



Impact of Science

4-6 November, Krakow

11.30-12.45

Roundtable: Big Data Analysis & Impact

Maria de Kleijn – Kearney

Kim Holmberg – University of Turku

Impact of Science

4-6 November, Krakow

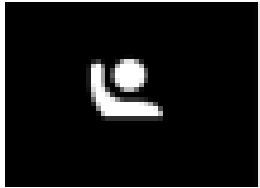
Roundtable: Big Data Analysis & Impact



Tyniec room

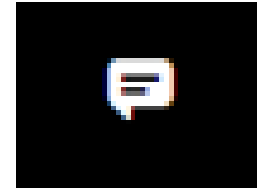
Impact of Science

4-6 November, Krakow



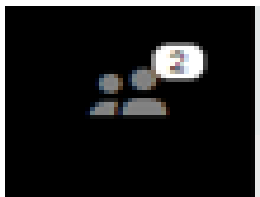
Broadcast permission:

- Turn on your microphone and/or camera
- Participate in the discussion



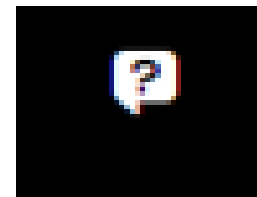
Conversations:

- General remarks
- Discussion
- News (links)



Who are the attendees?

- Speakers
- Participants



Q&A:

- (Targeted) questions
- Speakers answer the questions live



Lay out view:

Full screen, Tiled, Thumbnail

Big data & Impact

Aesis roundtable
4 November 2020

KEARNEY



What is big data?

Counting publications and citations per researcher is

NOT

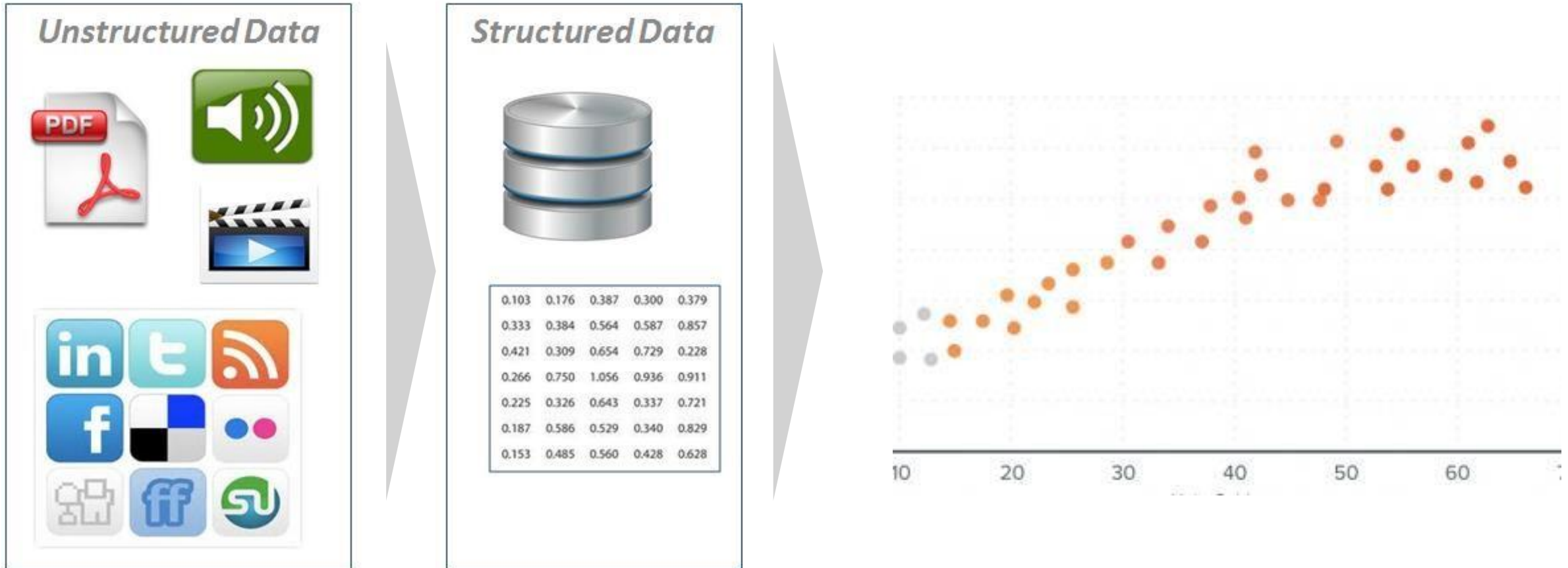
big data.

Understanding impact of your
research project through a case
study is

NOT

big data.

Why big data?



How can big data help? Research quality

Data engineering

Data quality assessment

Testing & validation

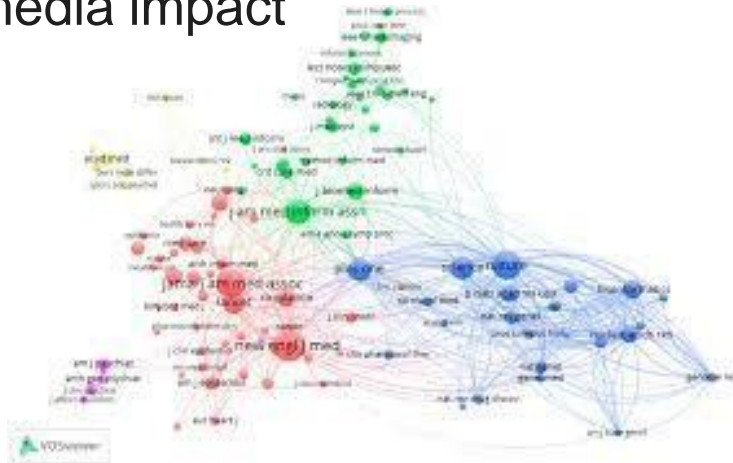
Data storage & governance
across data chain

How can big data help?

Research impact

Project/program impact?

- Big data **methods** for capturing and structuring impact data automatically, including indirect impacts
- Social media impact



Impact of science ?

- Understand relation between research activity and societal outcomes at macro level?
- Understand return on basic science vs. applied?
- Predict nature, success chance, and size range of impact of new research programs?

Thank you

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Principal

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KEARNEY

Big Data Analysis & Impact

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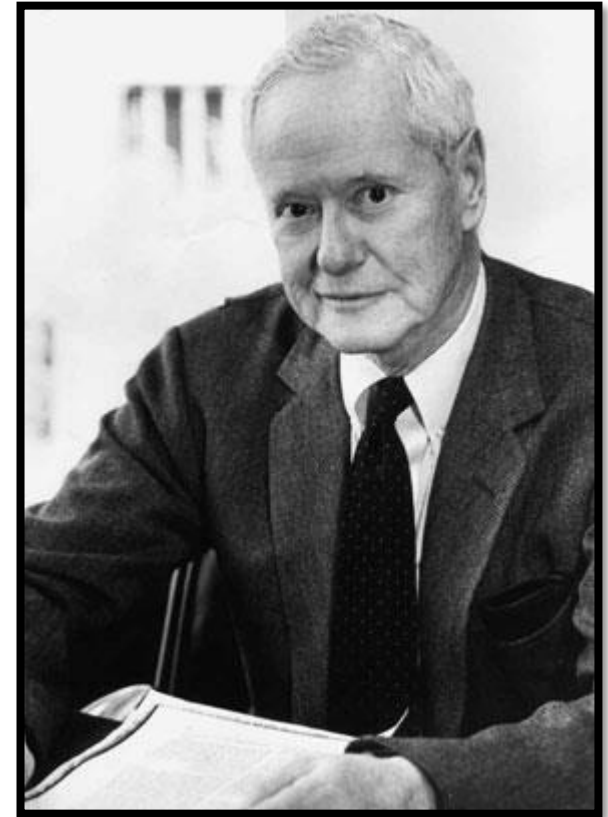
**UNIVERSITY
OF TURKU**

*How to create insights on
research quality and
societal impact through
big data analysis?*

Sociology of Science

“Instrumentally, it [the reference] tells us of work we may not have known before, some of which may hold further interest for us; symbolically, it registers in the enduring archives the intellectual property of the acknowledged source by **providing a pellet of peer recognition** of the knowledge claim, accepted or expressly rejected, that was made in that source.”

Merton, R. K. (1988). The Matthew effect in science, II: Cumulative advantage and the symbolism of intellectual property. *Isis*, 79, 606–623.



publish *in high impact journals* **or perish...**



impact



noun

/ˈɪmpækt/

1. the action of one object coming forcibly into contact with another.

"there was the sound of a third impact"

Similar:

collision

crash

smash

clash

bump

bang

knock

jolt



2. a marked effect or influence.

"our regional measures have had a significant **impact on** unemployment"

Similar:

effect

influence

impression

footprint

results

aftermath





Altmetrics

*the study and use of
scholarly impact measures
based on activity in online
tools and environments*

Priem, J. (2014). Altmetrics. In Cronin, B. & Sugimoto, C.R. (Eds.). *Beyond Bibliometrics: Harnessing Multidimensional Indicators of Scholarly Impact*. MIT Press, 2014.

Altmetrics can **(possibly)** reflect different types of **impact**, such as impact on health, culture, education, economy, and environment, and **different levels of impact or engagement.**





Altmetrics **can** be used to map how researchers are engaging with the public (and other researchers)

Holmberg, K., Bowman, T.D., Haustein, S., & Peters, I. (2014). Astrophysicists' Conversational Connections on Twitter. PLoS ONE, vol. 9, no. 8: e106086. DOI:10.1371/journal.pone.0106086.

Robinson-Garcia, van Leeuwen, & Ràfols (2017). Using altmetrics for contextualised mapping of societal impact: from hits to networks. SSRN. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2932944

The **meaning and applicability** of altmetrics generated on different platforms is still **unclear**



Can we measure research quality?

Can we measure societal impact of research?

Why and how should we measure or assess these?



Virtual tour through Krakow & Lounges

(12.45-14.00)