Overview

- Definition
- Strengths and Weaknesses
- New developments
- Use in RPBF Systems
- Requirements
“Peer review is the name given to the judgement of scientific merit by other scientists working in, or close to the field in question. Peer review is premised upon the assumption that a judgement about certain aspects of science, for example its quality, is an expert decision capable of being made only by those who are sufficiently knowledgeable about the cognitive development of the field, its research agenda, and the practitioners within it.” (Gibbons and Georghiou, 1987, my emphasis)
Gold Standard in academics

"If you can’t say anything peer reviewed about your work, don’t say anything at all."
Strengths ....

- Deep understanding (context, disciplinary cultures)
- Trust and acceptance
- Allows a diversity of opinions to be brought to the table
- Discursive method, creates scope for debates, facilitates formative elements
... and weaknesses

- Conservative
- Insufficient with interdisciplinary, transdisciplinary, translational, and problem-solving research
- Conflict of interest
- Overuse of the scientific community
- Time consuming and expensive
Conservative

“Yeah, but good luck getting it peer-reviewed.”
Conflict of interest

FIND TWO OF OUR PEER REVIEWERS WHO DON'T HAVE A CONFLICT OF INTEREST ABOUT PEER REVIEW.
„Old boys networks“
New developments

- New Domains (project development, in-process evaluation, ex-post evaluation, etc.)
- New Criteria (societal impact, responsible research, etc.)

- Extended Peer Review
  - Strategic Peer Review
  - In-process Peer review
  - Merit Review
  - Dual Review Systems
  - Informed Peer Review
Use in RPBF Systems

- "Pure" Peer Review
- "Informed" Peer Review

offers ‘the best of both worlds’, a degree of ‘triangulation’ across methods.

- Peers moderate metrics
- Metrics assist peer decision
Keep it lean!

- Coping with Differences among fields
- Setting up Data base and Information basis
- Finding peers
- Choosing the right units
- Managing the process
- Defining consequences
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Bibliometrics in PBFS

Mutual Learning Exercise on Performance Based Funding Systems
Kick-off Meeting 6 Jan 2017
Gunnar Sivertsen
Overview

- Mapping the models initially
- Initial questions and considerations
"The dual funding system" (Public sources)

- Government
  - Research Councils
    - Projects and Programmes
    - Competition
    - Research Evaluation
  - Direct grants
    - Historical, Political
    - Strategic
    - Performance based

Research institutions
A. With peer review

- Bibliometrics may inform, but not replace peer review

Bibliometrics informs the evaluation.

Evaluation results are translated into funding
A. With peer review: Correct? Any additions?
B. With bibliometrics

Bibliometrics is translated into funding.

Often combined with other indicators.
B. With bibliometrics: Correct? Any additions?
Overview

- Mapping the models initially
- Initial questions and considerations
Data sources

- Web of Science? Scopus? Other international sources?
- National or local research information systems?
- Combinations?
Coverage of scholarly publications in Norway’s CRIS (100 per cent) compared to coverage in WoS and Scopus.
Solutions to using WoS/Scopus:
Flanders, Sweden, Italy, Denmark-Finland-Norway, Czech Republic-Poland
Each university has a local Pure system.

Annually, data from the local systems are exported to, and integrated in, a national database owned by the Government.
The CRIS can itself be nationally integrated – Norway’s solution

Cris
tin
- Current Research Information System In Norway

Principles behind the use of institutional data in a shared national Current Research Information System

- **Completeness:** All scholarly publications and other results from research are included.
- **Transparency:** Every institution can see and check all other institutions’ data. The national database is also online and open to society at large.
- **Multiple use of the data:** CV’s, applications, evaluations, annual reports, internal administration, bibliography for Open Archives, links to full text, etc.
Overview

- Mapping the models initially
- Initial questions and considerations
Indicators

- Citation indicators?
- Respecting field differences
- Weighing of publication types
- Ranking of publication channels
- Co-authored publications
- Publications with more than one affiliation
- Open Access
The use and effects

- Economic impact relatively
- Perceived importance
- Publication behaviour
- Balance between fields
- Transparency, influence
- Data production costs
- Local use
- Serving multiple purposes?
Summing up for breakouts

- What type of model?

- Data sources
  - Web of Science? Scopus? Other international sources?
  - National or local research information systems?
  - Combinations?

- Indicators
  - Citation indicators?
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INTERACTIVE DEVELOPMENT
OF THIRD STREAM INDICATORS

Jack Spaapen
MLE RPBF 16 January
Brussels
MYRIAD OF INTERACTIONS IN NANO NETWORK

- Embodied knowledge
- Codified knowledge
- Knowledge exchange / professional knowledge input
- Awareness
- Product use feedback
- Embedded knowledge (demonstrator, commercial component or system)
- Funding / purchase
- Product purchase (public or private use)
EU GRAND SOCIAL CHALLENGES (GSC)

- Health, demographic change and wellbeing;
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy;
- Secure, clean and efficient energy;
- Smart, green and integrated transport;
- Climate action, environment, resource efficiency and raw materials;
- Europe in a changing world - inclusive, innovative and reflective societies;
- Secure societies - protecting freedom and security of Europe and its citizens.
UN SUSTAINABLE DEVELOPMENT GOALS

1. No poverty
2. Zero hunger
3. Good health and well being
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation, infrastructure
10. Reduced inequalities within and between countries
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice and strong institutions
17. Partnerships for the goals

A successful sustainable development agenda requires partnerships between governments, the private sector, civil society, and academic research
KEY CONCEPTS R&I POLICY

- Excellence
- Societal Impact
- Next generation
- Industrial leadership
- Societal challenges
- Innovation oriented
- Joint programming
- Collaboration
- Partnerships
- Open science
- Open innovation
- Open to the world
Research is just a pawn in the game, operating at the cross roads of

- international competition between research institutions
  [reward system based on excellence]

- socio-economic development at different aggregation levels
  [reward system based on relevance or impact]
CONSEQUENCES FOR RESEARCH EVALUATION

Traditional evaluation mechanisms to be reviewed / adapted

- Bibliometrics → what role, critique from inside and outside, new developments (f.e. altmetrics)
- Peer review → extended peer review, expert review, mixed panels, focus groups

New kid on the block: Societal impact evaluation

- context dependent
- under developed mechanisms
- qualitative approaches (narratives, case studies)

How to avoid bureaucratic overload (self regulation?), what about policy makers preference for ‘simple’ numbers?
RIFT BETWEEN THEORY AND PRACTICE

Research literature on evaluation:

Dominant concept = the network or system, made up
- of many personal conversations, interactions, and adjustments among a diverse set of actors;
- and complex concepts of the ebbs and flows of the policy process itself are incorporated.

Evaluation practices:

Dominant concept = linear, framed by logic models
- terminology of inputs, activities, outputs, and outcomes,
- sometimes with a loop back to planning.
- policy process itself is a black box.

[Cozzens and Snoek, 2010]
NEW EVALUATION PRACTICES

(i) ones that aim at emulating what is done when scientific quality or relevance is assessed, often using quantitative measurements;

(ii) ones that develop alternative quantitative (altmetrics) or qualitative measurements (narratives);

(iii) network approaches
PITFALLS IMPACT ASSESSMENT

- **Contextuality**: processes in which new scientific knowledge is turned into practical applications, differ from sector to sector, and are dependent on different interactions between variegated stakeholders. Medical fields have to deal with hospitals, legislators, the pharmaceutical industry and patient organisations, whereas language fields have to deal with school boards, teacher organisations, publishers, parents, pupils and the general public. All these processes are non-linear.

- **Temporality**: it takes long time between the emergence of a fundamental scientific question and the practical application in society. In some cases this might be a few years, in others it even can be fifteen to twenty years, or longer. In the meantime, many changes may occur in the network in which the particular innovation takes place: theoretical and conceptual approaches may change, new technological options might become available, etc.

- **Contribution**: it is difficult to assess the specific contribution of researchers and stakeholders, since most steps forward (and backward) are the result of collaboration. Also, a particular contribution might be valuable in year x but gets discarded in year z, for good reasons.
CONSEQUENCES FOR 3rd STREAM METHODS

- Context Dependent
- Intermediate Indicators
- Innovative Frameworks
- Stakeholder Involvement
‘INNOVATIVE’ THIRD STREAM METRICS

- Explore new ways of approaching impact, for example intermediate indicators, case studies
- Include inter- and transdisciplinarity
- Include notions about specificities of the wider societal context
- Involve stakeholders from early on (co-creation, network perspective)
COMPREHENSIVE METHODOLOGIES

→ SIAMPI, introducing productive interactions, Spaapen and Van Drooge, Research Evaluation, 2011

- **People** [professional meetings, mobility, public engagement, …]
- **Media** [professional journals, audio-visual, social media, …]
- **Material support or exchange** [contracts, facility sharing, start up, IPR, …]

→ A composite indicator for Knowledge Transfer, Finne e.a. (European Commission 2011)

- **Institutional collaboration** [co-publication, co-funding, sharing facilities, …]
- **Training people** [on the job, retraining, …]
- **Commercialisation** [patents, licenses, contracts, …]