



# The Impact of Indicators: A Study into the Role of Bibliometrics in Knowledge Production

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# Research Problem

- *How researchers engage bibliometric indicators in the course of their knowledge making activities*
- *How can we account for variation?*
- *Comparative analysis of sub-fields in biomedicine*

# Locating the study

- *Sociology of citations (Glaser & Laudel 2007, Aknes & Rip 2009, Wouters 2014):*
- *A sociological analysis of bibliometric indicators within institutionalized practices (Woolgar, 1991, 325)*
- *How organizational theories of evaluation – rational, institutionalized, and learning models - help analyze findings*

# Design

- *Ethnographic studies in University Medical Centers (NL)*
- *Phase 1: 3 research groups (1<sup>st</sup> UMC)*
- *1 x Basic, 1 x Translational, 1 x Applied*
- *Phase 2: Replicate in 2<sup>nd</sup> UMC*

# Methodology

- *Ethnography – Capturing process*
- *How bibliometric indicators interact with research*
- *Observations of everyday work settings, interviews, document analysis*

# Findings (so far!)

- *Journal Impact Factor*
- *Strong presence in molecular cell biology...*
- *... whereas more peripheral to medical statistics*

# Why might this be?

- *Dahler-Larsen's (2012) three literatures for analyzing evaluation within organizational theory:*
- *The Rational Organization*
- *The Institutionalized Organization*
- *The Learning Organization*
- *Argues synthesis is required*

# The Rational Organization

*Status of (evaluative) bibliometrics = Specific authority relations and formal evaluation systems*

- *JIF demanded more from molecular biologists in their evaluative sphere*
- *Has greater presence in formal evaluation e.g. departmental evaluations, grants, careers*
- *Heterogeneous criteria used to evaluate medical statisticians*

# Institutionalized Organization

## *Status of JIF = Evaluation Cultures*

- *JIF a more accepted proxy for quality/impact in epistemic culture of mol. cel. bio.*
- *Informal evaluation - A status symbol*
- *Medical statistics: JIF not such an 'appropriate judgment criteria'*

# The Learning Organization

*Status = 'Bottom-up' routines and traditions*

- *Visible in molecular cell biology decision-making*
- *Routine for rating information & options*
- *Medical statisticians only very rarely used JIF in such ways*
- *Does not make 'good sense' (given demands)*

# Theoretical Contributions: Promising Areas of Synthesis & Investigation

- *Bringing Organizational Approaches into 'Sociology of Citations'*
- *Dahler-Larsen offers a useful starting-point – but need ethnography to show how dimensions interact & achieve synthesis*
- *So far bibliometrics located within 'rational organization' pillar*
- *But this program can be further enriched through :*
- *'Culture'*
- *'Learning'*

# Wider Implications?

- *Uses of some bibliometric indicators appear more widespread than reported (e.g. in formal literature)*
- *Further empirical analysis of different settings to understand and explain these dynamics*
- *What constitutes indicator ‘misuse’?*

# Thank You

## Feedback & Questions?