

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"

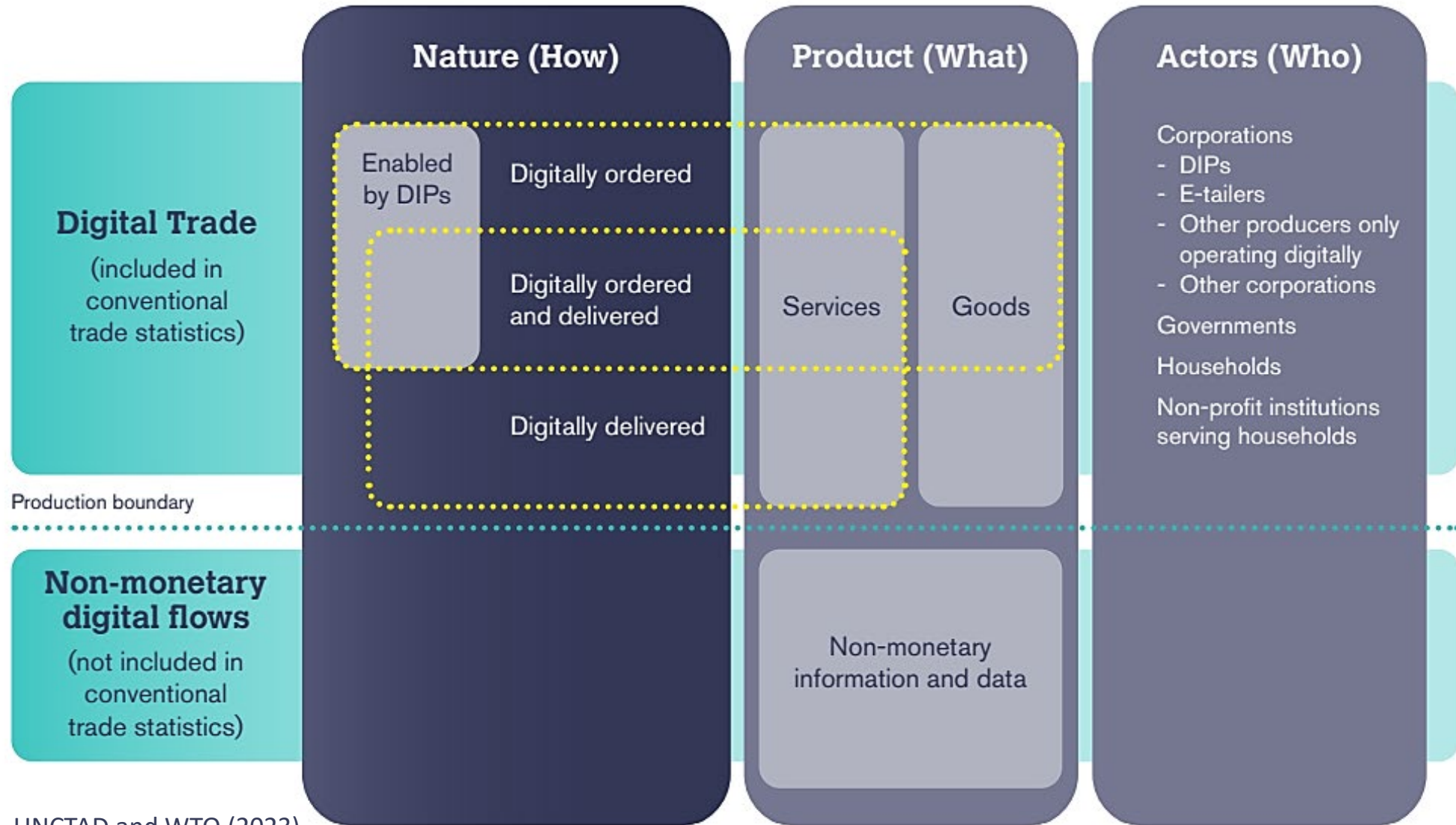
Digitally delivered trade

"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

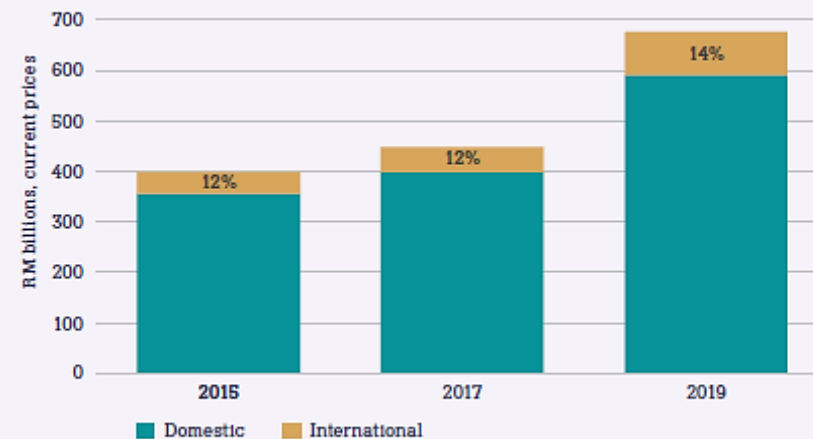
- Goods and services (incl. some digitally delivered services)
- Orders placed via:
 - ✓ The seller's own web sites or apps
 - ✓ Third party web sites or apps (e.g. online marketplaces/platforms)
 - ✓ Machine generated/readable messages (EDI)
 - ✓ Voice commands issued to virtual assistants
 - ✓ Chatbots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



Digitally ordered trade by businesses

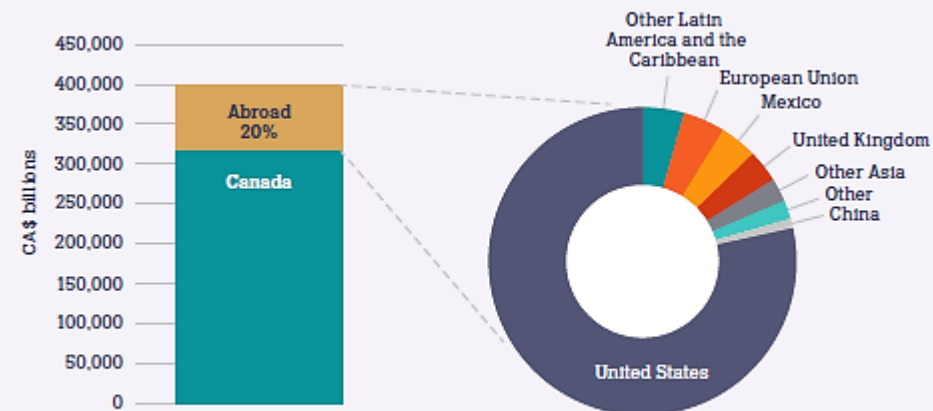
- Businesses are main players in e-commerce sales (and purchases) – including international
- Build upon ICT surveys used to measure e-commerce uptake to measure the *value of digitally ordered transactions*
 - Both sales (exports) and purchases (imports)
 - Both domestic and international e-commerce 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

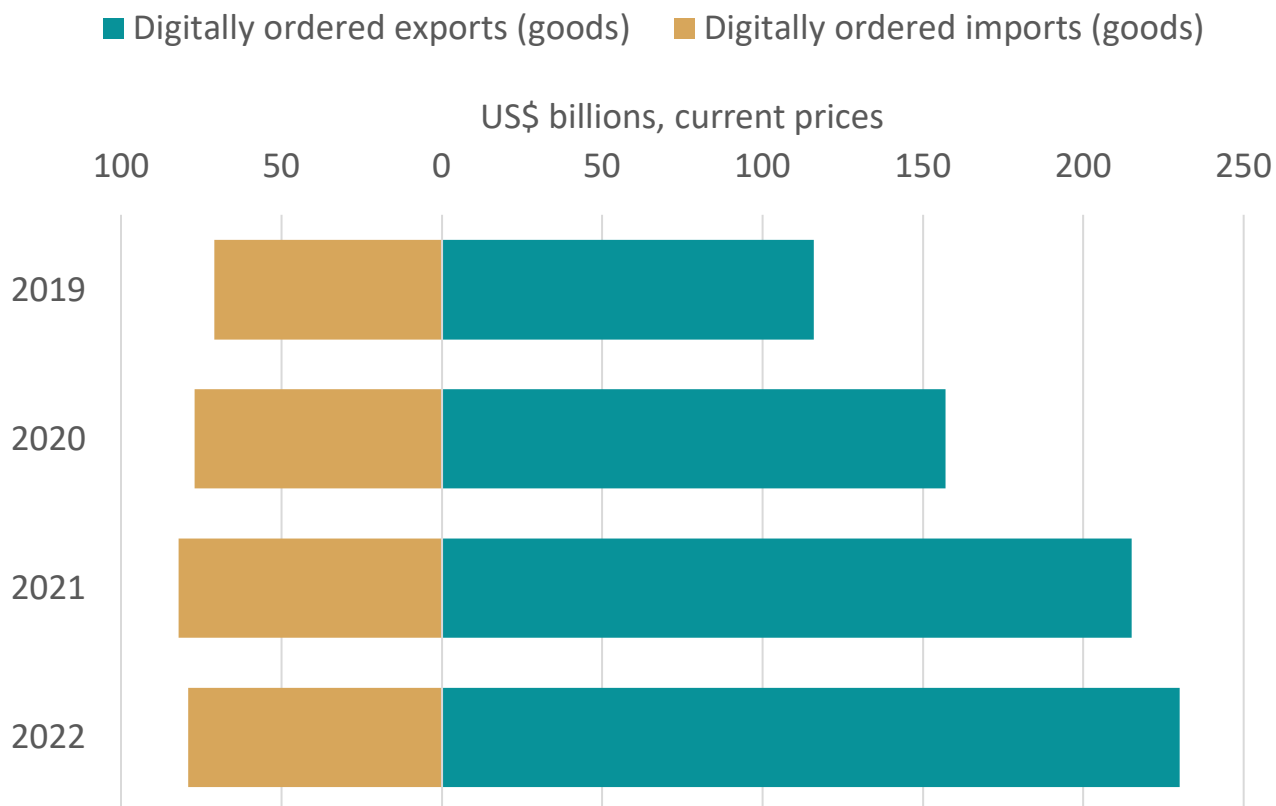


Source: Statistics Canada

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 services that are *digitally deliverable*

- Only **services** can be digitally delivered (no "digital goods")
- May also be digitally ordered
- Key steps for statistical compilers
 1. Identify **digitally deliverable services** (in existing statistics)
 2. Carve out services **actually digitally delivered**



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.

Digitally deliverable services

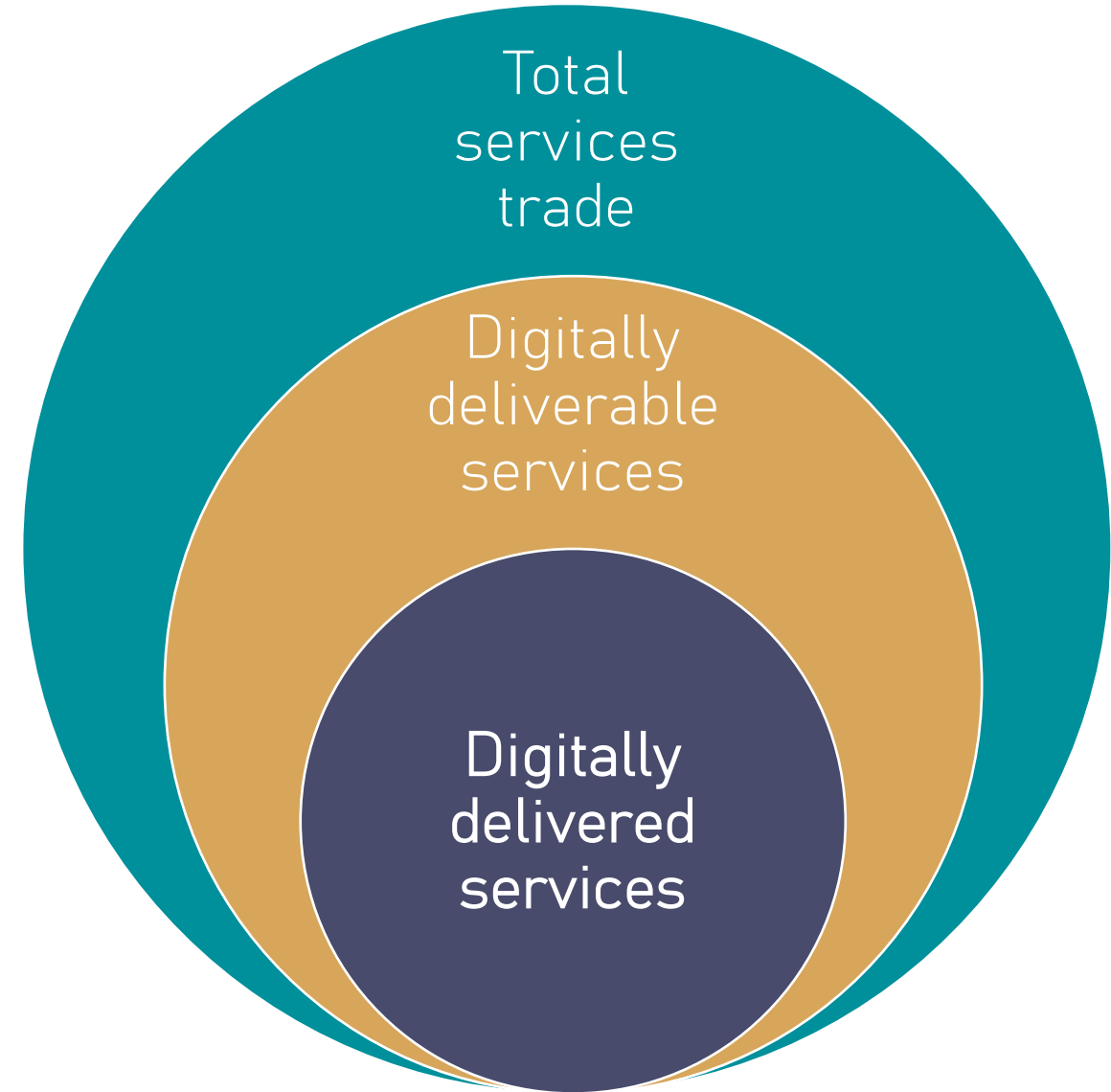
“services which can be delivered remotely over computer networks”

TABLE 4.1: DIGITALLY DELIVERABLE SERVICES IN THE EXTENDED BALANCE OF PAYMENTS SERVICES CLASSIFICATION (EBOPS 2010)

	SDMX-BOP DSD ⁴ components	EBOPS 2010 components
Digitally deliverable services supplied cross-border (Mode 1)		
Insurance and pension services	SF	6
Financial services	SG	7
Charges for the use of intellectual property n.i.e.	SH	8
Telecommunications, computer and information services	SI	9
Research and development services	SJ1	10.1
Professional and management consulting services	SJ2	10.2
Architectural, engineering, scientific and other technical services	SJ31	10.3.1
Trade-related services	SJ34	10.3.4
Other business services n.i.e.	SJ35	10.3.5
Audio-visual and related services	SK1	11.1
Health services	SK21	11.2.1
Education services	SK22	11.2.2
Heritage and recreational services	SK23	11.2.3
Digitally deliverable services consumed abroad (Mode 2)	<i>Recorded <u>within</u> item SD (Travel)</i>	<i>Recorded <u>within</u> item 4 (Travel)</i>

Measuring digitally delivered trade

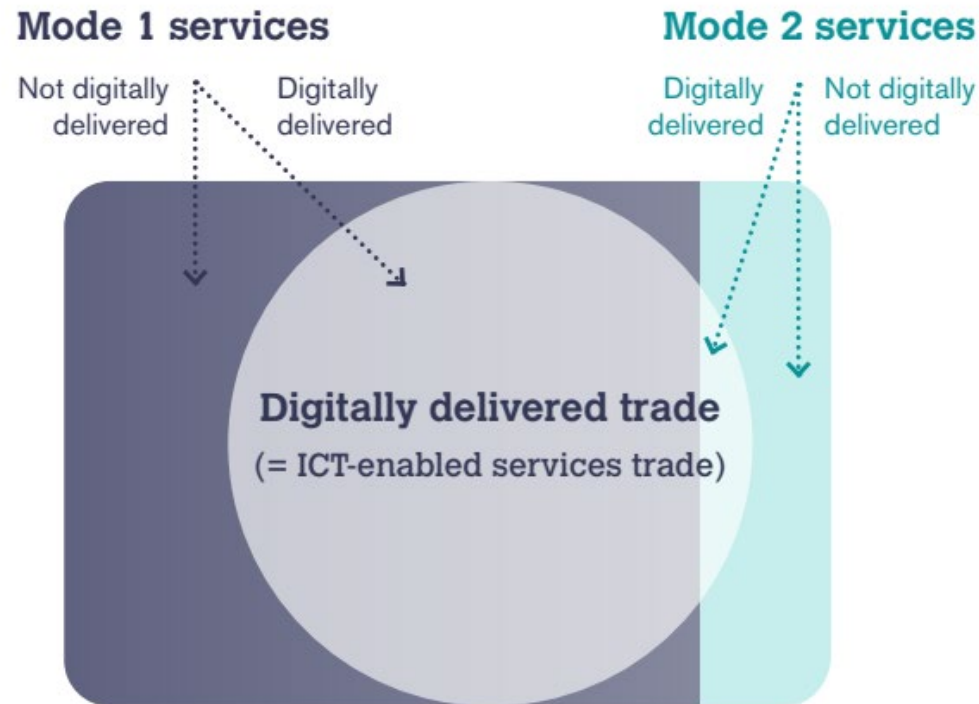
- Although a service may be digitally deliverable, this doesn't mean it is *always* digital delivered when traded
- The share of digitally delivered services trade in total trade depends on trade diversification, digital infrastructure, skills, the digital propensity of firms, legislative environment,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



For services products that are digitally deliverable:

Digitally delivered trade is equivalent to Mode 1 cross-border supply

Figure 2.2: Digitally delivered trade and related statistical concepts



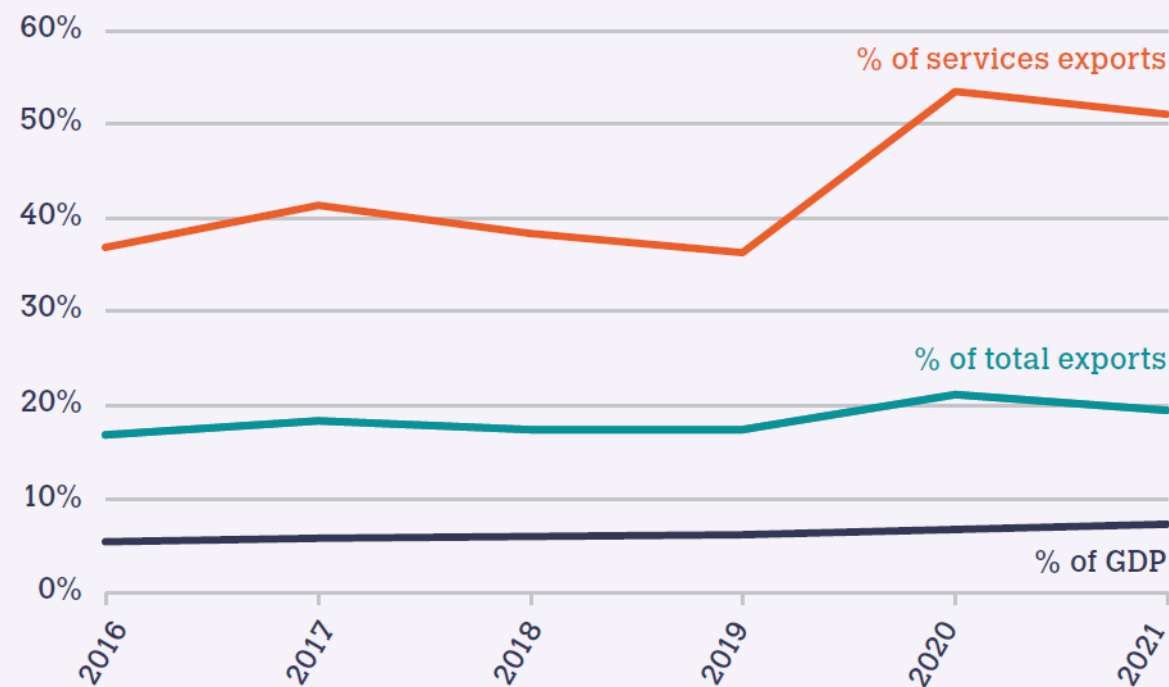
→ Measuring digitally delivered trade is interrelated with measuring services trade by modes of supply

Source: IMF, OECD, UNCTAD and WTO.

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)”*



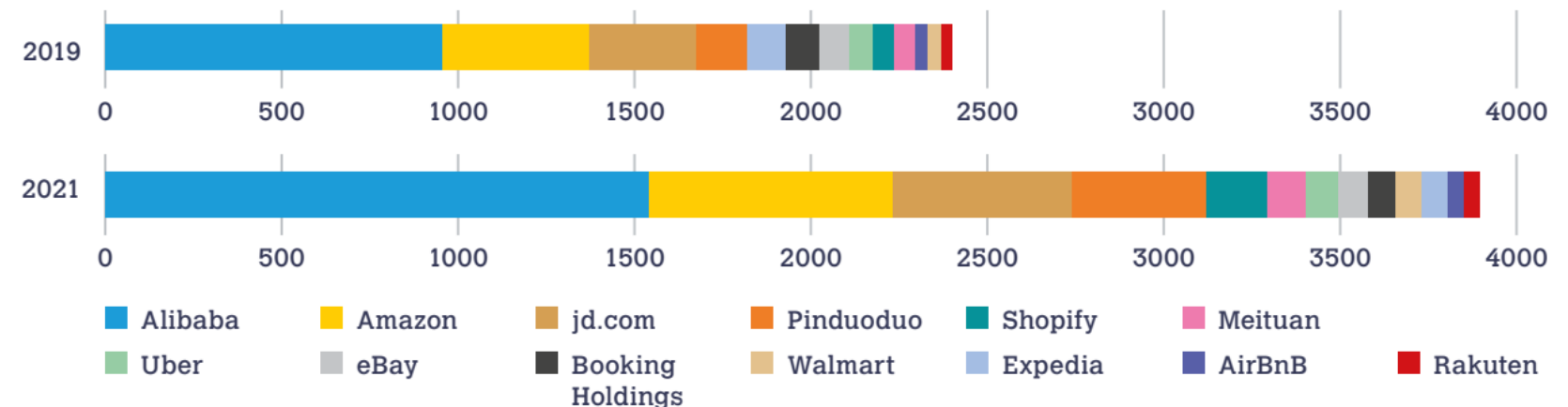
DIPs are key drivers in the digital transformation

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

US\$ billions, current prices

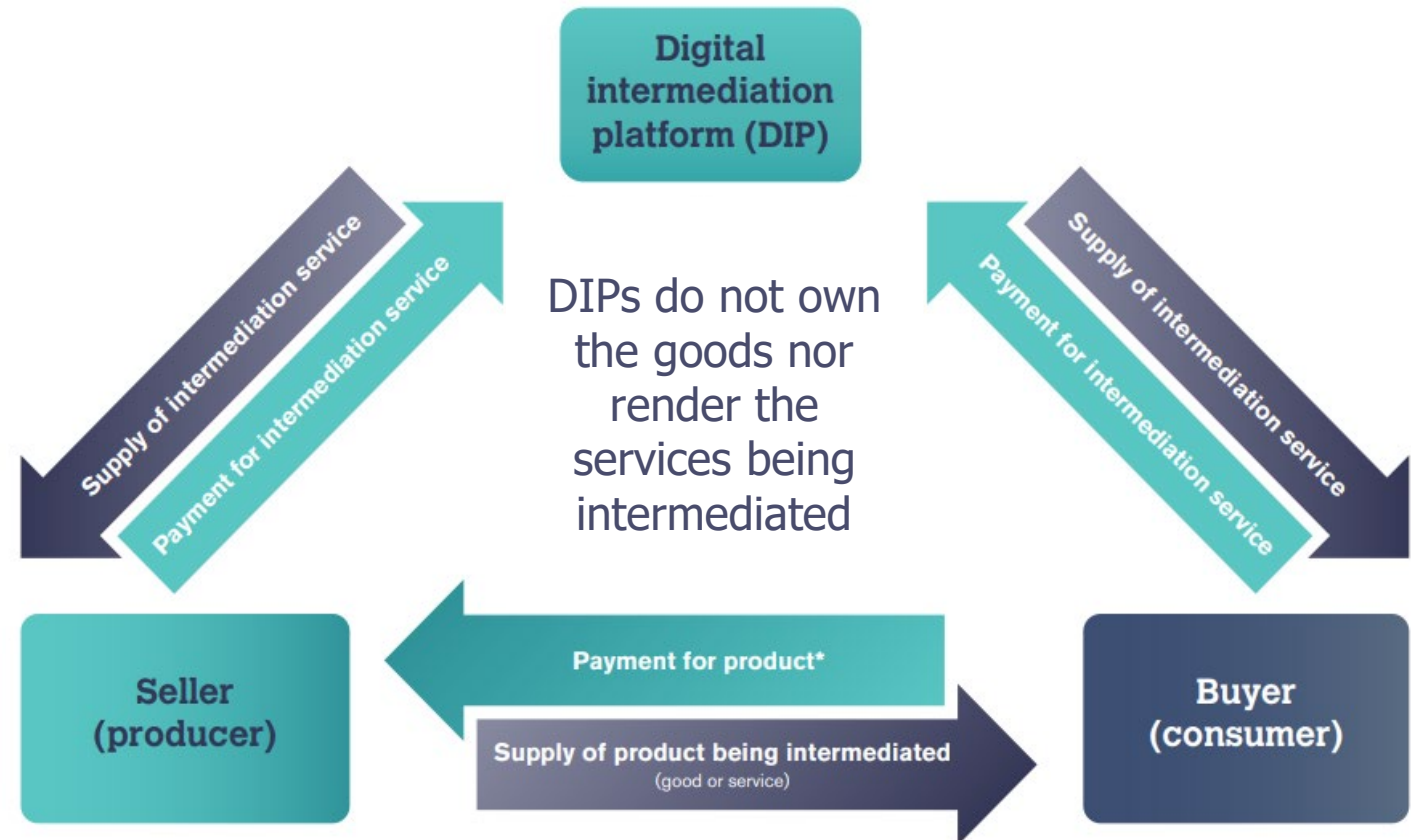


Note: The chart covers digital intermediation platforms as defined in this Handbook (e.g., Uber), as well as e-tailers. In some cases, both business models may co-exist on the same platform (e.g., Amazon, Alibaba). The figures reflect the gross value of goods and services sold by/through these companies.

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; barbara.dandrea@wto.org and pquill@imf.org



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