

Discussion of
“How we cite
and what it means for measuring the value of science”

by Misha Teplitskiy, HBS

Eamon Duede, University of Chicago

Michael Menietti, HBS

Karim Lakhani, HBS

Discussant: Maja Adena (WZB Berlin Social Science Center)

Berlin 2019

citation count \neq paper quality

- older papers have more citations but
 - ▶ the methods might be outdated,
 - ▶ according to today's standards they would never get accepted (e.g. experiment with 20 participants),
- famous people / names at the beginning of the alphabet,
- there are stark field differences, etc.

citation count \neq paper quality

- Still, we use citation counts (publication counts, journal impact)
 - ▶ for hiring decisions
 - ▶ department/ university evaluations
 - ▶ own citation decisions, etc.

citation count \neq paper quality

- (Mostly) without correcting for the bias in the original citation numbers because
 - ▶ the above decisions suffer from similar bias as well (esp. committee decisions)
 - ▶ correcting for the bias has no obvious payoff
 - ▶ we think that others do not recognize the bias, etc.

Why do we cite papers?

- Related to our paper
- Started the field
- Important in the general field (cited a lot)
- Same outlet we want to submit / Published in an highly ranked journal
- Authors are potential referees
- Network effects
- Because the editor or referees asked for
- Self-citations

- All above does not necessarily require quality
- and it can sometimes mean the opposite (critique of methods, nonreplicability, corrections of proofs).
- citation count = attention \neq paper quality

Misha's project

Important topic!

Interesting approach!

- survey among those who cited
 - ▶ opinions about papers' quality, validity, etc.
 - ▶ different disciplines
 - ▶ all percentiles of citation distribution
 - ▶ several people for each paper
 - ▶ high response rate → large sample
- survey experiment
 - ▶ informing about the citation count and position in the citation distribution in the relevant field

Misha's project – comments

Survey

- “Does citation count reflect quality?”
- The answer needs a measure of quality that is independent of other reasons that makes us cite a particular paper, that is, independent of
 - the journal name, rank, impact factor
 - names of the authors (famous, gender, affiliation), etc.

Misha's project – comments

Survey

- Weak relationship between the quality judgment and citation count
 - ▶ Quality judgment based on names, journal, title, and abstract (+ whatever one remembers) and not the content without above signals
- People surveyed chose to cite the paper for some (biased) reason
 - ▶ People who cite top papers might be different from those who cite flop papers
- need for self-consistency → more positive opinions in the survey
- time lag → not remember details and own motives → more random/ middle response choice
 - ▶ not many people say they know the paper very well → how can they judge quality, validity, etc.
 - ▶ I would expect the difference in perceived quality of papers being importantly driven by the ranking of journals which seems not to be the case, but
 - ▶ raw impact factor noisy while top 5 and C journals definition is more persistent
 - ▶ IF deciles or $\log(\text{IF})$ like for citation count

Misha's project – comments

Experiment

- “Does pointing out citation count shift perceptions of quality?”
- exogenous variation but
- treatment relatively weak
 - ▶ Did people Google the paper anyhow?
 - ▶ Or vaguely remember the citation count?
 - ▶ Journal and authors known in both conditions → stronger signal?
- interpretation difficult
 - ▶ downward revision at the bottom of the citation count
 - ▶ experimenter demand? → experimenter says that the paper is in the bottom Y%, so clearly I cannot say that it is of high quality

My ideal experiment

- Let people read a (newly accepted) article
- make sure they don't Google and check that they did not read before (self-reported)
- Treatments:
 - 1 author names and journal removed
 - 2 only names
 - 3 only journal
 - 4 both
 - 5 both (+citations so far)
- track citations

Thanks!