

# Handbook on Measuring Digital Trade

IMF, OECD, UNCTAD and WTO



# Background

OECD definition of e-commerce  
for measurement purposes  
(2001, 2009)

Work on 'readiness'  
measures – WB, ITU, WEF  
(2016 – onwards)

Handbook on Measuring Digital  
Trade (2019)

=> **Statistical definition and  
conceptual framework established**

WTO work program on  
e-commerce (1998)

UNCTAD-led work on  
defining and measuring ICT-  
enabled services trade  
(2015 - onwards)

G20 Toolkit on Measuring  
the Digital Economy (2018),  
OECD Going Digital Project  
(2017 – onwards)

**Handbook on Measuring Digital trade  
second edition (2023)**

## Handbook on Measuring Digital Trade

SECOND EDITION



# Policy drivers

- Digital technologies are an important enabler for international trade
  - The ability to place and receive orders digitally and to deliver services digitally 'shrinks the space' between supply and demand and 'creates' more international trade
  - Acceleration in uptake after COVID-19
- Businesses account for the bulk of international trade transactions, and by extension they account for the bulk of digital trade
  - BUT: digital trade provides more opportunities for SMEs, households and governments to engage in international trade both as exporters and importers (with policy as well as statistical implications)
- Digital ordering and delivery have an impact on trade policy (market access, trade facilitation...) as well as on other policy areas (competition, taxation...)



**Need for accurate, comprehensive and internationally comparable statistics, measured as a subset of and consistently with official international trade statistics**

# Key concepts

What makes an *international trade transaction* a *digital trade transaction*?

## WTO Work Programme on Electronic Commerce definition (1998)

"The production, distribution, marketing, sale or delivery of goods and services by electronic means"

### E-commerce

Definition for measurement purposes (OECD, 2009)

"The sale or purchase of a good or service, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders"

### Digital Trade

Handbook on Measuring Digital Trade  
IMF, OECD, UNCTAD and WTO, 2023

"All international trade that is digitally ordered and/or digitally delivered"

### Domestic e-commerce

"The **domestic** sale or purchase of a good or service, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders"

### Digitally ordered trade

=  
International e-commerce

"The **international** sale or purchase of a good or service, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders"

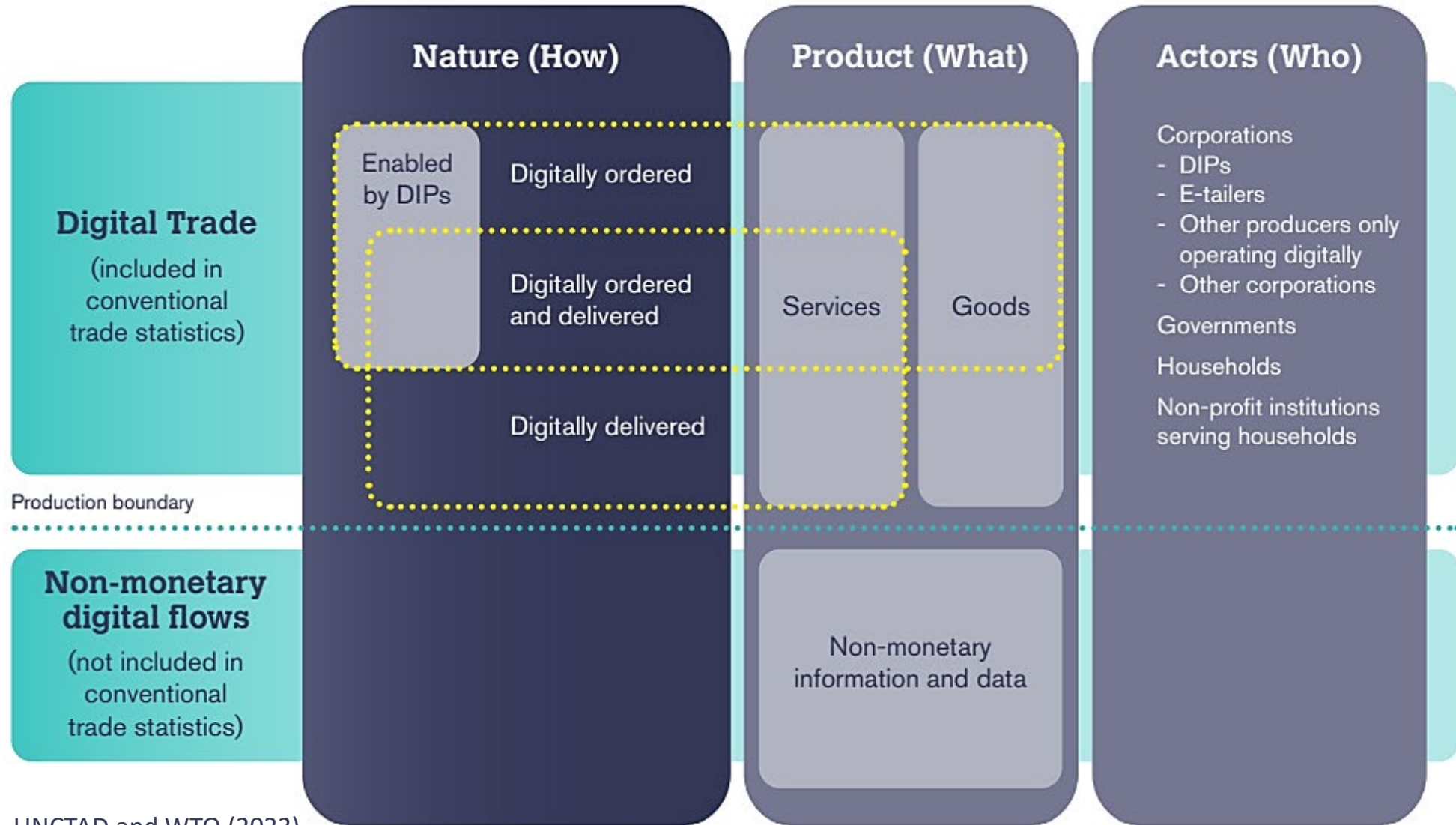
### Digitally delivered trade

"All **international** trade transactions that are delivered remotely over computer networks"

International transactions that are both digitally ordered and digitally delivered

Source: IMF, OECD, UNCTAD and WTO (2023)

# The statistical framework



Source: IMF, OECD, UNCTAD and WTO (2023)

# Digitally ordered trade

*“The international sale or purchase of a good or service, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders”.*

Digital ordering = e-commerce

→ Digitally ordered trade = international e-commerce

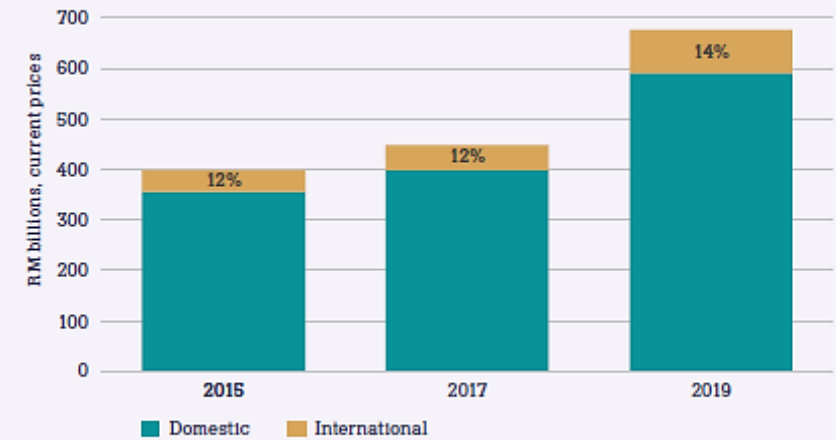
- Goods and services (incl. some digitally delivered services)
- Orders placed via:
  - ✓ The seller’s own web sites or apps
  - ✓ Third party web sites or apps (e.g. online marketplaces/platforms)
  - ✓ Machine generated/readable messages (EDI)
  - ✓ Voice commands issued to virtual assistants
  - ✓ Chatbots
  - ✗ Telephone calls
  - ✗ Fax
  - ✗ Manually typed messages (e.g. email, WhatsApp)
  - ✗ Offline transactions formalised using digital signature
- All economic sectors can be buyers and sellers:
  - Businesses
  - Households / individuals
  - Government units
  - Non-profits (NPISH)



# Digitally ordered trade by businesses

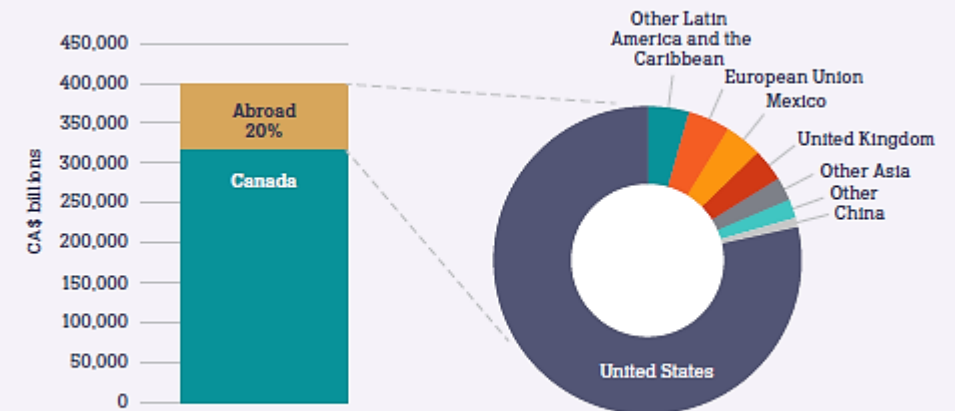
- Businesses are main players in e-commerce sales (and purchases) – including international
- Build upon ICT surveys used to measure e-commerce uptake to measure the *value of digitally ordered transactions*
  - Both sales (exports) and purchases (imports)
  - Both domestic and international e-commerce transactions measured together
  - Data can also be collected through “core” business surveys
- Some countries collect more detailed information
  - Partner country/region
  - Product (good, digitally delivered service, other service)

Figure 3.2: Business e-commerce sales by customer location, Malaysia



Source: IMF, OECD, UNCTAD and WTO based on Department of Statistics Malaysia (2019; 2021).

Figure 3.3: Business e-commerce sales by customer location, Canada, 2021

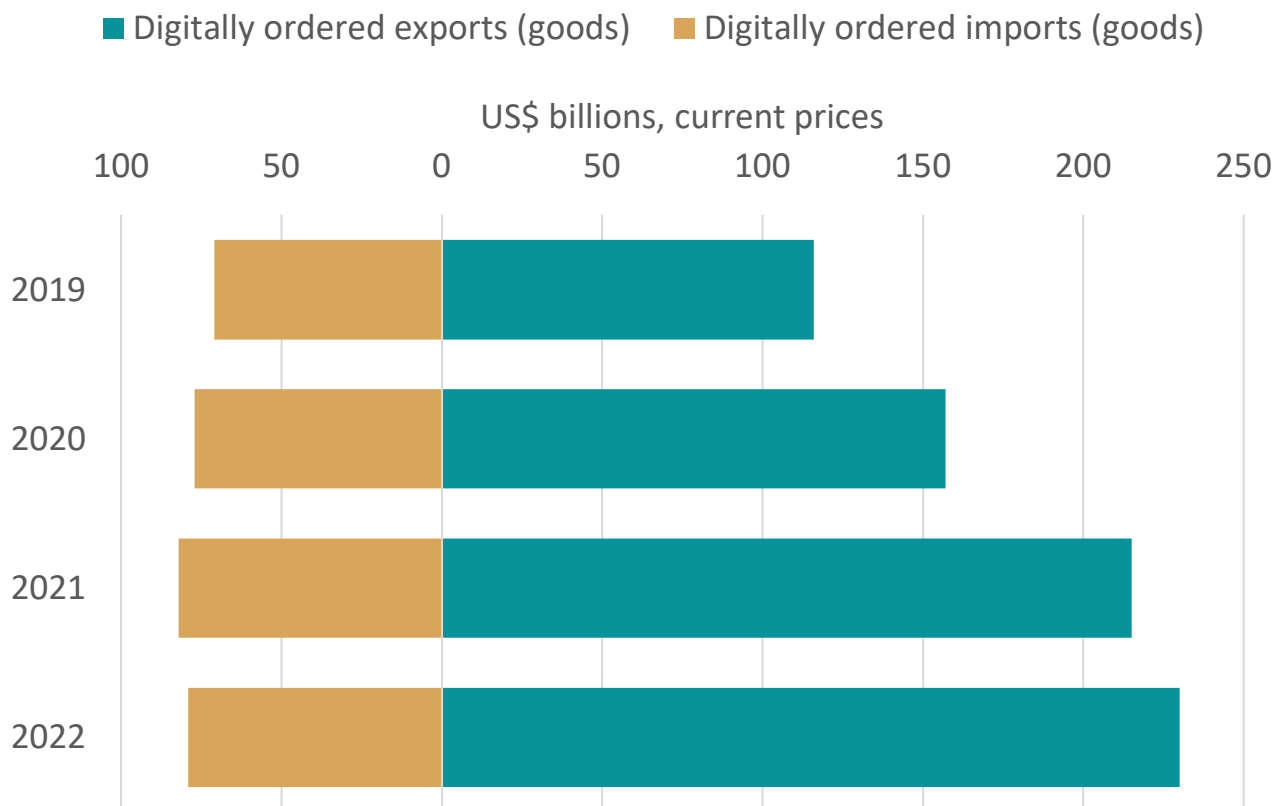


Source: Statistics Canada

# Digitally ordered trade in goods

- In many countries, cross-border trade is mainly in goods (rather than services)
  - Likely also for digitally ordered trade
  - Several countries have modified customs reporting requirements and processes to identify merchandise shipments that are digitally ordered
- digitally ordered trade integrated with existing goods trade measurement

Digitally ordered trade in goods, China



Source: IMF, OECD, UNCTAD and WTO, based on China Customs case study (ch6)



# Digitally delivered trade

*"All international trade transactions that are delivered remotely over computer networks"*

Digitally delivered trade equivalent to Mode 1 (cross-border supply) for digitally deliverable services

- Only **services** can be digitally delivered
- Often also digitally ordered (but not always)
- Key steps for statistical compilers
  - Identify **digitally deliverable services** (in existing statistics)
  - Carve out services **actually digitally delivered**



# Identifying digitally delivered transactions

*“All international trade transactions that are delivered remotely over computer networks”*

- ✓ Services that are **inherently digital** in nature:
  - ✓ Software downloads and online software
  - ✓ Cloud computing services
  - ✓ Streaming media
  - ✓ Online gaming services (and similar)
  - ✓ etc.

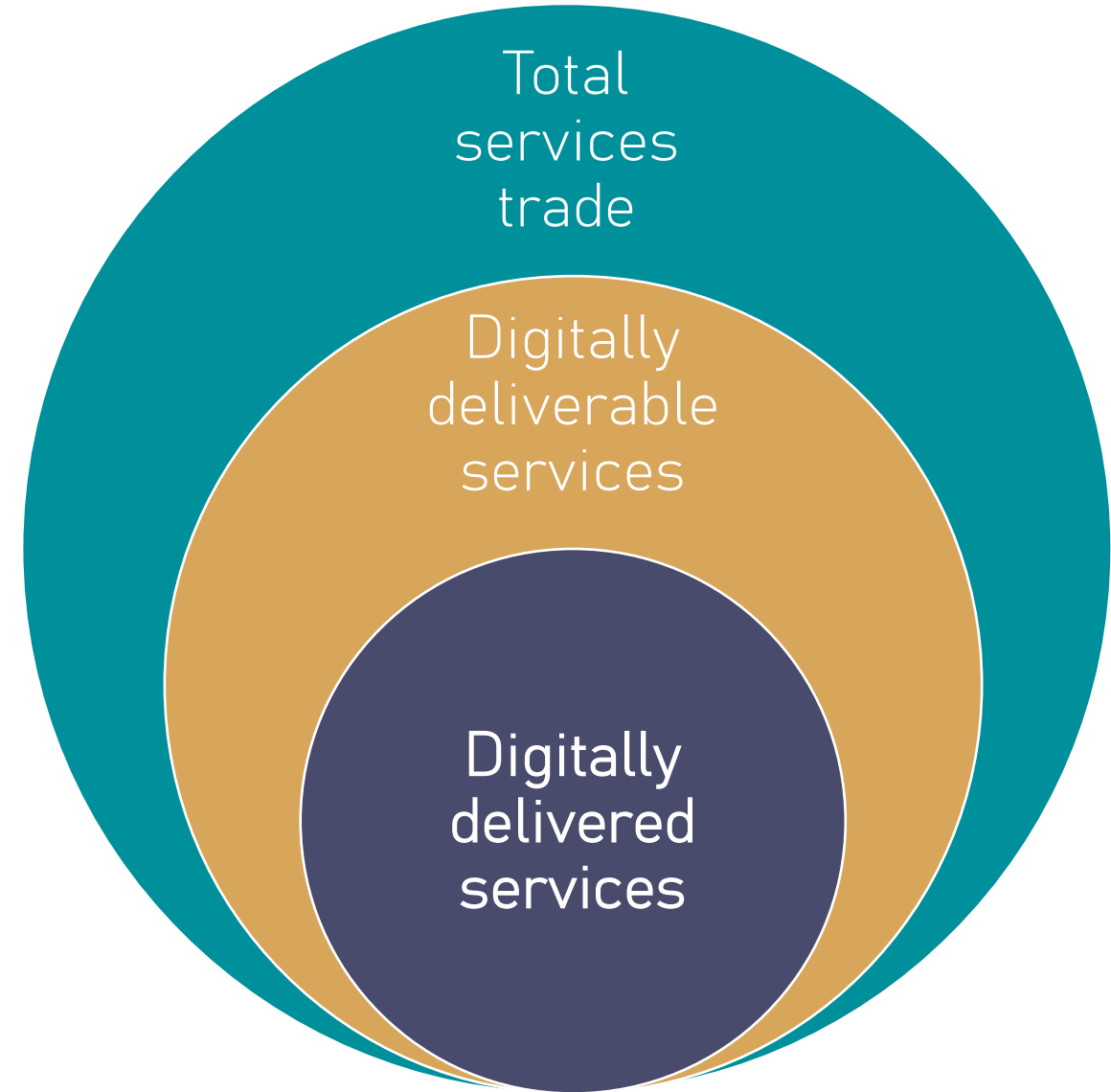
- ✓ Services where **in-person interactions now take place online**
  - ✓ Telehealth consultations
  - ✓ Financial/legal advice
  - ✓ E-learning
  - ✓ Yoga lessons
  - ✓ etc.

- ✓ Services where **in-person interactions have been replaced with self-service through online interfaces**
  - ✓ Online banking
  - ✓ Share-dealing
  - ✓ E-learning
  - ✓ etc.

- ✓ Services where **physical delivery of outputs has been supplanted by delivery in the form of digital files**
  - ✓ Architectural services (blueprints)
  - ✓ R&D services (reports)
  - ✓ Accounting services (financial reports)
  - ✓ etc.

# Measuring digitally delivered trade

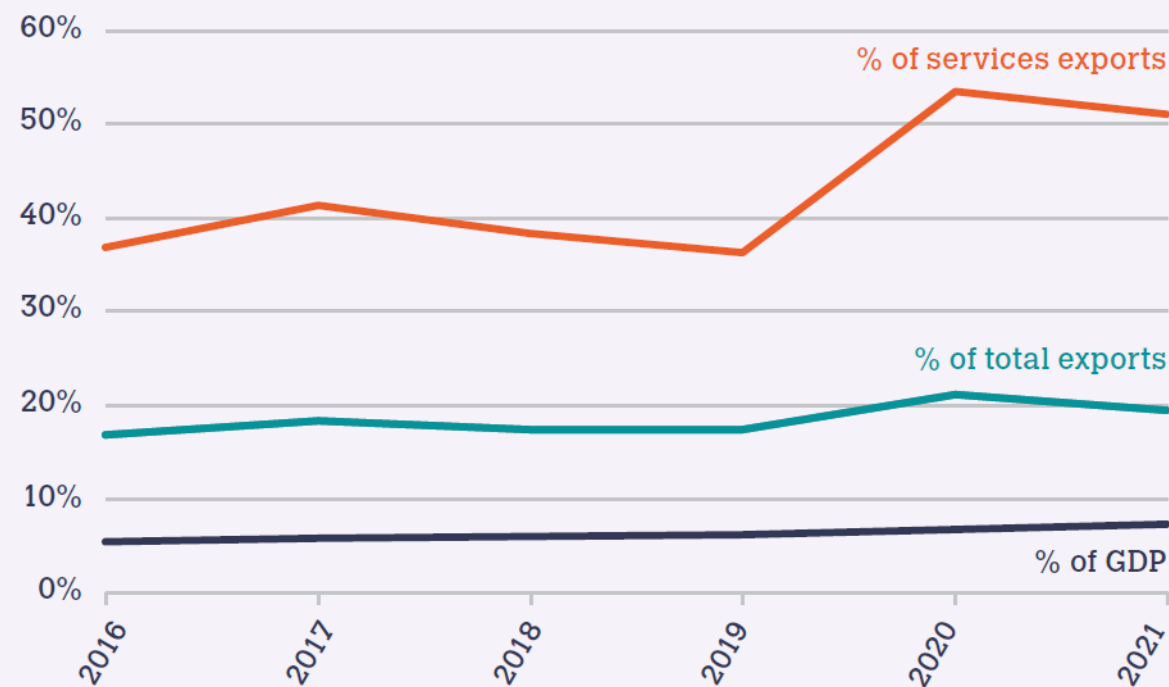
- Although a service may be digitally deliverable, this doesn't mean it is *always* digital delivered when traded
- The share of digitally delivered services trade in total trade depends on trade diversification, digital infrastructure, skills, the digital propensity of firms, legislative environment, etc.



# Compiling digitally delivered trade

- Build upon International Trade in Services (ITS) surveys
  - add questions on remote/digital delivery (for digitally deliverable), e.g. using the UNCTAD model questionnaire
  - collect sufficient product detail
- Use complementary sources to ensure full coverage (households, MSMEs)
- Expert judgment shares can be used as a first approximation (e.g. Eurostat-WTO model)

Figure 4.7: Digitally delivered services exports, Costa Rica, 2016-21



**Note:** Excludes health services, education services, heritage and recreational services, and trade-related services.

**Source:** Central Bank of Costa Rica.

# Digital intermediation platforms (DIPs)

*“Online interfaces that facilitate, for a fee, the direct interaction between **multiple buyers and multiple sellers**, without the platform taking economic ownership of the goods or rendering the services that are being sold (intermediated)”*

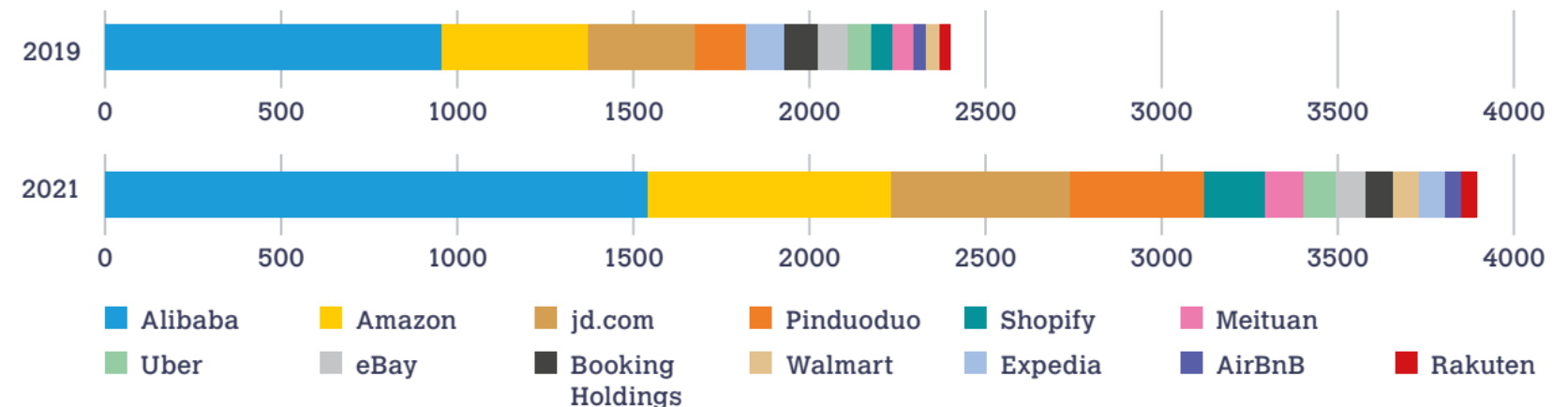


# DIPs are key drivers in the digital transformation

Their impact is significant and growing

- DIPs facilitate access to the global marketplace (especially for smaller businesses).
- Give buyers access to wider product variety and ability to compare prices easily.
- Also enable new activities and business models such as peer-to-peer transactions, resource sharing between households.

**Figure 1.3: Sales through online platforms are booming**

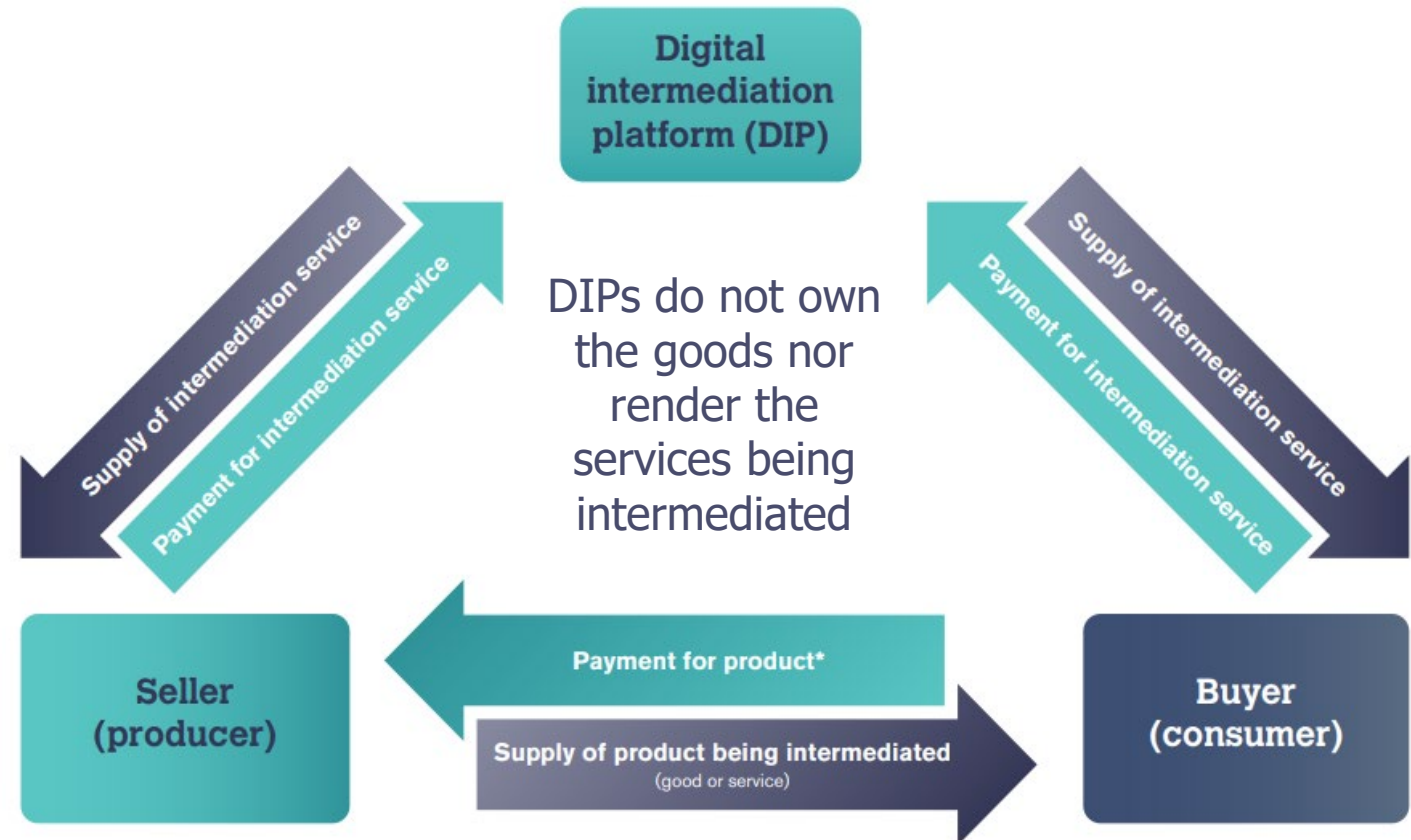


**Note:** The chart covers digital intermediation platforms as defined in this Handbook (e.g., Uber), as well as e-tailers. In some cases, both business models may co-exist on the same platform (e.g., Amazon, Alibaba). The figures reflect the gross value of goods and services sold by/through these companies.

**Source:** UNCTAD (2022a), based on company reports.

# Transactions facilitated by DIPs

- Always digitally ordered and often digitally delivered, but specific compilation challenges (and policy interest!)
- Three actors in the transaction, residence not trivial to establish
- Need to disentangle
  - supply of good/rendering of service
  - provision of intermediation services
- Key starting points
  - Survey resident DIPs
  - Collect information on exports and imports of digital intermediation services from ITS surveys
  - Collect information on transactions made via DIPs using ICT surveys



Source: IMF, OECD, UNCTAD and WTO (2023)

# Key take-aways

- The Handbook on Measuring Digital Trade sets out **key definitions, a measurement framework, and reporting template for Digital Trade statistics**
  - The second edition is a significant development, adding important clarifications and explanations, and presenting extensive new compilation guidance reflecting the rapid progress being made by countries
  - It has been **endorsed by countries through global consultation**
- Multiple sources and methods needed for complete and coherent measure of digital trade
  - **Key priorities:**
    - **Measuring digitally ordered transactions involving businesses (e.g. through business ICT usage surveys)**
    - **Measuring digitally ordered trade in goods through adjustments to customs reporting requirements**
    - **Ensuring the availability in services trade statistics of full product detail for digitally deliverable services**
    - **Including questions on digital delivery in international trade in services surveys**
- **Coordinated statistical capacity building to support countries in turning the Handbook into action!**



# Turning the Handbook into action

- The IMF, OECD, UNCTAD, and WTO are working to develop in-person, online, and blended training to support Handbook implementation
- In-person workshops of 4-5 days
- First workshop took place in Nov 2023
  - For Arab countries
  - Funded by the Arab Monetary Fund and the WTO
  - Delivered with partners UN-ESCWA, the Arab Institute for Training and Research in Statistics, and UNSD
  - Strongly positive feedback
- Workshop provision is demand-led. To express interest contact [emeasurement@unctad.org](mailto:emeasurement@unctad.org); [barbara.dandrea@wto.org](mailto:barbara.dandrea@wto.org) and [pquill@imf.org](mailto:pquill@imf.org)



**Regional Workshop on Measuring Digital Trade**  
**20-23 November 2023**  
**Abu Dhabi, UAE**