Modelling impact in an open world

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Abstract

- As learned discourse extends from the purely academic and becomes a wider conversation taking place increasingly online, the approach to tracing impact needs to broaden its base from only looking at formal citations and links to publications. Mike Taylor of Elsevier describes some of the work and outcomes that have come from community collaboration and using novel techniques in the pursuit of understanding impact in a more open world.

The history of impact is in citation-based metrics

- Closed network (in formal terms, even if open access – publications citing other publications)
- Forty+ years of research
- *Currently* broader, less biased, more numerous, much less focused on the most-recent than alternative metrics
- E.g. recent Google paper gives us a 70:30 breakdown of new:old* papers being cited, data from Altmetric.com equivalent breakdown 95:5 for social media, 88:12 for scholarly media, etc
- 2.2M papers in year to June 1, 2014
- 2.5M tweets, only 18% of papers attract attention on Twitter
- * older = older than ten years

Science 2.0 – evolution versus revolution

- The opening up of research can be seen as evolutionary – incremental changes, which can be seen in some developments (particularly in overhyped areas)

- The opening up of research can be seen as revolutionary – more like logarithmic change

- e.g. Scholarly Activity (normalized by output)
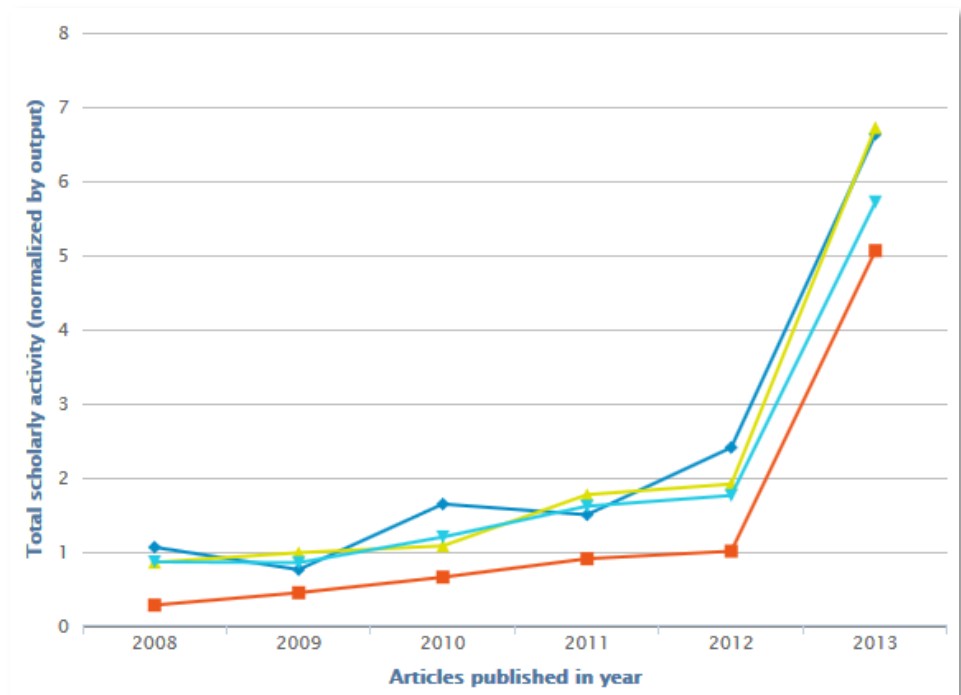
Scholarly Activity – a wider view than citation

- Used by people who don't, can't cite – as well as those who canhttp://www.scit.wlv.ac.uk/~cm1993/papers/CanMendeleyBookmarksReflectReadershipSurvey_preprint.pdf

- More complete sets of output: objects other than publications

- Academic and scholarly users other than publishing researchers

- Still "within the network"

- Still can be understood using related ideas about impact

- Is "non impactful" research "useful"?

"Impact" as a bibliometric term

- Forty+ years of research – the word 'impact' has a particular meaning, and its use (and mis-use) is well understood
- There are definitions of social impact, but broad – discipline specific (e.g., economic versus developing world)
- Impact is a complex concept
- Ideas need to be communicated, understood, they need advocacy, rhetoric, argument, translation.
- Impact overlays other concepts – e.g. reach, capacity

Tracking discourse beyond the community is hard…

- Lack of good / any citation practice in mass media
- No citations in important documents
- 50% of all discovered stories in the mass media have no link (but they do have high similarity)
- Use of authority rather than publication reference
- Lexical drift, 'folksonomies'
- Issues processing the data
- Doubts about the value of the data ('noise' versus 'use')

…but essential

- Where does communication work, where does it fail?
- What if the best of research isn't being impactful?
- What is the lost research of value?
- Who are the most effective communicators / translators of scholarly findings?

Open metrics methods and Elsevier

- Snowball Metrics – developing community-led metrics, deploying alternative metric formulations
- University of Ireland – tracking discourse in society
- University of Wolverhampton
- Work with Altmetric.com
- Bibliometric development programme
- Support for metrics conferences
- Involvement with NISO