science from the user side

Magnus Gulbrandsen

TIK Centre for Technology, Innovation and Culture, University of Oslo, Oslo Institute for Research on the Impact of Science (OSIRIS)

Presentation at the EU-SPRI annual conference, 5-7 June 2019

Background

- Increasing interest in measuring the societal impact of research
- Our current understanding of impact:
  - Burgeoning, rapidly developing but also fragmented field
  - Bias in favour of simple input-output measurements and huge challenges in finding good measures of outputs
  - Too much emphasis on the researcher side (especially on research found in universities) in evaluations and in policies that seek to promote impact
  - Users serve primarily to confirm narratives and secure validity of indicators
- Although sophisticated evaluation methods have been developed, the limited user perspectives still need to be addressed

This presentation

- Aims to discuss the problems and benefits of looking at impact primarily from the perspective of non-research actors

- Presents some reflections of empirical work done within the OSIRIS project where we carry out longitudinal case studies of impact of research in industry, policymaking and healthcare

- Illustrate these reflections with a few ongoing cases

- Main question: **What does the impact process look like from the user side?**

State-of-the-art approaches

- Apart from the REF, most current evaluation approaches have theoretical roots (STS, evolutionary innovation research, institutional perspectives) and treat impact as a process rather than outcome

- Examples: SIAMPI (Spaapen & van Drooge 2011; Molas-Gallart & Tang 2011), ASIRPA (Joly et al. 2015; Matt et al. 2017) and Public Value Mapping (Bozeman 2003; Bozeman & Sarewitz 2011)

- Common notions: interaction is essential, contribution rather than attribution, impact as multi-dimensional, different types of use (Amara et al. 2004: instrumental, conceptual, symbolic use)

- Our aim is to contribute to this literature and these perspectives, but not necessarily to develop an evaluation methodology

Assumptions: user perspective

- The process of use – policymaking, innovation, improving healthcare procedures etc. – is largely independent (most of the time) of research, and it has other driving forces than new knowledge

- As for innovation, the most challenging part is not to create new ideas and new knowledge, but to implement it in existing organisations and structures (cf. van de Ven et al. 1999)

- Focusing on users may allow us to identify other characteristics of the impact/use of research process than what the current approaches are able to, and perhaps to avoid a "success bias"

- It can allow for other types of recommendation than "more engagement", "improved transfer", "open science" etc.

What is a user?

- Any kind of organisation or organisational unit that directly or indirectly gets in touch with R&D

- Users are very different from one another, e.g. in terms of the maturity or institutionalisation of linkages to the research system and their own involvement in R&D

- In most cases, users have a specific mission, goal or purpose, and the use of R&D is tied to this mission

- We believe it is more relevant to focus on these missions/goals than on the organisations/units themselves – we call them "problem areas"

Problem areas

- A problem area represents an area of policy or practice that has some kind of definition and boundary – can be tied to institutional theory (problem area as organisational field, cf. Scott 1995)

- For analytical purposes cannot be too broad ("climate change") or too narrow ("regulation of trout lure sizes in the Hedmark region")

- A problem area may have a number of "user sites" (organisations/-units) and "research sites" – and the difference between them is potentially very interesting

- It is fairly easy to identify/define problem areas in policy, but it is also possible within industry, healthcare and other sectors

- Problem areas can be studied through documents, interviews, surveys and more – or a combination
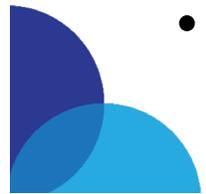
Example 1: work inclusion

- Coherent/easily defined area with clear responsibilities rooted in one directorate and one ministry

- High vertical complexity due to a huge number of front offices in every municipality offering work inclusion services and also private actors involved in policy instruments

- Build-up of a large-scale R&D system the last decade (cf. Høiland & Gulbrandsen presentation in the afternoon session today)

- Intensive use of research but rarely for instrumental purposes (alone)

Example 2: marine biodiversity

- "Trickier" problem area with several sub-categories (freshwater versus saltwater, plants/mammals/fish) and influenced by many different sectors and policies (environmental, agriculture, fisheries, rights of indigenous people etc.)

- Vertical and horizontal complexity – many organisations take relevant policy decisions in different sectors and levels of government, also international dimension

- Very well-established system of monitoring and data gathering/data sharing (bordering on citizen science), movement of people between organisations, but huge differences in the capacity and capability to use R&D in the system

Example 3: elderly's oral health

- Problem area emerging due to an aging population, multi-medication and the earlier success of oral healthcare (old people have their own teeth now)

- Unclear which organisations have a clear responsibility for the problem area, if any at all; healthcare system is public but oral health is private in Norway

- Need for R&D less obvious than the need for changes in responsibilities, procedures for allocating resources and more, but also a need for new products and treatment protocols

Insights from the user side

- A wide perspective on (or confusion about) what "research" is (we see this as positive/interesting), possible importance of "size of R&D", and the challenges and importance of various translational activities

- The distinction between instrumental, conceptual and symbolic use is difficult to find – and there are other types/purposes and many reasonable forms of informed non-use

- Processes at different levels and many are oriented at maintaining a system, infrastructure or "value collective" rather than using a specific set of research insights (maybe the word process is not even relevant)

- This system in many cases seems to be co-evolving and gives us many insights into the issue of time

Challenges with this approach

- Longitudinal part (difficult to find starting point and a relationship between events, but retrospective parts also interesting)
- Defining the "problem area" (might be seen as part of the first mapping stage of the research)
- Difficult to use for evaluation purposes, partly also because the normative is unclear
- Comparability between cases requires strong theoretical anchoring
- Resource-intensive and requires very good access to user sites

Conclusions

- Seen from the user side, the impact process might look somewhat different from what emerges from more conventional research evaluation, i.e. a useful complement

- Our suggestion is to look at "problem areas" rather than specific users

- Preliminary findings: the heterogeneity of knowledge bases, the systemic and co-evolutionary nature of impact processes, challenges in identifying single processes/pathways

- Challenges: longitudinal dimension, defining/selecting cases, evaluation dimension, resource intensity

Thank you for your attention

Comments to: magnus.gulbrandsen@tik.uio.no

Twitter: @OSIRIS_TIK

Web page: http://www.sv.uio.no/tik/english/research/projects/osiris/