 2-digit industry in E-commerce

For the non-benchmark years, the gross output of e-commerce activities is derived using the trend of the total e-commerce sales data of industry i from the ASPBI.

Government digital services

For the government digital services, the programs related to supporting the digital economy were identified from the GAA. For each program or activity, the share of government services to total personnel services is computed. The shares derived from the GAA are applied to the audited value in the AFR by national government agency.

$$GVA_{DE4_t} = \sum_{a=1}^u (GAA_a * AFR_a)$$

$$GAA_a = \frac{Digital_{PS_a}}{Total_{PS_a}}$$

Where:

GVA_{DE4t} = gross value added of government digital services

GAA_a = share of digital-related services for agency a

AFR_a = AFR of Personnel Services (PS) for agency a

$Digital_{PS_a}$ = digital-related PS in GAA for agency a

$Total_{PS_a}$ = total PS in GA for agency a

a = agency

u = number of agency

The total GO of DE at current prices is derived by summing up the GO of each of the three components:

- a) Digital-enabling infrastructure (DE1);
- b) Digital content and media (DE2);
- c) E-commerce (DE3); and
- d) Government digital services (DE3).

$$GO_{DEt} = GO_{DE1t} + GO_{DE2t} + GO_{DE3t}$$

Gross Value Added at Current Prices

To derive GVA at current prices, multiply the estimated annual GO by the Gross Value Added ratios (GVA_r) at the 2-digit level for all DE industries (both ICT and Non-ICT industries) for each year. The GVA_rs are derived each year from the national account.

$$GVA_{DEit}cu = GO_{DEit}cu * GVA_{r_{dit}}$$

$$GVA_{DEt}cu = \sum_{i=1}^n GVA_{DEit}cu$$

Where:

$GVA_{DEit}cu$ = estimated GVA for i th DE industry in year t at current prices

$GO_{DEit}cu$ = estimated GO for i th DE industry in year t at current prices

$GVA_{r_{dit}}$ = GVA_r of major industry (2-digit) available in the 80-industry classification at year t

$GVA_{DEt}cu$ = estimated GVA for DE in year t at current prices

Gross Value Added at Constant Prices

To derive annual GVA at constant prices, deflate GVA by industry at current prices with the most appropriate implicit price indices (IPIN) used for the related major industry. Public Administration and Defense; Compulsory Social Security is used in government digital services.

$$GVA_{DE_{it}k} = \frac{GVA_{DE_{it}}^{cu}}{IPIN_{d_{it}}}$$

$$GVA_{DE_tk} = \sum_{i=1}^n GVA_{DE_{it}k}$$

Where:

$GVA_{DE_{it}k}$ = estimated GVA for DE in year t at constant prices

$GVA_{de_{it}k}$ = estimated GVA for ith DE industry in year t at constant prices

$IPIN_{d_{it}}$ = implicit price index (2018=100) of major industry available in the 80-industry classification at year t

Employment in digital economy

For the digital-enabling infrastructure and digital media components, the structure of the LE was utilized to derive the ratio of employed persons in digital economy by industry. The ratio was applied to the LFS data to derive the total number of persons employed by component. Meanwhile, for employment in digital payment services the structure of Monetary intermediation services from LE and proportion of establishments with employee routinely using computer with internet connection or access at work from SICT were used.

For E-commerce, the proportion of establishments with E-commerce transactions via the internet except social media networks from SICT by industry group served as parameter for the employment structure. The ratio was applied to the LFS data to derive the total number of persons employed by industry.

For the government digital services, the ratio of digital-related services to total personnel services derived from GAA was applied to the staffing summary of each national government agency.

III.B. Digital Economy Statistical Tables

Table D. List of statistical tables

Statistical Table	Description
Table 1 Gross Value Added of Digital Economy at Current Prices	Presents the value of production of the following components and corresponding sub-components of digital economy: <ul style="list-style-type: none">a. Digital-enabling infrastructure (ICT Manufacturing industries, ICT Trade industries, ICT Services industries, and ICT-Enabled Services)b. Digital content and mediac. E-commerced. Government digital services
Table 2 Growth Rates of the Sub-Components of the Digital Economy at Current Prices	Presents the growth rates of the sub-components of digital economy.
Table 3 Percent Distribution to Digital Economy by Sub-component at Current Prices	Presents the share of each of the seven sub-components to the total digital economy.
Table 4 Digital Economy and GDP at Current Prices	Presents the levels of digital economy and GDP at current prices, as well as the share of digital economy to GDP.
Table 5 Gross Value Added of Digital Economy at Constant Prices	Presents the value of production by sub-components of digital economy at constant prices.
Table 6 Growth Rates of the Sub-Components of the Digital Economy at Constant Prices	Presents the growth rates of the sub-components of digital economy at constant prices.
Table 7 Percent Distribution to Digital Economy by Sub-component at Constant Prices	Presents the share of each of the seven sub-components to the total digital economy at constant prices.
Table 8 Employment in Digital Economy	Presents the number of employed persons by sub-component of digital economy.
Table 9 Employment Growth Rates of the Sub-	Presents the growth rates of employment by sub-component of digital economy.

Statistical Table	Description
Components of the Digital Economy	
Table 10 Employment Percent Distribution	Presents the percent share of employed persons by sub-component of digital economy.
Table 11 Employment in Digital Economy and Total Number of Persons Employed	Presents the percent share of digital economy employment to the total number of persons employed in the country.

IV. Concepts and Definition of Terms

The digital economy refers to a broad range of activities, which include the use of knowledge and information as factors in production, information networks as a platform for action and how the ICT sector spurs economic growth.

The Philippine approach learned from the experiences and similar efforts of various countries and institutions like the US BEA. BEA defines the digital economy primarily in terms of the Internet and related information and communications technologies ICT. Conceptually, BEA includes in its definition of the digital economy the following:

- A. Digital-enabling infrastructure needed for a computer network to exist and operate;
- B. Digital transactions that take place using that system (“e-commerce”);
- C. the content that digital economy users create and access (“digital media”); and
- D. Government digital services.

The **digital-enabling infrastructure** comprises the basic physical materials and organizational arrangements that support the existence and use of computer networks and the digital economy. This includes computer hardware and software, telecommunications equipment and services, and internet of things (Barefoot et al., 2018).

Digital Transactions or electronic commerce (e-commerce) includes all transactions (i.e., the purchase and sale of goods and services) that happen over computer networks. They may be digitally ordered, digitally delivered, or platform-enabled transactions (Barefoot et al., 2018). The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. An ecommerce transaction can be between enterprises, households, individuals, Governments, and other public or private organizations.

Digital media refers to the content that people create, access, store, or view on digital devices such as direct sale digital media, free digital media, and big data (Barefoot et al., 2018).

Government digital services refers to government agencies directly related to supporting the digital economy (BEA, 2022).

Other relevant concepts

Digitization refers to the encoding of information or procedures into binary bits that can be read and manipulated by computers and that can take many forms such as the translation of analogue measurements; encoding business and industrial processes; voice over Internet protocol (VOIP); social networks (as alternatives to face-to-face interactions), etc. (Ahmad and Ribarsky, 2018).

Digitalization (Digital transformation) refers to the changes produced by different forms of digitization, the resulting applications, systems, platforms, and the effects on economic and social activity constitute (Ahmad and Ribarsky, 2018).

V. Dissemination of Results and Revision

The schedule of release of the revised digital economy estimates is four months after the reference year. Press release, publication, statistical tables, social cards, and infographics on digital economy are posted on the PSA website.

VI. Citation

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