United Nations Economic Commission for Europe
Statistical Division

New Data Sources for Monitoring progress towards SDGs

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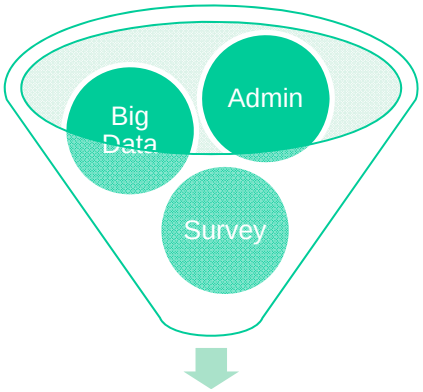
Challenges SDGs

- More indicators and in new areas
- More detailed, more disaggregated, higher frequency and more timely
- But: not more resources and declining response rate and accuracy of Survey and Census data (& more competition)

- **Opportunities**: new sources such as Big Data, Administrative Data, non-official records

New/Non-traditional Sources



- Big Data (broad definition)
- Administrative Data
- Non-official sources
- Traditional sources but Big data tools
- *In general: Data not created to produce official statistics*

- Replace, Integrate with, Additional to existing indicators

Challenges New Data Sources:

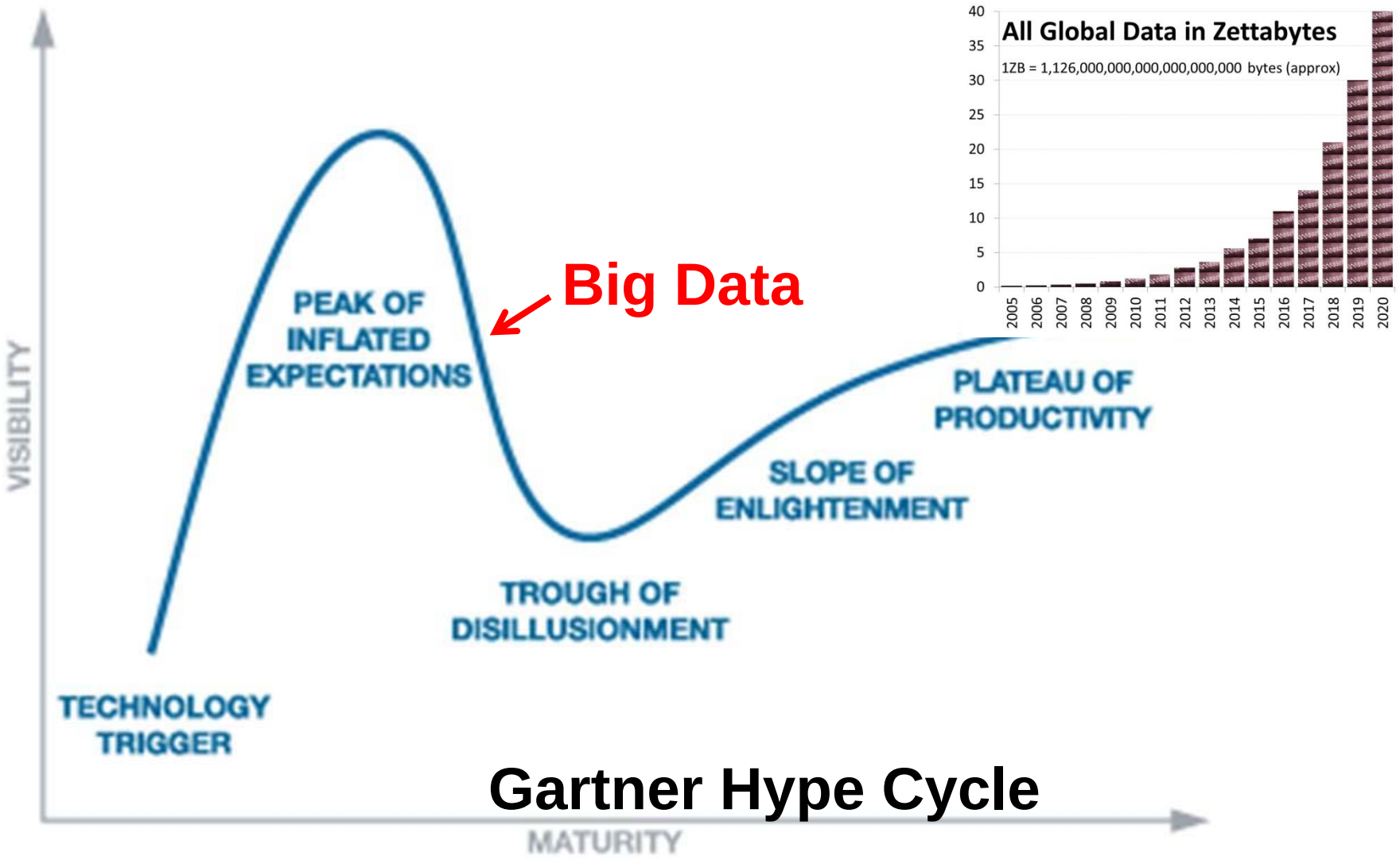
- Coverage
- Representativeness
- Comparability
- Availability
- Sustainability
- Multivariate analyses (but statistical linkages, e.g. geo-location & negative/missing stats)
- Skills and Technology needed

ICT: enabler and data source for development

- ICT as Big Data source for other indicators (indirect enabler)
- Big Data as source for ICT indicators

- Source of data & Collecting of data
  - Using apps/sensors (e.g. water quality, pollution)
  - Sensitive issues (circumvent proxies)
  - Remote/unsafe areas
  - Cost reduction

Big Data – Beyond the hype



Gartner Hype Cycle

Types

- Social networks: media, pictures/videos, internet searches, mobile data
- Traditional business systems: medical records, transactions, banking records, credit cards etc.
- Internet of Things: sensors, home automation, weather/traffic/scientific sensors etc., mobile sensors, satellite images, logs
- Electronic files/media etc..

For example:

- Mobile devices:
  - Mobile phone data (gps/location & pattern)
  - Collect survey data
  - Measurement: e.g. water quality
  - Disseminate data/information

- Smart meters:
  - Energy use and change in use
  - Household composition
  - Behaviour & changes

Big Data: great potential, but…

- Developments go fast (e.g. mobile phone coverage, internet coverage, free internet; but still very low in many countries/vulnerable groups, but >10% growth per year)
- Changes rapidly but unpredictable (new sources, new platforms)
- Daily management vs official statistics
- How from small scale ad-hoc analysis to robust national/global measurement
- Projects mainly by NSOs developed countries

- **Few Official Statistics yet**
- **Evolution rather than revolution**

Big Data Forward:

- Relatively easy to catch-up & easy to learn (e.g. by sharing experience and/or algorithms
- Processing at source or elsewhere possible
- Partnerships/collaboration among national statistical systems (e.g. Sandbox & GWG)
- Academic & Private sector involvement or leading
- Integrated or additional to traditional indicators: use for signalling/early warning

UNECE & Big Data

- 2013-2014 Big Data Project:
  - Partnerships, Privacy, Quality, Skills
  - Sandbox: IT/methodological issues
- 2015-2016: Sandbox experiments
  - Social media data
  - Traffic sensors
  - Mobile phone data
  - Web scrapping

Global Working Group on Big Data: SDG Task Team

- Identify Big Data sources for SDGs
- Survey on Big Data projects at NSOs
- Some potential: unemployment, job vacancies, agricultural productivity, energy use/efficiency, mobility/tourism/trans border crossings, CPI/household budget, consumer confidence, emissions/sustainable transport, housing market, ICT, remoteness
- But: hardly any official statistics yet
- *UN Global Pulse*

UNECE modernistats

- UNECE Modernisation of Statistical Production
- Collaborative Platform no restriction to membership
- Standards based (GSBPM, GAMSO, GSIM, CSPA etc.).

- Big Data, Data Integration, Linked Open Data

More information:

- www1.unece.org/stat/platform/display/hlgbas

modernistats by HLG - MOS

UNECE

- Established in 1947 by ECOSOC to promote pan-European economic integration
- One of five Regional Commissions
- 56 Member states & Conference European Statisticians 66 and 9 territories
- Europe (incl. Turkey & Israel), Caucasus, Central Asia, North America (Canada & USA) & China, Japan, South Korea, Australia, New Zealand, Brazil, Chile, Colombia, Mexico, South Africa, UAE
- 25 DAC members (18 ODA recipients) & 21 countries in development (2 low, 6 low-middle, 13 upper-middle)