



High Level Seminar on The Digital Economy: a Policy and Statistical Perspective

**Beijing, China
15-17 November 2018**

Digital Economy: A Policy Perspective from Brazil

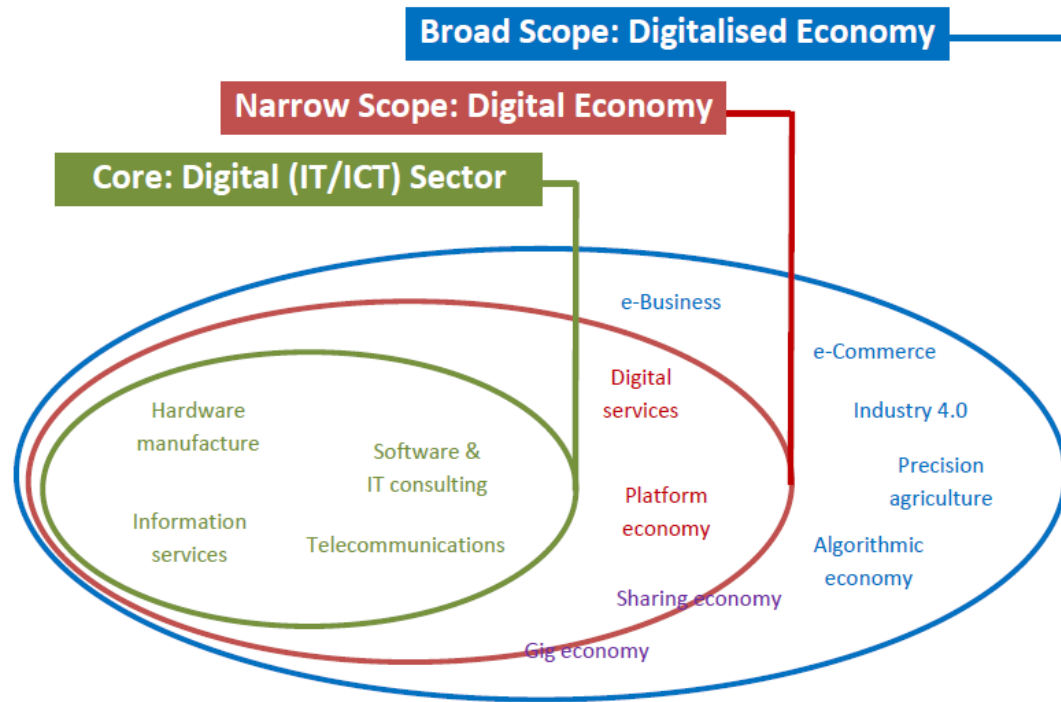
Daniel B. Cavalcanti
Secretariat for Digital Policies
Ministry of Science, Technology, Innovation and Communications
Brazil

International Organizations and Coordination Mechanisms are engaged in promoting the digital economy and identifying comparable metrics

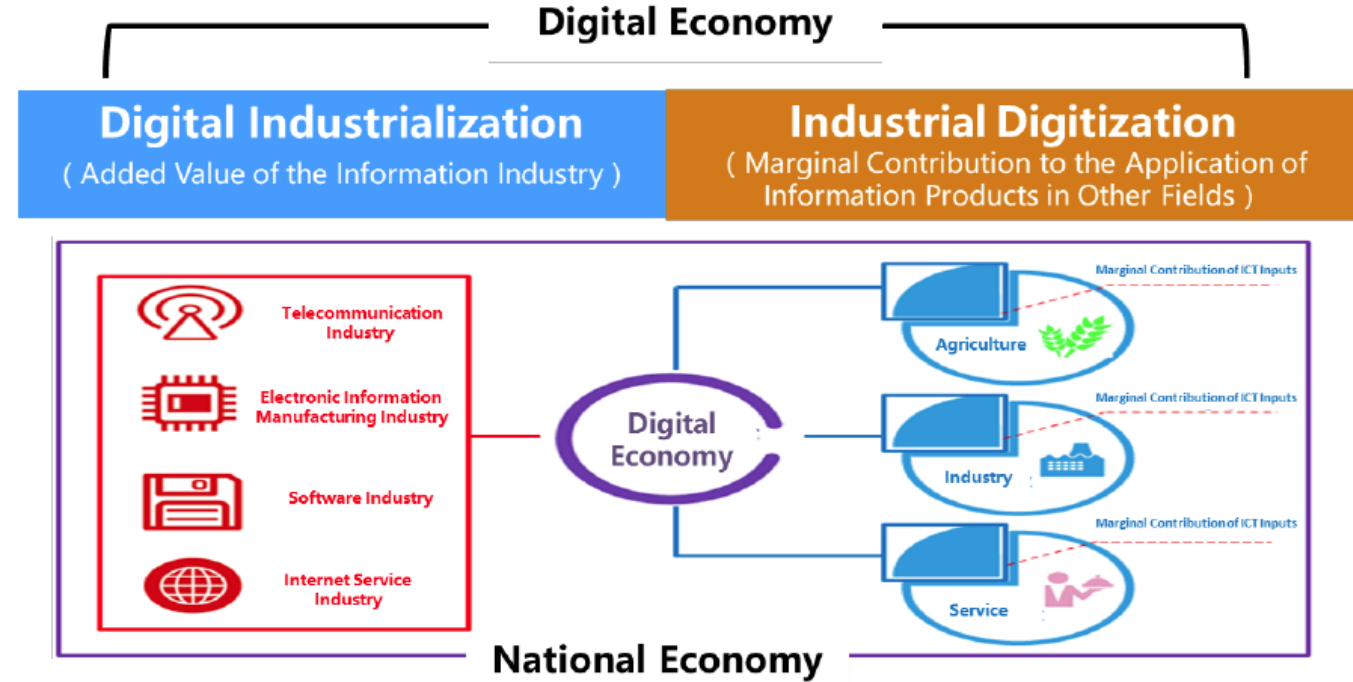


Digital Economy Definition

A broader definition of the Digital Economy



Source: Bukht and Heeks (2017)



Source: China – G20 DETF (2018)

G20 DETF 2016: G20
*Digital Economy
Development and
Cooperation Initiative*

“...a broad range of economic activities that include using digitized information and knowledge as the key factor of production, modern information networks as an important activity space, and the effective use of information and communication technology (ICT) as an important driver of productivity growth and economic structural optimization”.

Digital Economy Definition



IMF Statistics Department

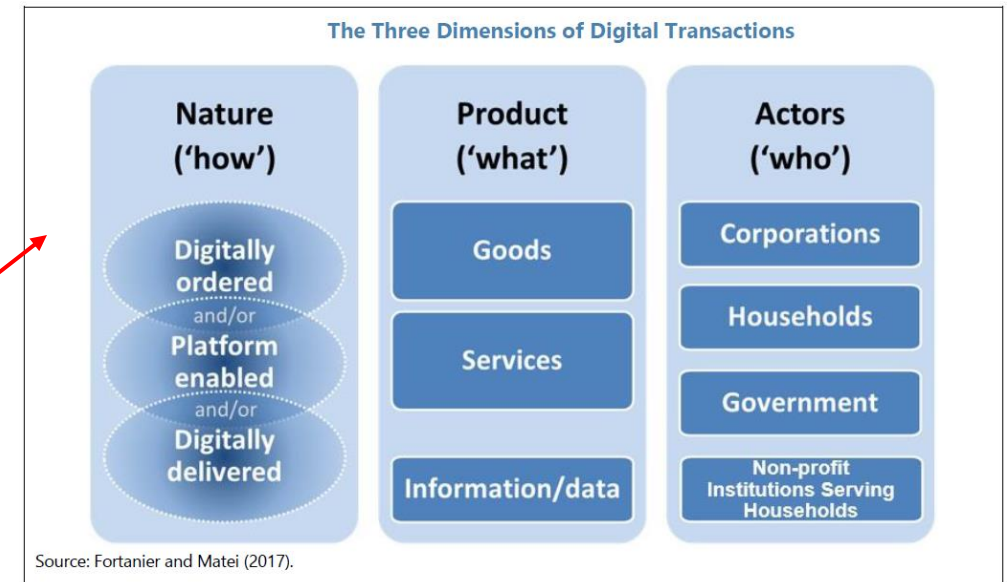


Definition of the Digital Sector

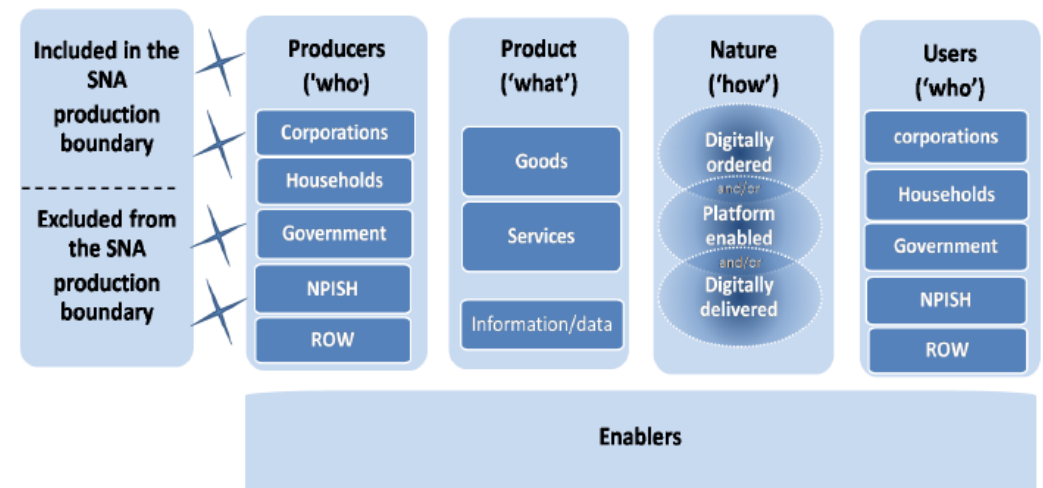
- A less ambiguous term than “the digital economy”
 - Some use “digital economy” to mean the Internet, new activities enabled by the Internet, and production of ICT goods and services
 - Others include all processes, products and transactions embodying digital technology
- Digital sector definition is broader than the ICT sector of ISIC 4
 - More complete/clearer coverage of online platforms
 - Includes platform-enabled services
- Definition of “digital sector” comprises areas of main measurement concern:
 - Producers of ICT equipment, software, and ICT services
 - **Online platforms**
 - **Platform-enabled activities** (the **Sharing Economy**, **gig economy**, ...)
- Online platforms include e-commerce, (social) media, search, sharing/gig/collaborative economy, on-demand property rental, crowdsourcing, fintech, ...
- Definition of **Digital transactions** also needed for analytical purposes
 - “digital ordering” is criterion for defining e-commerce
 - “digital delivery” of services (e.g. in foreign trade)
 - “platform-enabled” services

Source: Reinsdorf (2018)

Definition x Measurement in the Digital Economy



UN ECOSOC/CN.3/2018/28 : Conceptual framework for measuring digital trade



OECD STD/CSSP/WPNA(2017)10 : Dimensions of the digital economy

Digital Economy Indicators and Metrics

The level of readiness of a country for the **Digital Economy** affects the perception of its level of **Competitiveness**



Global
Cybersecurity
Index

UNITED NATIONS
**E-GOVERNMENT
SURVEY**

E-GOVERNMENT IN SUPPORT OF SUSTAINABLE DEVELOPMENT



Global Innovation Index



Industrial Development Report



The Global
Competitiveness Report
2016-2017



Digital Economy Challenges and Opportunities

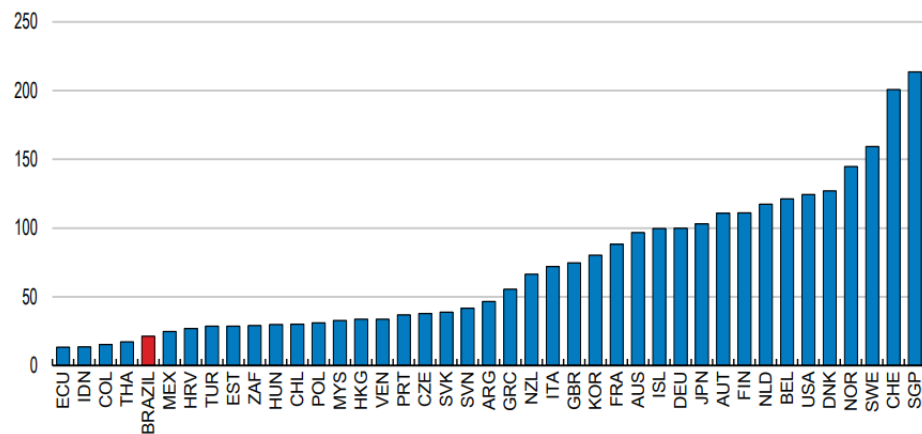
Digital Economy = opportunity for growth in **Productivity** and **Competitiveness**.
Positive correlation between productivity, digital technology intensity and per capita income.

Productivity



Productivity is low

Labour productivity in thousands of 2010 USD per employee

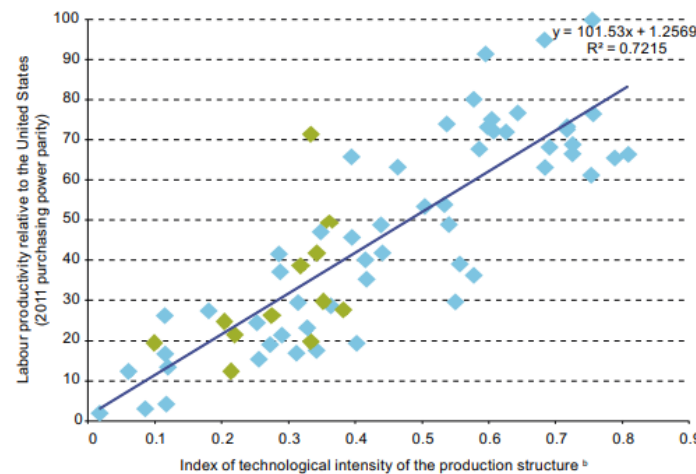


Source: World Bank; ILO; IBGE.

OECD ECONOMIC SURVEY
OF BRAZIL 2018

Technology

Technological intensity of the production structure and relative productivity, 2013^a



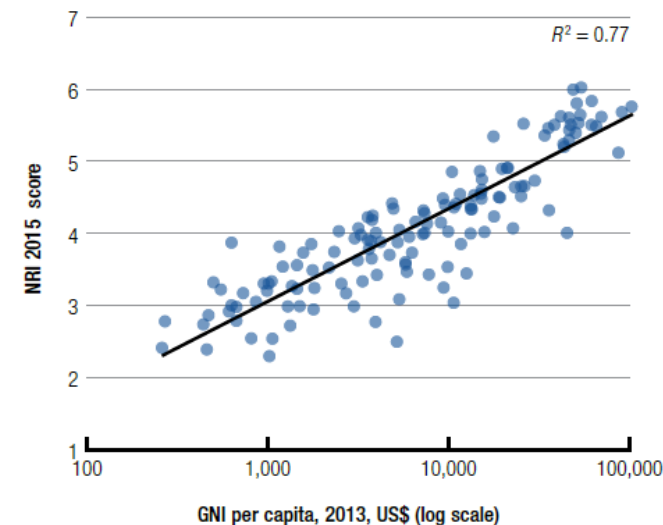
Source: Economic Commission for Latin America and the Caribbean (ECLAC).

^a Data for 68 countries; Latin American countries shown in green.

^b Index = $0.125 \cdot \text{patents} + 0.125 \cdot (I+D) + 0.25 \cdot \text{high-tech share of exports} + 0.5 \cdot \text{ICTs}$.

Income

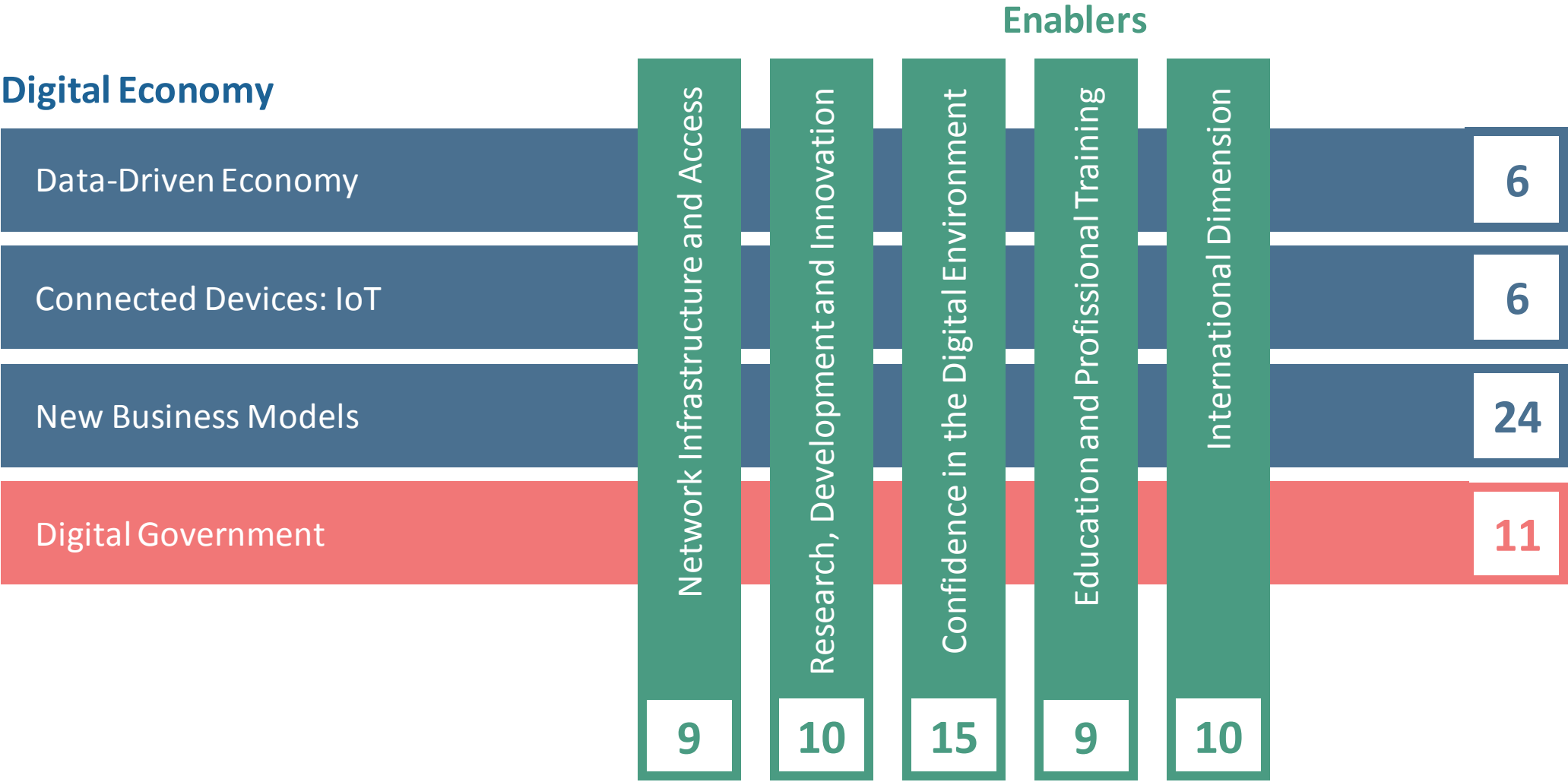
Networked readiness and income



Sources: World Economic Forum; World Bank 2015.
Note: N = 138 economies.

Brazil Digital Transformation Strategy Structure

100 Strategic Actions focused on enablers and drivers of the Digital Economy.



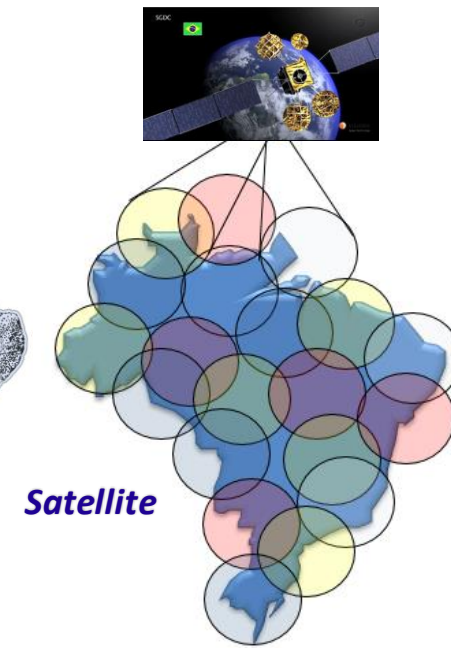
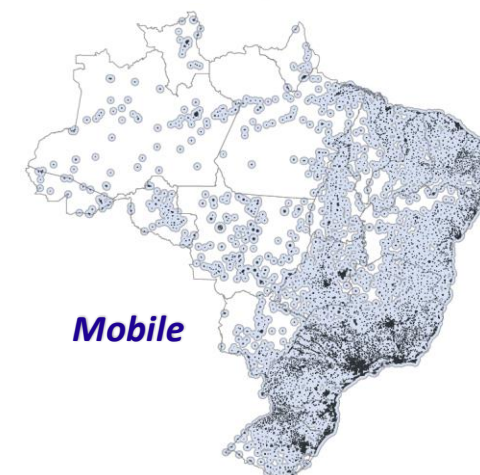
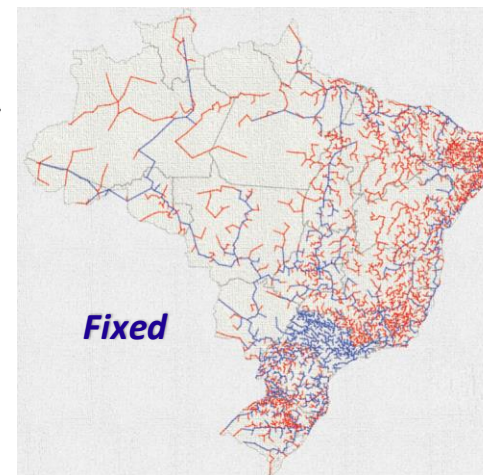
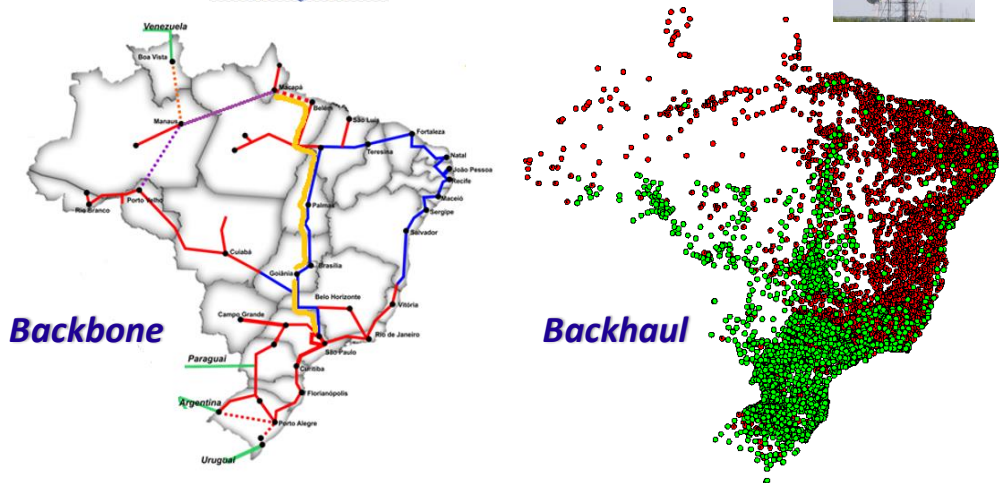
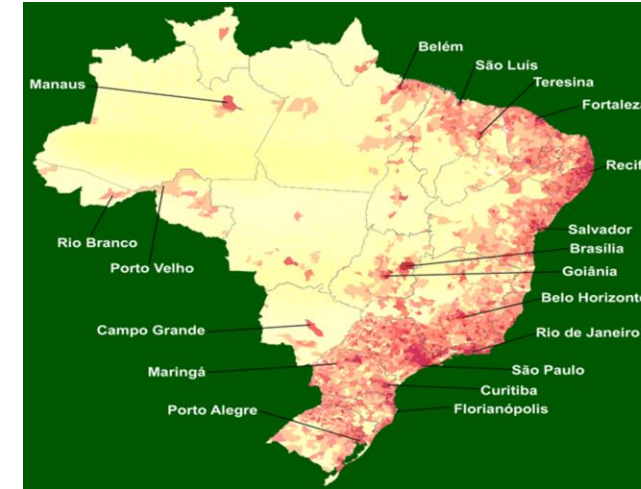
Digital Economy

Internet and Telecom Infrastructure

The ICT sector (goods and services) is at the core of the **Digital Economy**.

ICT “Ecosystem”:

- ✓ Network equipment
- ✓ User devices
- ✓ Telecom services
- ✓ IT services
- ✓ etc.

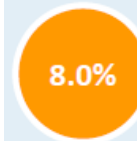
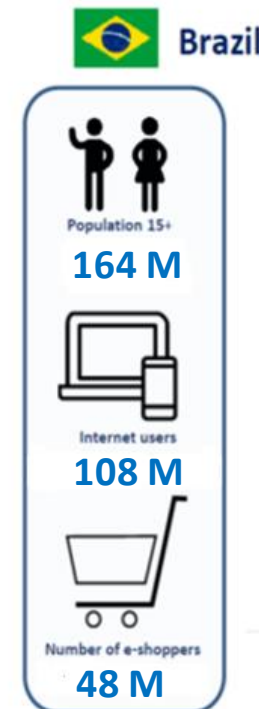


E-commerce is globally recognized as an important driver for growth in the **Digital Economy:**
Digital Marketplaces + Digital Means of Payment + Goods and Services

SMEs TOTAL 9 MILLION COMPANIES:

- 99% of Brazilian companies;
- 52% of Brazilian workforce;
- 27% of GDP;

17% of Brazilian export value, with great potential for growth



Estimated share of **online goods** in **total retail of goods**



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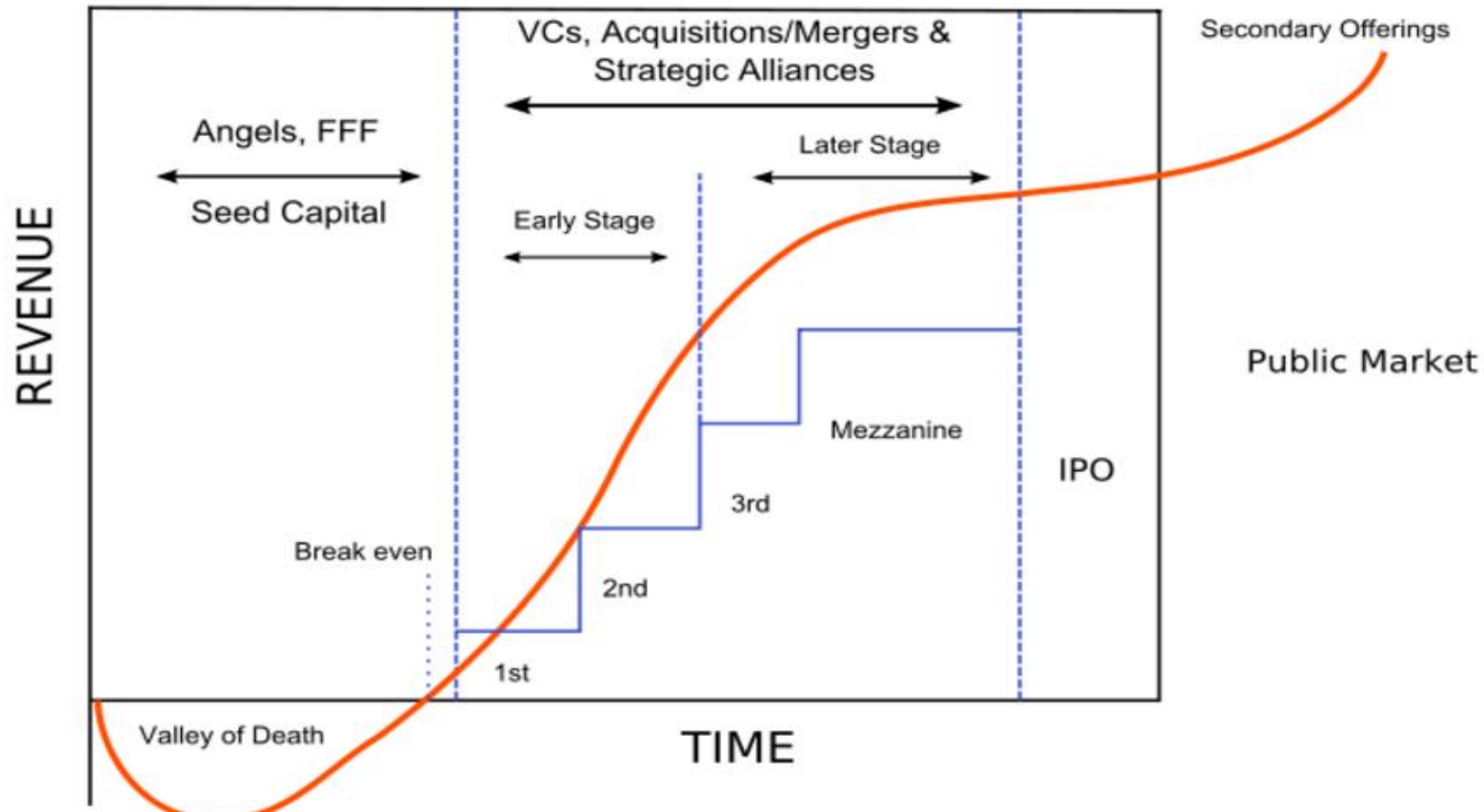


Digital Economy

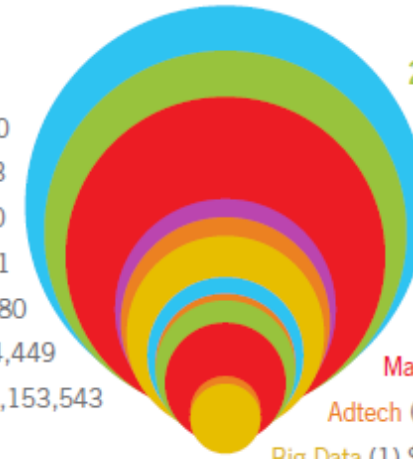
Digital Startups



Startup Financing Cycle



Fintech (21) \$142,955,200
e-commerce (27) \$112,657,033
Transportation (3) \$45,120,600
Other (33) \$43,129,071
Digital Security (4) \$36,799,080
SaaS (10) \$26,284,449
Edtech (9) \$21,153,543



2015 IT SUB-SECTOR BREAKDOWN (# of Transactions) US\$



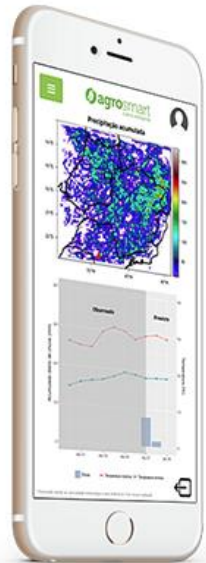
Logistics and Distribution (4) \$17,642,500
Consumer/Retail (1) \$15,930,257
Marketplace (8) \$15,712,508
Adtech (5) \$11,659,480
Big Data (1) \$10,389,200

Digital Startups
(platforms, fintechs, etc.)
bring growth and
productivity to the
Digital Economy.

Digital Economy

Internet of Things

Expand the **Digital Economy** by exploring comparative advantages in key sectors, with the support of **Digital Technology, Big Data and Analytics.**



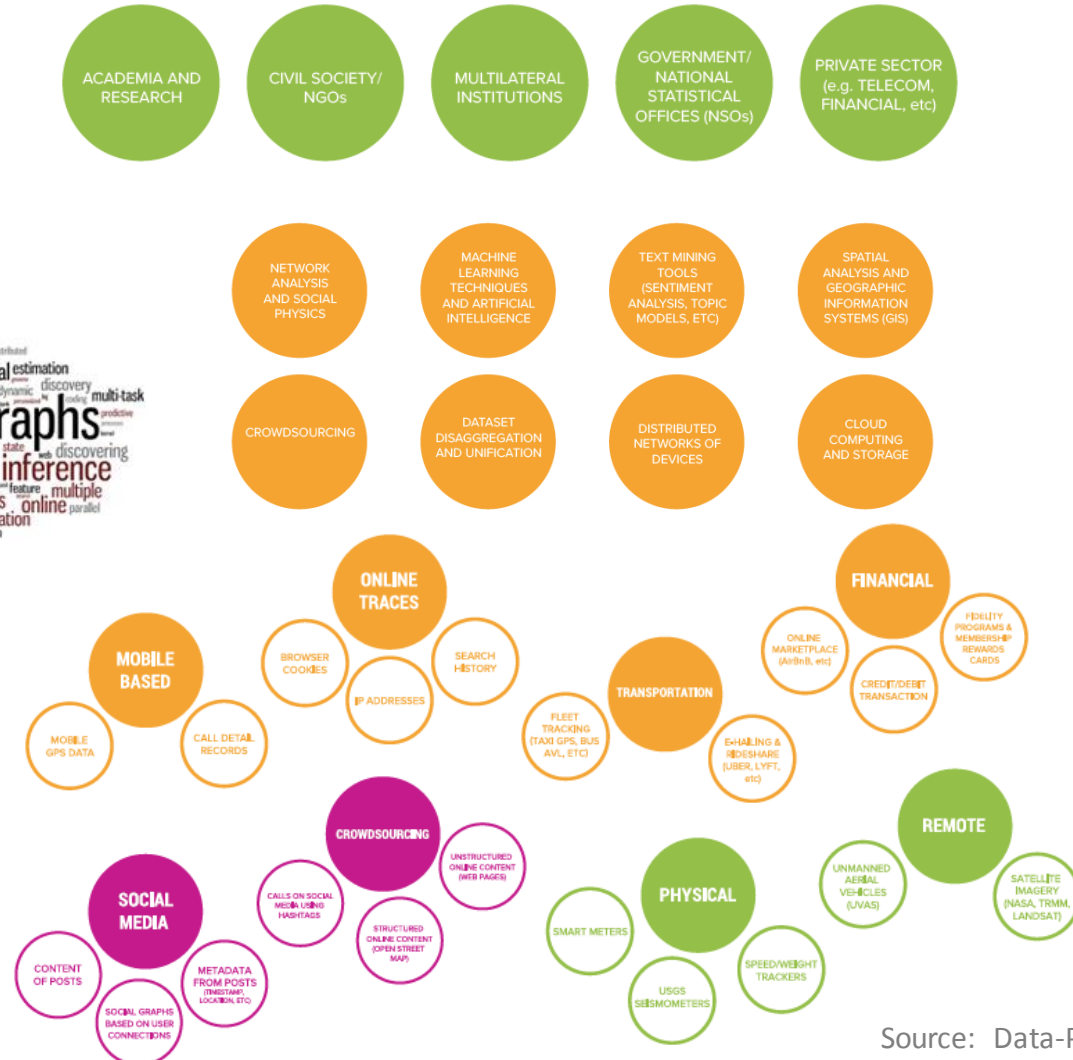
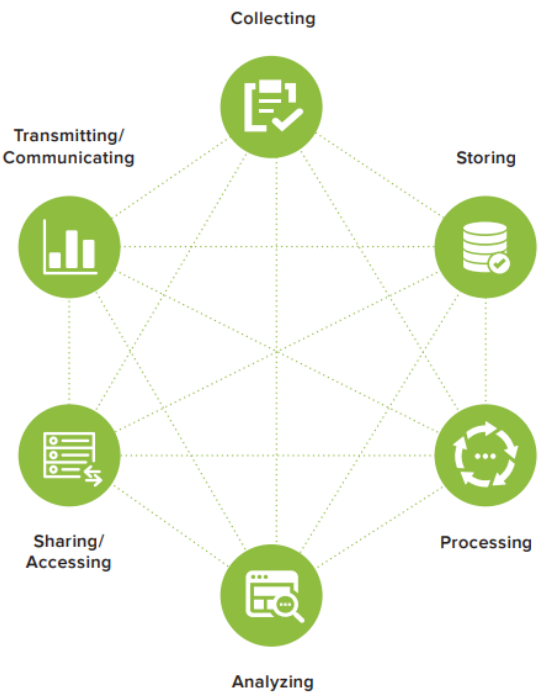
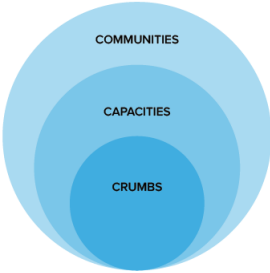
Example: Smart Farming & Precision Agriculture



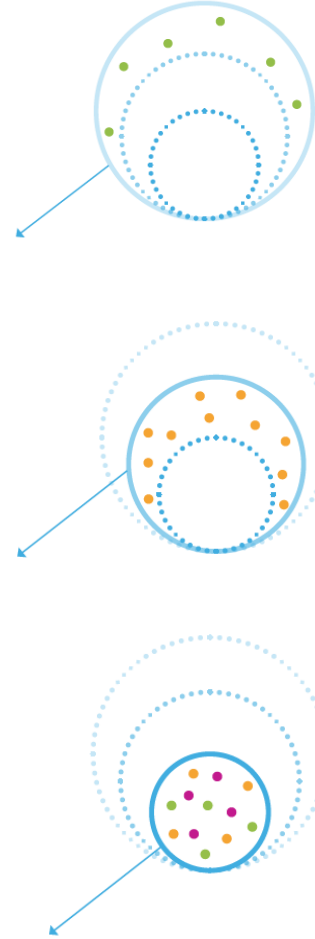
Digital Economy Indicators and Metrics

New data sources (e.g., Private Sector Data) can improve measurement of the **Digital Economy**.

THE 3 C's OF BIG DATA



Source: Data-Pop Alliance (2017)





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Thank You!

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