Measuring E-commerce

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Overview

• What is e-commerce?
• Core indicators on e-commerce
• Measuring e-commerce value
• Take-aways
What is e-commerce?

International definition of e-commerce for measurement purposes:

“An e-commerce transaction is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders.

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 e-commerce transaction can be between enterprises, households, individuals, Governments, and other public or private organisations”

• Includes orders via web pages, extranet, EDI (machine-readable/generated) messages, applications

• Excludes orders placed by telephone, fax or manually typed email (as these are not “specifically designed for receiving or placing orders”)
What is e-commerce?

The UNCTAD *Manual for the Production of Statistics on E-commerce and the Digital Economy* also relies on the OECD definition but provides the following guidance for implementing the definition in practice:

“To take into account the different levels of technological development in countries, the Partnership [on measuring ICT for development] recommends collecting data only on orders received or placed over the Internet, including by email (the latter is excluded from the OECD definition)”

- **Internet only**: the Internet is now the default network for most applications including orders between businesses (e.g., “EDI over Internet”)
  - unlikely to make a big difference in most cases.
- **Orders via email**: significance likely to vary between countries and industries
  - Recommended to measure email ordering separately where possible and always be clear about the scope of statistics published.

### Classification of selected economies by features of e-commerce definitions applied in business surveys

<table>
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<tr>
<th>All “computer networks”</th>
<th>Excludes orders via manually typed email</th>
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*Source: UNCTAD based on national sources.*
Core indicators on e-commerce
### Partnership on measuring ICT for development: core indicators on e-commerce

<table>
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<th>Core indicators</th>
<th>Businesses</th>
<th>Households</th>
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<td>B7</td>
<td>Proportion of businesses receiving orders over the Internet</td>
<td>HH9 Proportion of individuals using the Internet, by type of activity</td>
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<tr>
<td>B8</td>
<td>Proportion of businesses placing orders over the internet</td>
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#### Key sources

- Surveys of ICT usage in business
- Surveys of ICT access and usage in households and by individuals

#### Example survey questions

**Businesses**

- Did your business receive orders for goods or services (that is, make sales) via the Internet during 20XX?
- Did your business place orders for goods or services (that is, make purchases) via the Internet during 20XX?
  - [ ] Yes, via websites, Internet marketplaces, EDI, over Internet, apps, etc.
  - [ ] Yes, via email
  - [ ] No

**Households**

- For which of the following activities did you use the Internet for private purposes in the last three months (from any location)? Please tick all that apply.
  - [ ] …
  - [ ] Purchasing or ordering goods or services
  - [ ] Selling goods or services
  - [ ] …


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The Partnership on Measuring ICT for Development is led by UNCTAD, the ITU, and UNSD, with participation from the UN regional commissions (incl. UN ECLAC) and various other international organisations and bodies.

The list of Core indicators on measuring ICT for development is developed by the participating organisations with input from member countries and endorsed by countries through the UN Statistical Commission.

Core indicators on e-commerce

Businesses using e-commerce
2021 or latest

Online shoppers, 2020/21 (% of Internet users)

Indicators on e-commerce

Note: UNCTAD core indicators on ICT usage in business.

Source: UNCTAD core indicators on ICT usage in business.
Note: Businesses with 10+ persons employed. Most common reporting years: sales 2020; purchases 2018.

UNCTAD based on Eurostat Digital Economy and Society Statistics database, OECD ICT Access and Usage by Households and Individuals database, ITU World Telecommunication/ICT Indicators database, Argentina CACE, Australia Post, China Network Information Center, DANE Colombia, IMDA Singapore.
Note: For most European/OECD countries, data relate to individuals aged 16-74 years who used the internet/shopped online in the 12 months prior to survey. For other countries, wider age ranges and different recall periods may apply. 2021 figures used when available (x-axis) but for a significant minority of countries (29 of 66 countries presented), and especially for developing countries (17 of 19 countries), the latest data relate to 2020.
Measuring e-commerce value
Extending business ICT surveys

- Increasing role of e-commerce → need for measures of the monetary value of e-commerce transactions
- Although households, government units, and non-profits all engage in e-commerce as buyers and sellers, businesses account for the vast majority of e-commerce sales and purchases.

→ recommended to prioritise measuring the value of business e-commerce

- The surveys already used to measure business e-commerce provide a natural starting point
  - More developed/fewer challenges for measuring e-commerce value than Household Surveys
  - Almost 80 countries have business ICT surveys; most of these have collected value of e-commerce sales
- Other business surveys (e.g. surveys of business activity) can also be used, with similar questions.

Measuring the value of business e-commerce sales using surveys of business ICT usage/e-commerce [and other business surveys]

Notes: EU = European Union, ESS = European Statistical System. The ESS includes EU countries as well as Iceland, Norway, Turkey, and the non-EU Balkan states. These countries generally follow the Eurostat model survey on e-commerce and ICT usage in business. "Others in OECD collection" comprises non-EU OECD members Australia, Canada, Colombia, Israel, Japan, Korea, Mexico, New Zealand, Switzerland, and the United Kingdom, as well as Brazil, which participates in the annual OECD data collection. Although it is an OECD member, the United States does not conduct business ICT usage surveys. "Other UNCTAD members" refers to all other economies; these have been identified as performing business ICT usage surveys based on source information provided to UNCTAD when submitting data for inclusion in the database of core indicators on ICT usage in business. Several countries have published e-commerce value figures based on other surveys: Japan, Singapore, Philippines, and the United States.

Source: UNCTAD based on national sources, Eurostat Digital Economy and Society Indicators Database, OECD ICT Access and Usage by Businesses database, UNCTAD core indicators on ICT use in business database.
Extending business ICT surveys
a practical example

2 main approaches to measuring e-commerce value:
1. Ask for e-commerce revenue directly in $
2. Ask as % of total sales revenue (total collected on same or other survey)

Many surveys offer respondents both options but it is common to prefer response in $ (as in this example from DOSM Malaysia).

A similar approach can be used to investigate the responding enterprise’s e-commerce purchases.
Various National Statistics organisations have published estimates of the value of business e-commerce sales.

In South America, estimates tend to come from industry associations:
- survey methods and questions used can be unclear and results often represent only members

Mexico publishes value added from e-commerce (different concept)

We welcome any “official estimates” from LAC countries to include in the analysis.


Note: Sales by businesses only. Figures in national currency converted to USD using UNCTAD annual exchange rates (https://unctadstat.unctad.org/).

The comparability of the series presented is limited. For most economies, the underlying source is a business ICT usage/commerce survey or other business survey (e.g., business activity survey). The series for Japan is based on a somewhat different approach, see box in section 3.5. * Singapore: services only, Indonesia: based on a “profiling survey” sampling businesses in 3,504 of over 800,000 census blocks across 34 of 37 provinces; as such these figures are not representative of all business e-commerce. For Australia, the reporting year ends in June of the year shown.
Breakdowns provide additional insights

Top-down approach: collect total e-commerce $, break down to provide additional insights

An example of a survey question requesting the responding enterprise to provide the percentage of the value of e-commerce sales to other enterprises (B2B e-commerce), government units (B2G), or consumers (B2C).

Source: INEGI, CONACYT, «Encuesta sobre Tecnologías de la Información y las Comunicaciones ENITIC 2013».

Note: Austria, France: sales to domestic vs foreign customers only distinguished for web sales (not EDI-type sales). Republic of Korea: payment methods only available for the sum of B2C+C2C (consumer-to-consumer) e-commerce. United States: sales channel only collected on the annual wholesale trade survey, unavailable for enterprises in other industries.
Take-aways

• E-commerce is increasingly important in facilitating economic activity → increasing need for indicators on e-commerce uptake and value

• The core indicators on e-commerce tell us how many individuals and businesses use e-commerce to buy and sell

• Supplementary survey questions can be used to measure the value of e-commerce sales and purchases

• At its meeting on 28-29 November, the UNCTAD Working Group on Measuring E-commerce and the Digital Economy (WG-ECDE) will discuss measuring the value of e-commerce. All countries are encouraged to participate. Register to participate remotely or in-person at: https://unctad.org/meeting/working-group-measuring-e-commerce-and-digital-economy-third-meeting

• Any “official estimates” of the value of business e-commerce sales in LAC countries would be greatly appreciated to include in the analysis.