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Building public trust in the use of big data for official statistics

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Trust in Official Statistics

- Trust in statistical products
 - accuracy
 - timeliness
 - reliability
 - credibility
 - objectivity
 - relevance
 - coherence

Source: PARIS21

- Trust in institution
 - confidentiality protected
 - integrity
 - openness/transparency
 - impartiality
 - efficient stakeholder engagement







Trust is connected to strong statistical systems.



Fig. 1. A new strategy to strengthen the national statistical system. Source: CEPA strategy guidance note on Strengthening of national statistical systems.

Source:Bersales et al.(2021)

The Philippine experience

- Censuses and surveys remain main sources of official statistics at the national level with some surveys providing estimates at the provincial level.
- Administrative data provide more granular information
- Civil registration provides vital statistics
- Challenge: demand for more granular, sectoral statistics, environment statistics, faster release of statistics

Note: census data are still needed for the predictive models from big data



SDGs | Ambisyon Natin 2040



VALUE/INFORMATION

Priority Statistics

price statistics | agricultural statistics | environmental statistics | disaster statistics | economic statistics | poverty statistics | SDG 5

COLLECTION

Big Data Types

Human-sourced information | Machinegenerated information Process-mediated information

Big Data Sources

Social networks | Sensors and satellites | Private and public databases Registries | Census | Surveys | Smart devices Internet of Things (IoT)

Big Data Methods

Web scraping | Remote sensing | Geotagging | Opinion mining

MANAGEMENT

Technology Tools Agents Software systems Storage media Data quality monitoring Data governance Data privacy regulation

ANALYSIS

Data Science and Analytics Data visualization



research institutes, web scraping(PSRTI for price

Partnerships with the NSO:

Telecom company mobile

data(for tourism statistics)

stats)

- Ministry of Science and Technology, satellite data(for agriculture and disaster statistics)
- International development partners, night lights(ADB for poverty)



BIG DATA DEFINITION

volume | velocity | variety | veracity | value

CURRENT ENVIRONMENT

advancement in technology | boom of internet | digitalization | use of traditional data | data gaps | late release of data granularity of data

Source: Bersales et al.(2021)







Need to be done

- Identify the gaps in official statistics need to addressed by big data (to address granularity, timeliness, frequency, sectoral needs)
- Develop a statistical framework with consultation from various stakeholders (the NSO, Academe, Other ministries, development partners, private sector)
- Pilot the estimation of the statistics and make adjustments on the technical issues, with advise from experts
- Have the statistical framework and methodology adopted by statistics policy body
- Ensure regular compilation and dissemination by the NSO
- Ensure regular capacity building of technical staff
- Ensure the proper ICT infrastructure for the compilation
- Involve academe and researchers in developing methodologies







References

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Thank you!