

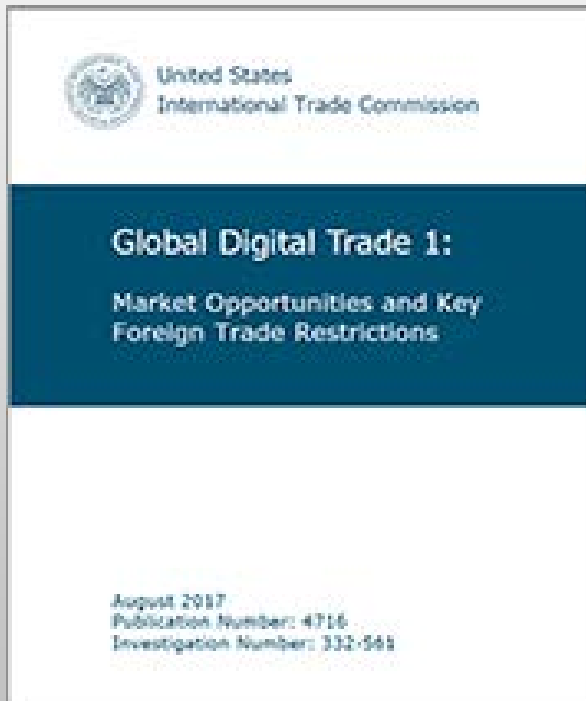


Global Digital Trade: observing the use of data by firms

Martha Lawless, USITC



The landscape of global digital trade is both B2B and B2C

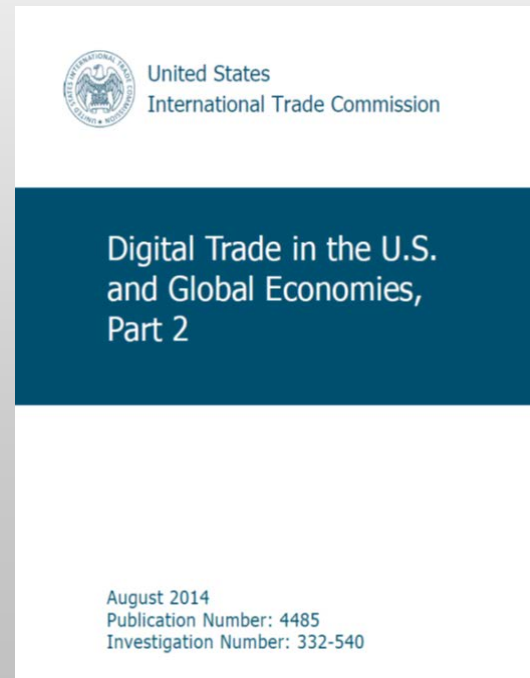
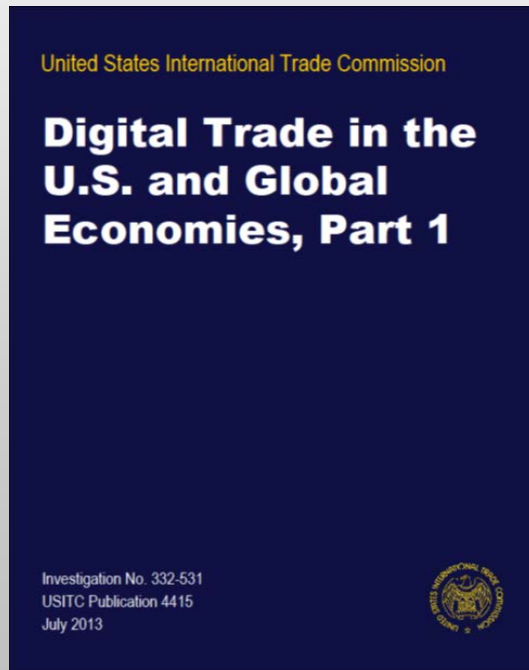


USITC's latest report on global digital trade updates the previous reports in 2013 and 2014.

Part 1: describes the global digital trade landscape and identifies measures that may be impediments to digital trade (Aug 2017)

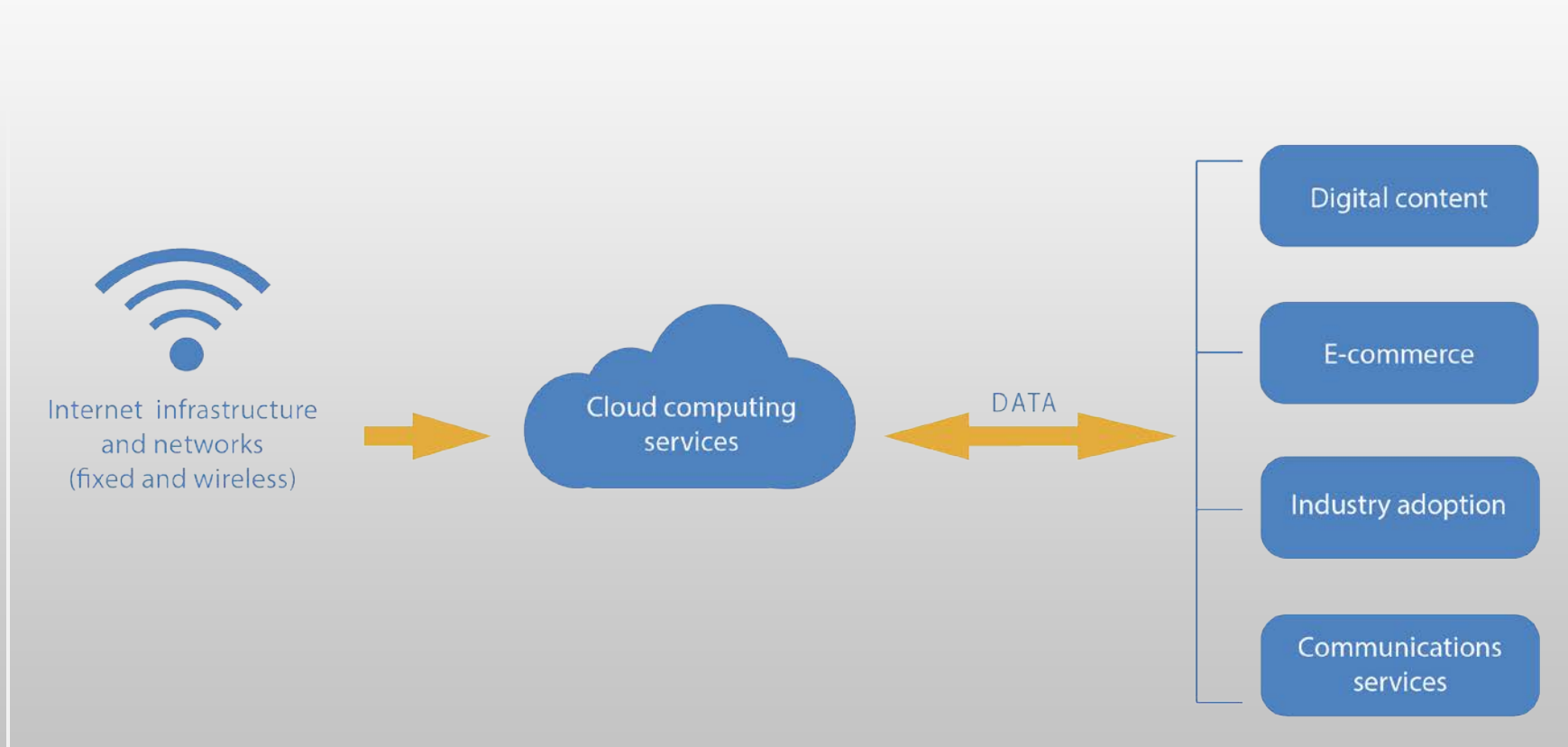


Digital Trade in the U.S. and Global Economies, 2013 and 2014





Digital trade landscape





Key global trends since 2012

Ever expanding Internet:

- Capacity (bandwidth) - 328 percent increase between 2011 and 2015
- Usage (Internet traffic) - 2016 volume of data-flows were 12x the 2007 level

Rise of global digital trade:

- Cloud data center workloads - up 465 percent from 2012
- Global e-commerce - \$27.7 trillion in 2016, up 44 percent from 2012
- Internet-connected devices - 16.3 billion in 2015, up 87 percent from 2012

Regulatory and policy measures are increasing in response:

- Global use of data localization - 84 measures in 2016, up 65 percent from 51 measures in 2012 (according to ECIPE)



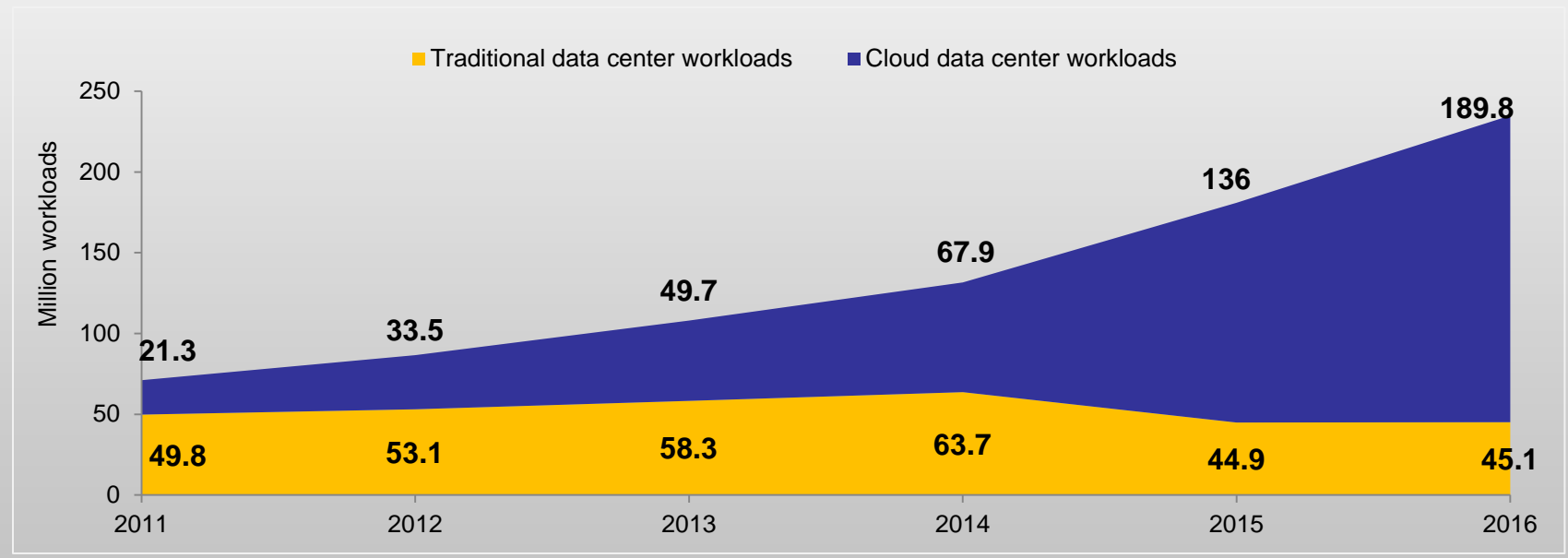
Advances seen in Internet infrastructure and B2B network communication services

- **Developing markets: Internet infrastructure is being built and access is increasing (especially mobile)**
 - 40 to 60% of the population in China, Brazil, and Russia use the Internet, but less than 15% in India and Indonesia. Internet speed has risen faster in developing countries, partially closing the gap with developed markets.
- **Developed markets: Internet networks are moving to the cloud for greater flexibility and lower cost**
 - With $\frac{3}{4}$ population in the U.S. and EU using the Internet, broadband access is increasingly mobile as well as fixed



Rise of cloud computing for data processing, storage, and analytics (mostly B2B)

Global data center workloads (millions), 2011–16



Source: Cisco, *Cisco Global Cloud Index*, 2016; Cisco, *Cisco Global Cloud Index*, 2012.

Note: Workloads measure the number of physical and virtual computer resources available to store and run specific applications or computer services.



E-commerce: still mostly B2B, but B2C rising quickly

- **Global e-commerce grew from \$19.3 trillion in 2012 to \$27.7 trillion in 2016, with proliferation of platforms**
 - B2B platforms: direct and marketplace (Amazon, eBay, Alibaba, and IndiaMART)
 - B2C marketplace platforms (Amazon, eBay and Alibaba's Taobao, among others)
- **B2B e-commerce (\$23.9 trillion) is 6x larger than B2C (\$3.8 trillion)**
- **New technologies (e.g., blockchains, digital payments, digital signatures) facilitate B2B and B2C e-commerce, as do express delivery and logistics**



Industry adoption of digital technologies

Three broad types of digital technologies are basis for digital products and services for firms in all sectors

- **Internet of Things**
- **Robotics and automation**
- **Data analytics**

Manufacturing, Chemicals, Agriculture, and Services



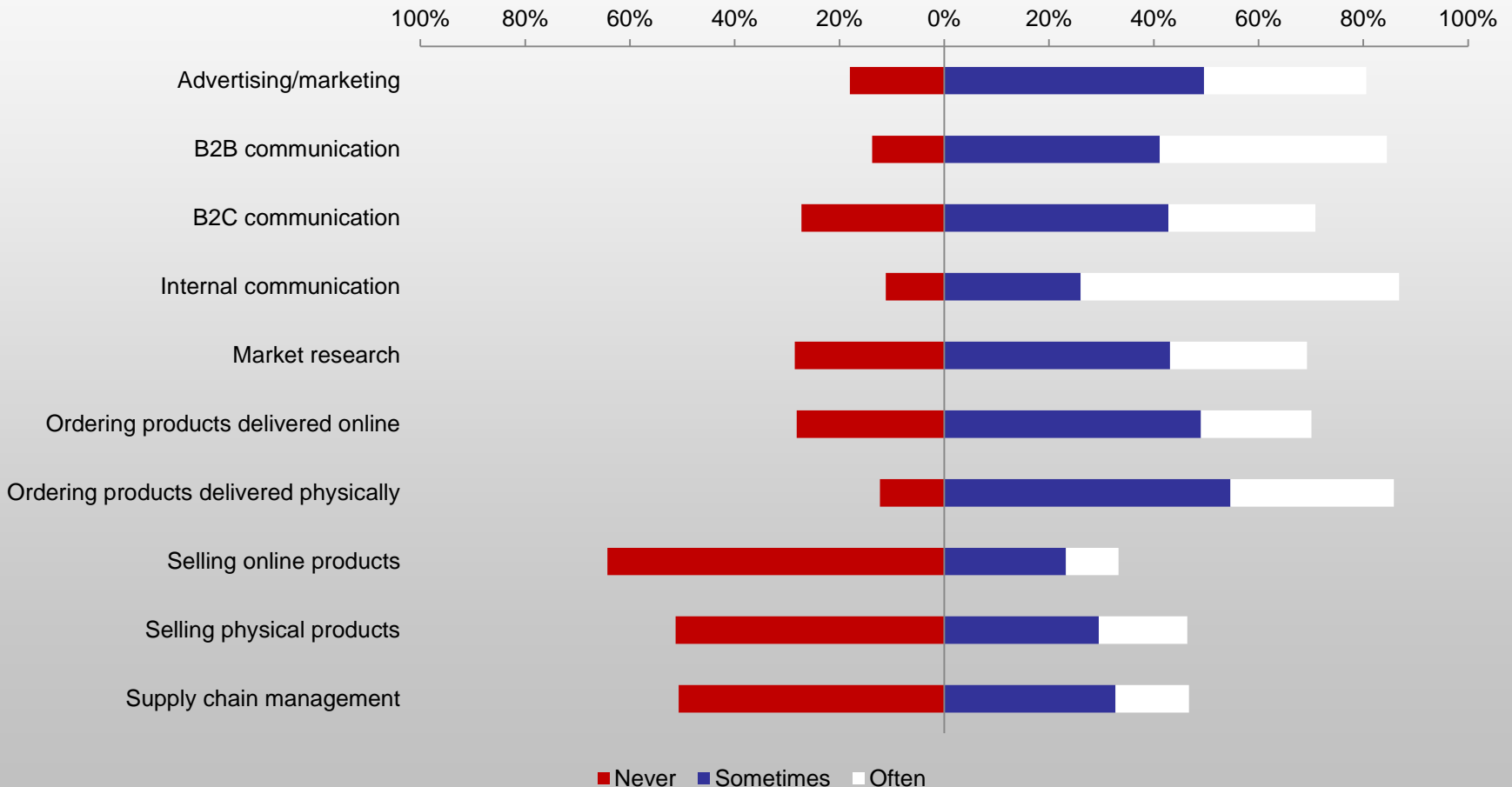
Digital technologies are being adopted by firms for many business functions

Examples of firms' use of digital technologies across various industry sectors and business functions

Business processes	Internet of Things	Robotics and automation	Cloud computing and data analysis
R&D and product development	Measure people for customized clothing	3-D printing of prototypes	Modeling of chemical properties
Production	Sensors on the assembly line	Unmanned aerial vehicles (UAVs) in agriculture surveys	Analyze production data to improve efficiency
Management and internal coordination	Supply chain monitoring systems	Warehouse robots	Enterprise resource management
Marketing, sales, and customer relationship management	Power utility interactive pricing	Airline kiosks	Automated customer service
Distribution and post-sales services	Fleet management services	Package delivery UAVs	Remote monitoring, maintenance, and updates of products



Compare with 2013 survey results: How firms use the Internet





Estimated contribution of the Internet to productivity, 2014 USITC report

- **2013 survey results**

The Internet improves productivity in the digitally intensive sectors of the economy by 7.8-10.9 percent.

- **Simulation model of the global economy (2014)**

These productivity improvements

increase U.S. real GDP by 3.4 - 4.5 percent

increase U.S. real wages by 3.6-4.0 percent

increase U.S. total employment by 0.0-1.4 percent

- **Econometric analysis of individual survey responses (2014)**

Productivity gains primarily due to the use of the Internet in B2B communications and in internal communications.



Regulatory and policy measures that may impede digital trade (2017)

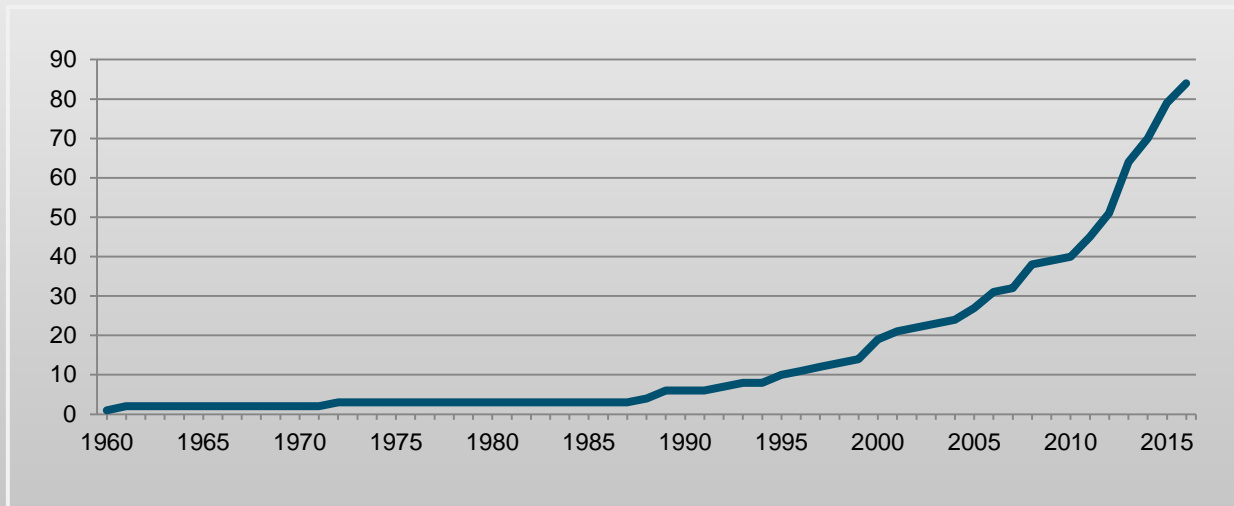
- **Digital-specific measures**
 - Data protection and privacy measures
 - Cybersecurity
 - Intellectual property rights protections
 - Censorship
- **Traditional measures**
 - Market access, including de minimis duty/VAT
 - Investment-related measures



Data protection and privacy measures:

Data localization measures are being used increasingly on grounds of protecting individuals' data

Number of data localization measures, global (1960–2015)



Source: ECIPE Digital Trade Estimates database.

Note: The database includes data localization measures of 65 countries worldwide.



Thank you