Altmetrics & gaming

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STM Publication Ethics & Research Quality
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A quick reminder (or primer)
Altmetrics help people get credit where credit is due.
Articles (& some books)

Scholarly influence

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<th>Articles &amp; books</th>
<th>Datasets</th>
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“My research receives a lot of attention.”
"My research is of high quality."
“My research has an impact upon the world.”

• Contribution to the knowledge base
• Change in understanding of a disease, disorder or condition
• Implementation of policy or legislation
• Change in clinical or research practice
• Enhancement of community health
• Economic benefits
Why do people care?
Part 3 Section 3: Impact template and case studies (REF3a/b)

Definition of impact for the REF

140. For the purposes of the REF, impact is defined as an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia (as set out in paragraph 143).

141. Impact **includes**, but is not limited to, an effect on, change or benefit to:

- the activity, attitude, awareness, behaviour, capacity, opportunities, practice, process or output of an audience, benefit to the constituency, organisational or policy context, or the society as a whole;

- in any geographic location, nationally, regionally, nationally or internationally.

142. Impact **includes** the potential for harm, risk, cost or other negative impact associated with the research.

2 Relevance to society

The committee assesses the quality, scale and relevance of contributions targeting specific economic, social or cultural target groups, of advisory reports for policy, of contributions to public debates, and so on. The point is to assess contributions in areas that the research unit has itself designated as target areas.

When evaluating NSF proposals, reviewers will be asked to consider what the proposers want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. These issues apply both to the technical aspects of the proposal and the way in which the project may make broader contributions. To that end, reviewers will be asked to evaluate all proposals against two criteria:

- **Intellectual Merit:** The Intellectual Merit criterion encompasses the potential to advance knowledge; and

- **Broader Impacts:** The Broader Impacts criterion encompasses the potential to benefit society and contribute to the achievement of specific, desired societal outcomes.
Reputation

• Build your personal brand as a researcher
  • Competition for grants, positions is tough
  • Finding collaborators can be a bit of a crapshoot
  • Equivalent of conference networking, but without the travel budget

• You can do this online, offline or both, but if you don’t do it at all your career will suffer

• Promoting your own work (speaking, poster sessions, online) is part of this
What is gaming?
A question for you – is this gaming? (1/4)

• Alice has a new paper out. She tweets about it, and twenty of her (non-academic) friends retweet her in support.
What about... (2/4)

• Alice has a new paper out. She tweets about it. HootSuite automatically posts all of her tweets to Facebook and Google+.

• Alice has a new paper out. She writes about it on her lab’s blog and sends an email highlighting it to a colleague who reviews for Faculty of 1000.
What about... (3/4)

• Alice has a new paper out. She asks her colleagues to share it via social media if they think it’d be useful to others.

• Alice has a new paper out. She asks those grad students of hers who blog to write about it.
Or finally… (4/4)

• Alice has a new paper out. She believes that it contains important information for diabetes patients and so pays for an in-stream advert on Twitter.

• Alice has a new paper out. She believes that it contains important information for diabetes patients and so signs up to a ‘100 retweets for $$$’ service.
This is the unacceptable one, for us

- Alice has a new paper out. She believes that it contains important information for diabetes patients and so signs up to a ‘100 retweets for $$$’ service.
One framework for deciding – value & intent

- Incidental
- Promotion
- Spam
- Gaming

Value

Intent
Promotion

• aka marketing your work

• Is the intent to promote the article, rather than game the numbers?

• Is there some modicum of value added – an audience reached, a question answered?

• If “yes” to these then it’s legitimate
Spam

• No value added to conversation, but no intent to game either.
• One scenario: legitimate mention is picked up at random and used to make spam accounts look legitimate.
• Of 48M tweets linking to scholarly content, 1.2M were deleted by Twitter
Incidental
Incidental

• No intent to game, but little value (in terms of attention or influence)
• There are blogs out there that publish every abstract from articles matching certain MeSH terms, and Twitter accounts that retweet by keyword.
Gaming

• Where there’s an intent to boost numbers – but without adding the requisite value – it’s gaming.
Gaming – our experience

• It’s very rare (for now)
• It’s very hard to distinguish from spam – intent is difficult to detect
• The most common method is paying for tweets
• It’s generally very easy (for now) for humans to spot
  • One heuristic: how many pictures of gold bars, muscular men and ladies in bikinis are in the profile pictures of the people sharing this work

+ + = probably gamed
A couple of tangents...
Quis custodiet ipsos custodes?

• What if a journal overhypes a research study to get more views or news pickup?
• “Exaggeration in news is strongly associated with exaggeration in press releases”
Who decides what adds value?

• We manually curate a list of news and blog sources to track
Who decides what adds value?

• Choosing what to track is subjective – and potentially introduces bias
Dealing with gaming
Security through obscurity

• Being open about weaknesses may be a good incentive for us and others to come up with solutions
• But realistically, if you’re determined to game the system you’re probably going to be more agile than tool providers
• So in general, people stay quiet about exactly how they detect gaming (and spam)
How we spot gaming

• We flag up any unusual activity
  • More attention than expected
  • Concentration of attention in one or two sources
  • Suspicious co-tweeting

• We have some automated processes that look at flagged articles in more detail

• We then inspect the relevant mentions data manually
How can we penalize gaming?

• Right now we report to the journal
• .... but I have never heard of it going further
• We then remove the relevant mentions
• Sometimes we will “freeze” the article and not collect anything new for it
Innocent until proven guilty?

• Should we suspend all metrics or display a warning on suspected articles, until they are investigated and cleared?
• What if we’re wrong, and it hurts an author’s reputation?
• Could it be used as a weapon by an author’s competitors?
Prevention is better than cure

• Use a “basket of metrics” which allows you to spot strange patterns confined to one or two more gameable sources

• Ensure that the mentions collected are available to view – don’t just provide numbers
  • Most of the funders mentioned earlier ask for case studies and qualitative data rather than pure metrics

• Provide a framework for interpreting the mentions data, and advice on how to use it
Good practice is as important as good data
Thanks!
Your thoughts and questions are very welcome.

@stew / @altmetric