MINISTERSTWO INFRASTRUKTURY I ROZWOJU

PARP

POLSKIE TOWARZYSTWO EWALUACYJNE

XI Konferencja Ewaluacyjna

Ewaluacja Polityki Spójności
Rezultaty - Wyzwania - Rozwiązania

Kraków, 28-29 września 2015

NARODOWA STRATEGIA SPÓJNOŚCI
dla rozwoju Polski

MINISTERSTWO INFRASTRUKTURY I ROZWOJU

UNIA EUROPEJSKA
EUROPEJSKI FUNDUSZ ROZWOJU REGIONALNEGO

BIG DATA and evaluation – Some challenges for evaluators of the 21st century

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The 11th Evaluation Conference
'Evaluation of Cohesion Policy‘ - esults, challenges, solutions
Cracow, 28th and 29th of September 2015

A coming volume …

- *Big Data in evaluation* (Petersson, Breul, Olejniczak (eds.), forthcoming, Transaction publishers)
- The Comparative Policy Analysis Series
- The International Research Group of Evaluation
- Discusses how Big Data may be utilized in evaluation

Why Big Data in evaluation?

- Mirror many aspects of society
  - Difficult-to-study phenomena
- There are calls for:
  - Quicker delivery of results: real-time data
  - More generalizable evidence (metaanalysis etc.): Big data
- Comparatively cheap?
- Competition from other communities

Is it doable?

- Evaluators hardly use Big Data (Olejniczak et al)

- But private businesses use it for similar purposes

May Big Data analytics replace evaluation?

- ”Big Data hubris”

- Gartner: Big Data is about to hit the peak of inflated expectations
  - http://www.gartner.com/newsroom/id/2575515

- Discussing these expectations is important to identify synergies between evaluation and Big Data analytics.

4 misconceptions about Big Data

(Lemire – Petersson)

1. A shift from *theory* to *data-driven* knowledge production
2. A shift from *causation* to *correlation*
3. A shift from *samples* to *total populations* (n=All)
4. A shift from *clean* to *messy* data

A new empiricism?

“Big Data ushers in a new empiricism, wherein the volume of data, accompanied by techniques that can reveal their inherent truth, enables data to speak for themselves free of theory” (Kitchin 2014)

”Correlation supersedes causation, and science can advance even without coherent models, unified theories, or really any mechanistic explanation at all. There’s no reason to cling to our old ways” (Anderson 2008)

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Evaluators are important

Some important skills:

- Identifying informational needs: Asking questions
- Understanding the theories of the intervention: program theory, theories of change etc.
- Utilizing social scientific theory
- Choosing design
- Estimating validity and reliability risks
- Managing primary data
- Making value judgements
- Utilizing results
- Etc.!

Conclusion: There are important synergies!

Some challenges

- Ethical challenge
- Access to data?
- Do we have the skills to get going?

Big Data in evaluation?

- New kinds of data sources (ex. automatically generated)
- Digitalized secondary data (ex. combined administrative records)
- Applying Big Data analytics

How to handle skills deficits?

- Competences to be acquired?
- Co-production?
- Outsourcing?

Will differ from case to case.

A new mindset to data

1. Relevant data sources?
2. Accessibility? Special arrangements needed?
3. Exploratory work on the data: the statistical features, validity in relation to studied concepts, reliability.
4. Can different data sets be linked?
5. Process and structure data into data models. Theoretical foundation? Indicators and algorithms.
6. Primary data needed?
7. Data analysis
8. Interpret statistical results

Managers are key players

- Identifying synergies in each case between Big Data and evaluation
  - Ex: The Center of Innovation through Data Intelligence (CIDI) (Bohni Nielsen et al)
- Building teams for evaluative inquiry
- Combined administrative units?
- Outsourcing of analytics?
- Data-sharing partnerships?

Commissioners are key players too

- May elevate or reduce the opportunities for Big Data in evaluation

- Example from a promising area: developmental aid

UN Global Pulse

- The United Nations High-Level Panel on the Post-2015 Development Agenda
- “a flagship innovation initiative of the United Nations Secretary-General on big data”
- “mission to accelerate discovery, development and scaled adoption of big data innovation for sustainable development and humanitarian action”

To this end:

- promote awareness of the opportunities of Big Data,
- forge public-private data sharing partnerships,
- generate high-impact analytical tools and approaches through its network of Pulse Labs (people from academia as well as the private sector),
- drive broad adoption of useful innovations across the UN System.

But…

Forss – Norén:

- studied 25 ToRs from international development agencies
- 75% contained detailed prescriptions for design and data collection – frequently closing the door for Big Data.

Commissioners are key players!

Some things we need to do…

- Evaluators:
  - discuss the complementarities between Big Data and evaluation
  - adopt a new mindset to data
  - seek co-production with advanced communities
  - emphasize the evaluator's strengths
  - the role of university programs?
  - ethical codes?

- Managers:
  - realise complementarities
  - organise for synergies
  - secure access to data

- Commissioners:
  - encourage innovative approaches

Thanks for listening!

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