

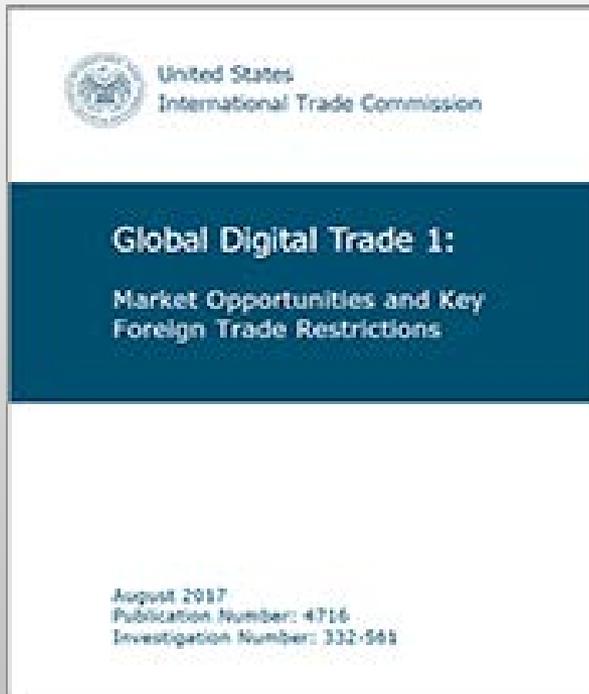


# **Global Digital Trade: observing the use of data by firms**

**Martha Lawless, USITC**



# The landscape of global digital trade is both B2B and B2C

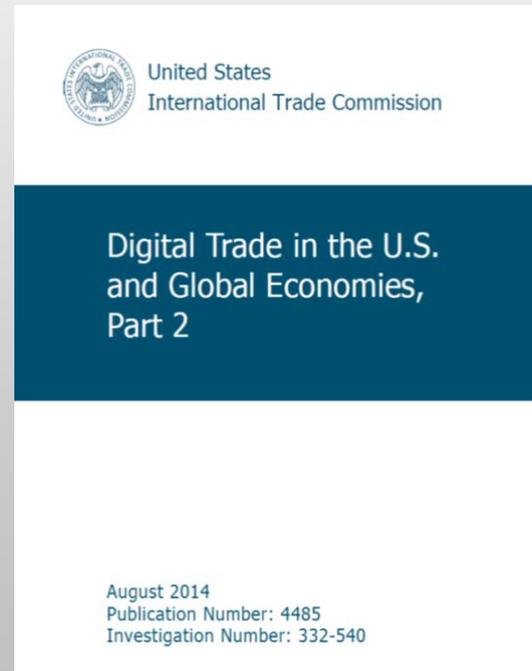
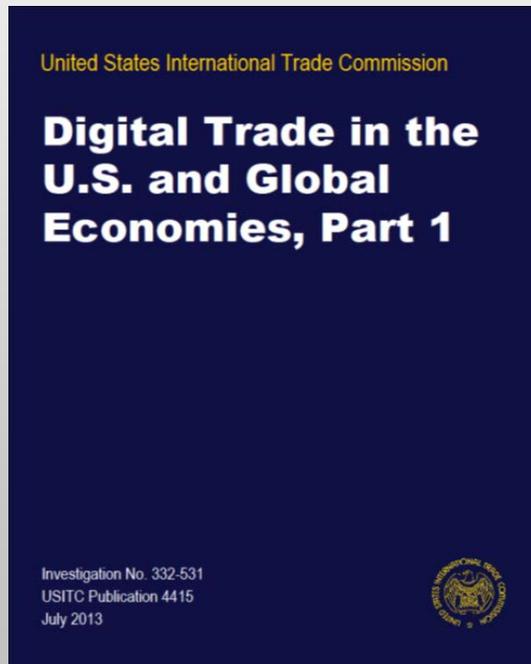


USITC's latest report on global digital trade updates the previous reports in 2013 and 2014.

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

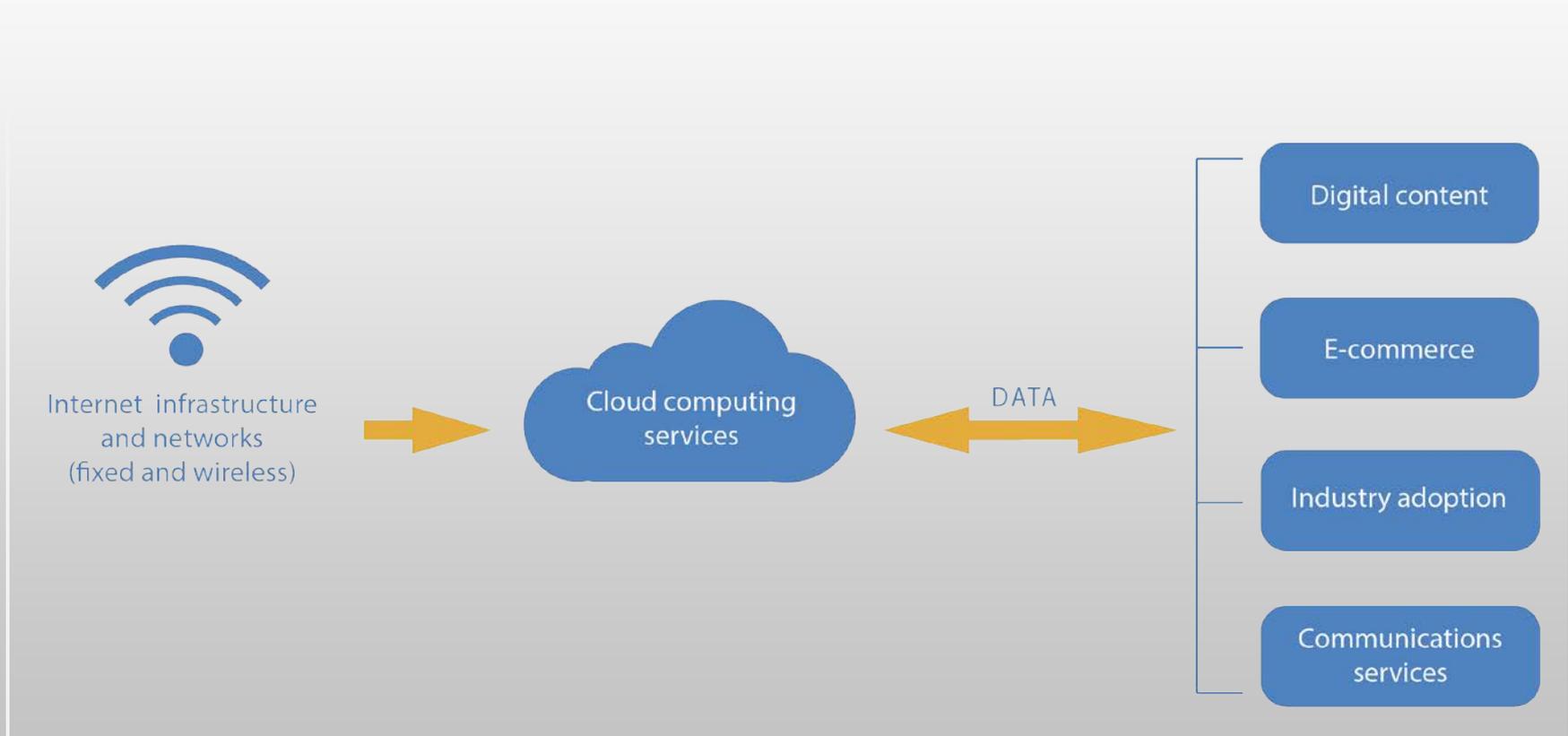


# Digital Trade in the U.S. and Global Economies, 2013 and 2014





# 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)



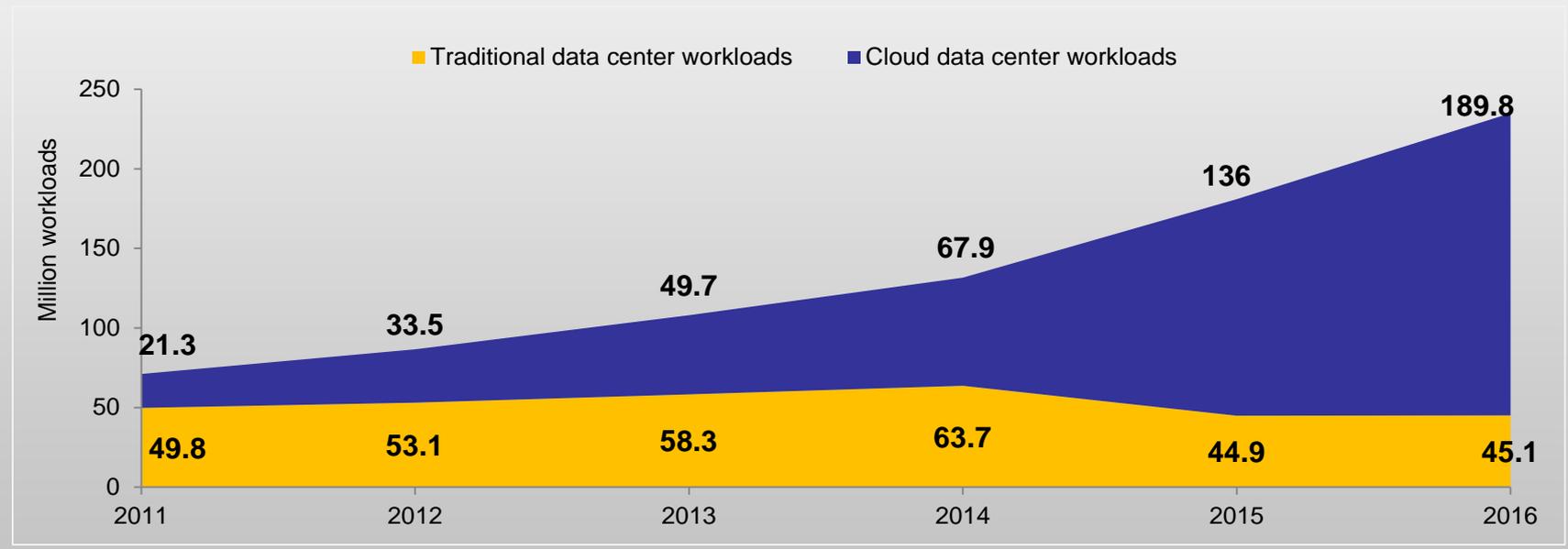
## Advances seen in Internet infrastructure and B2B network communication services

- **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



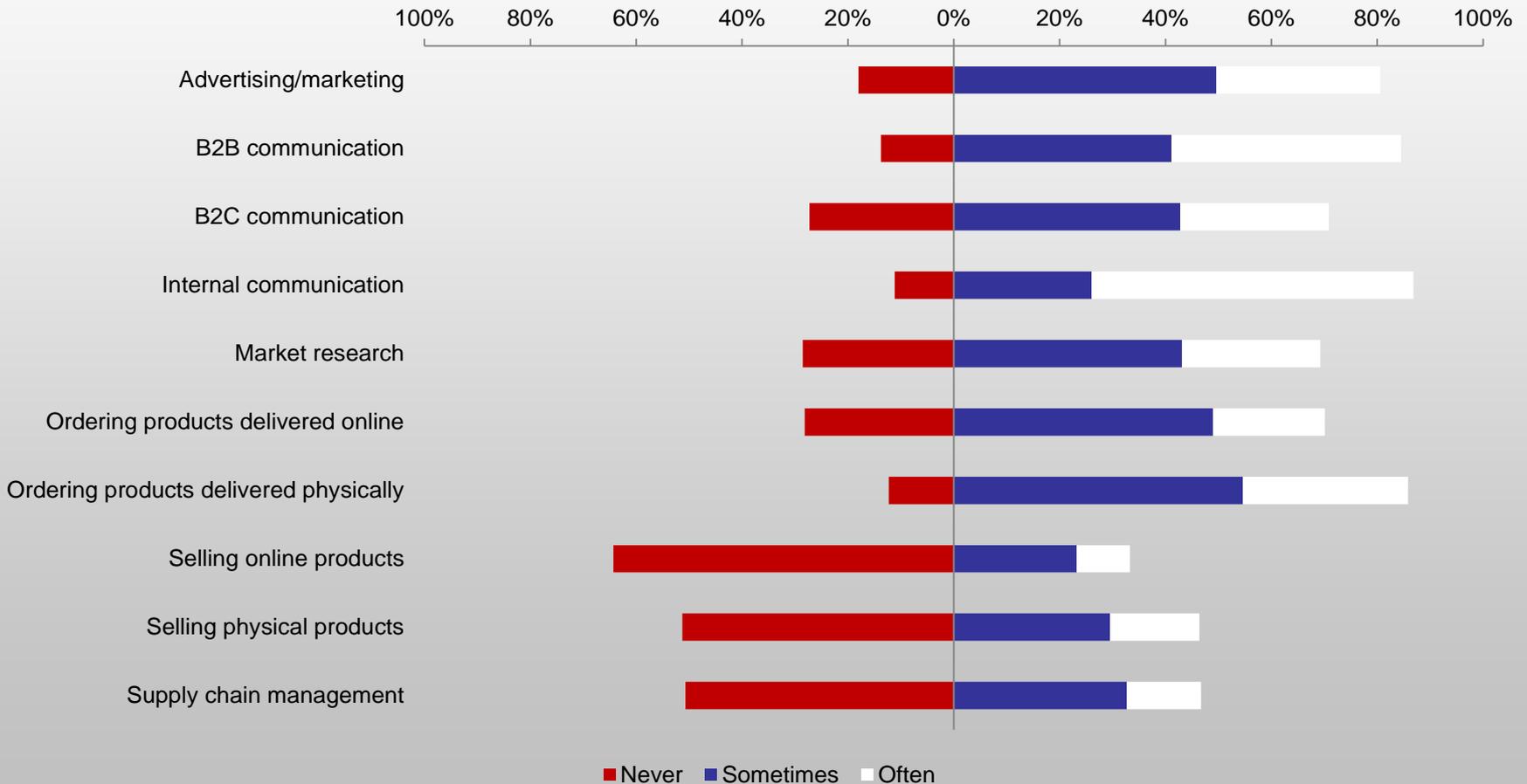
# Digital technologies are being adopted by firms for many business functions

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

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



## 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)

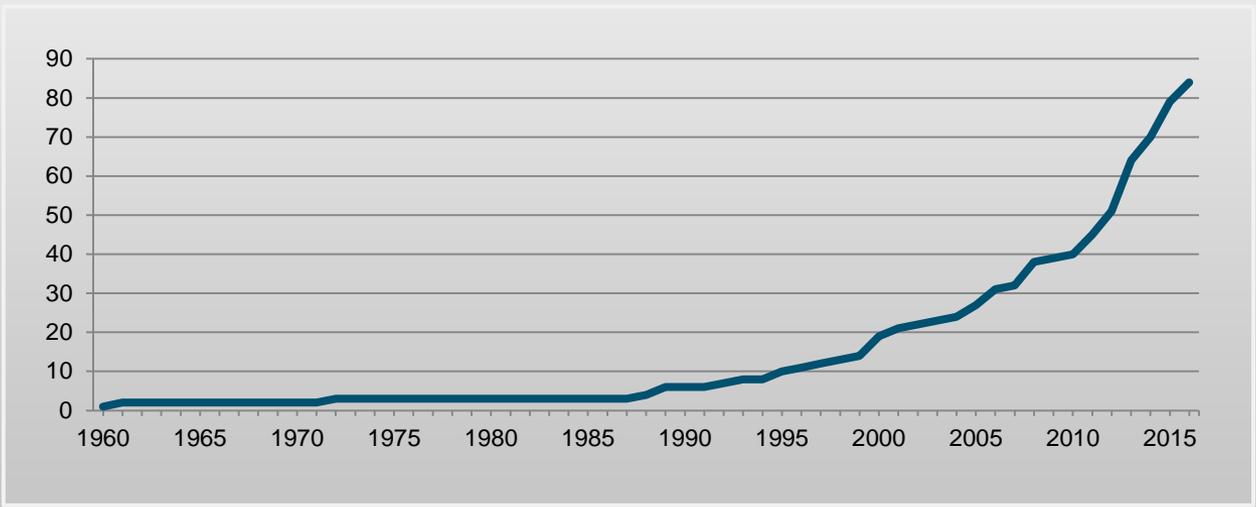
- **Digital-specific measures**
  - Data protection and privacy measures
  - Cybersecurity
  - Intellectual property rights protections
  - Censorship
- **Traditional measures**
  - Market access, including de minimis duty/VAT
  - Investment-related measures



## 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**