

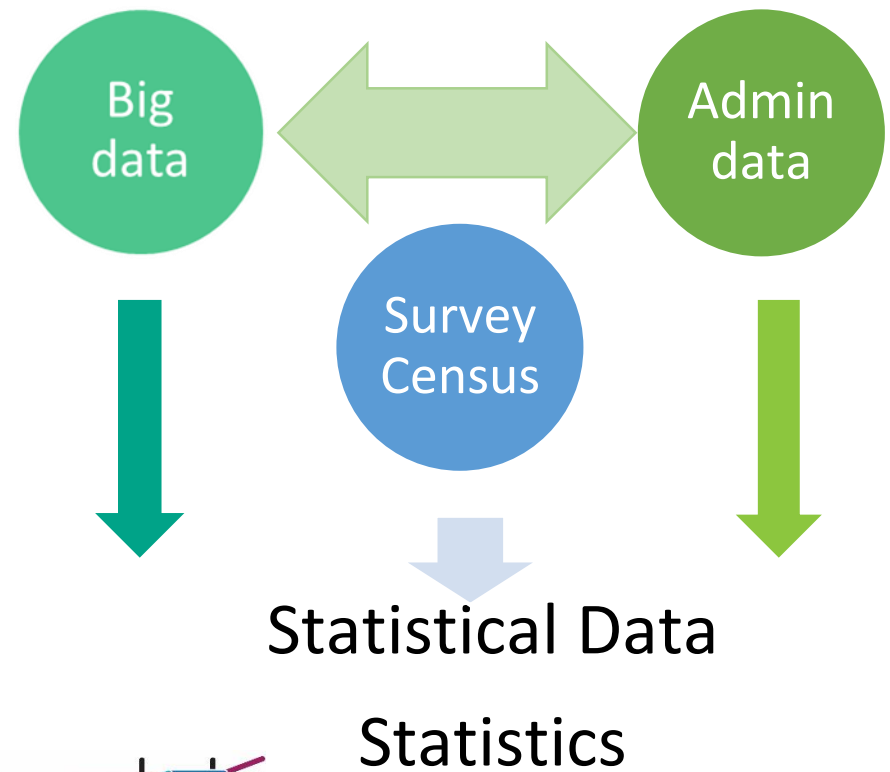
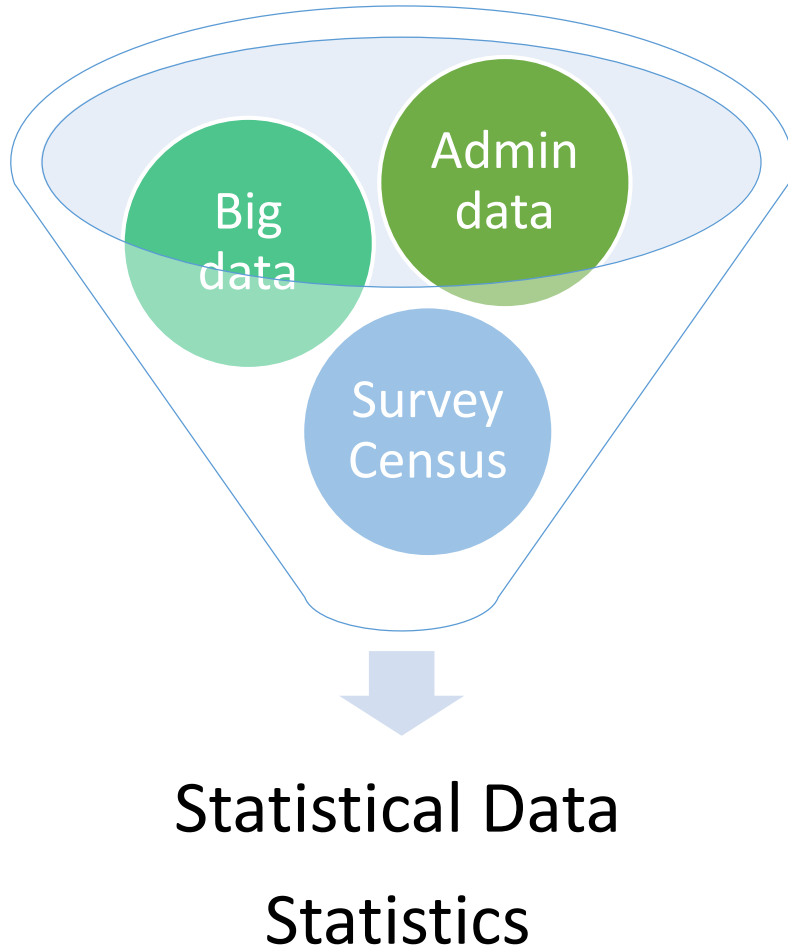
Administrative and Statistical Data for the SDGs



Regional Conference on Environmental Data
8 May 2019, Geneva, Switzerland

Focus

- Non-Survey/*Non-traditional* data sources
 - Administrative Data
 - Big Data
- Official Statistics/Value proposition
 - Primary/secondary usage
 - Added value/usage
 - Representativeness/Quality
- Food for discussion



'Big Data'

- Remote Sensing/Imagery
- Sensors
- Scanners
- Transaction data
- Web-scraped
- Images/Movies
- Social media info & opinion

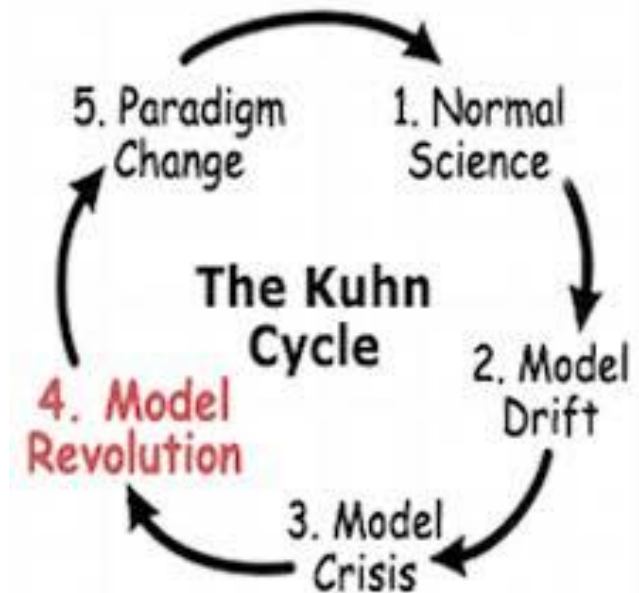
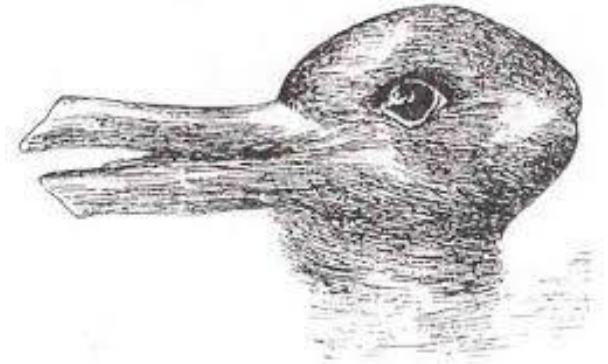
- Broad definition (all non-traditional/non-administrative registers)
- Volume/Variety/Velocity/Veracity/*Value*
- Unstructured/(semi) Structured

Primary, secondary or behaviour

- Data for Operational management purposes/process-mediated:
 - Administrative Registers/Data
 - Big Data: Sensors/scanners (primary) etc.
- Data as by-product of other main operational purpose:
 - Admin data: para data/legal documents etc.
 - Big Data: location data/smart phone (sensors, secondary)& marketing etc.
- Data from Behavior/social network:
 - Big Data: digital society/social media
 - *Admin data: time-series/data warehousing*

Paradigm Shift

- Problem → Data collection
- Data collection → Problem
- And: Administrative and Big Data also outcome/manifestation of behavior → ‘statistical’ imprint`/trail of behavior → directly rather than indirectly through survey



Administrative Registers

Socio-
Demographic

Business

Environmental

Big Data

Socio-
Demographic

Business

Environmental

More data & Advances in processing and linking data sources

- Coding/classification: machine learning/automated processing
- All sources need editing but admin and big data sources larger scale (size and variation) → become feasible sources
- Huge amounts of data and sources make integration/linkage possible → multi-variate and micro level analysis becomes feasible

Usage Administrative (and Big Data) Sources

- Direct or proxy: Setup for other purposes/Similar purposes
- Direct or data integration/input
- Statistics or validation
- Sampling frame/identify statistical units
- Imputation/correction
- Replace, supplement or Completely new statistics

Potential for Admin and Big Data

- Reduce response burden
 - More detailed data
 - More frequent data
 - More recent data
 - More perspectives
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- More insights by linking admin/big data/survey data

Some further Aspects

- Access/Agreements/Partnerships ('respondents')
- Collaboration: improve utility by harmonization or expanding purpose ('questionnaire design')
- Checks and balances to improve registers ('verification')
- Culture changes towards compliance ('non-response')

- More regulation → More registers (direct policy needs)

Quality Frameworks

- Quality frameworks and collaboration/partnership become more important
- Examples:
 - [The Quality Assurance Framework of the European Statistical System](#)
 - [ESS Handbook for Quality Reports](#)
 - [Q Conference](#)
 - [Data quality issues in administrative data](#)
 - [Framework of Quality Assurance for Administrative Data](#)
 - [A Suggested Framework for the Quality of Big Data](#)
 - [Checklist for the Quality evaluation of Administrative Data Sources](#)
 - [Methodologies for an integrated use of administrative data in the statistical process \(MIAD\)](#)
 - [Using Administrative and Secondary Sources for Official Statistics: A Handbook of Principles and Practices](#)

Which Sources to dig into first?

- Type of domain: induces type of source
 - Air/water pollution: sensors
 - Biodiversity: observations/admin
 - Land use: Remote Sensing/Aerial Photography
 - Energy: survey/sensors
 - Transport: Admin & sensors
 - Waste: Admin
 - Environmental financing: admin/survey
- Production/Consumption side
- Direct/Indirect
- Multiple-integrate/single source

Challenges

- Depend on type of source and statistics to be produced
- Quality & uncertainty: coverage / representativeness, but also:
 - Access
 - Granularity
 - Frequency
 - Timeliness
 - Availability
 - Costs
 - Capabilities
 - Integrateability
 - Sustainability
- Quality of alternatives: Survey

Thanks!

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