Peer review under the microscope: Results of a user-centred survey

Edit Görögh, University of Göttingen
Vilte Banelyte, PPMI, Lithuania
PEERE 2018
Rome, March 8
Changing scholarly communication discourse
Our mission

Opening UP new methods, indicators and tools for...

within the Open Science ecosystem.

Topics

Methodology

Use cases

peer review
dissemination of research results
impact measurement

Analysis of available methods
User centered evaluation
Defining requirements
Involving stakeholders

Arts and Humanities
Social sciences
Life sciences
Energy

2018-03-08

PEERE 2018, Rome
Target communities

- SMEs
- IT providers
- Funders
- Publishers
- Policy makers
  - Academia
  - Educators
  - Other related projects
  - Young scholars
  - Partners’ organisations
  - OpenUP Consortium
Aims and activities

1. Peer review landscape scan:
   • Map out the alternative review tools and services
   • User-centered survey
   • Examine peer review in context of research flow and in different disciplinary settings
   • Develop a framework for evidence-based research on peer review
   • Produce information resources
   • Produce policy recommendations
Aims and activities

2. Contributing to the developing open science discourse
   • Create ties with other EU projects – aligning efforts in researching open peer review and open science practices.
   • Sharing taxonomies (FOSTER),
   • Building on previous research (OpenAIRE), developing collaborations.
   • Open science advocacy work: organizing workshops and webinars.
**Methodology**

- The survey conducted between January 20 – February 23, 2017.
- The survey targeted researchers from the EU-28, Switzerland and Norway.
- Survey invitations were sent to a random sample of researchers from arXiv, Pubmed and RePEc with at least one publication as main authors. Later sample was broadened to reach underrepresented areas through the DARIAH website, THESIS network, EURODOC, AIMS portal, the Parthenos community and other channels.
- 1347 responses, of which 976 were completed.
Researcher/author perspective
Satisfaction with peer review process

How satisfied are researchers with the current peer review process? Are they willing to take up open peer review?

Overall, almost 73% of respondents were very or somewhat satisfied

Disciplinary differences
Respondents from the engineering & technology discipline were less satisfied (60%) than researchers from other disciplines

Career stage differences
Younger researchers (50-60%) were substantially less satisfied with the process than leading researchers (81%)
Main concerns regarding traditional peer review

- Quality of peer review reports: 94.9%
- Time/duration peer review takes: 78.1%
- Transparency issues, i.e. lack of openness in the process: 72.7%
- Lack of scientific communication between authors and reviewers: 66.1%

Reasons behind the reservations towards the established peer-review system:

- Natural Sciences: Quality of peer review reports 75%, Time/duration peer review takes 60%, Transparency issues 50%, Lack of communication 40%
- Engineering and Technology: Quality of peer review reports 80%, Time/duration peer review takes 70%, Transparency issues 60%, Lack of communication 50%
- Medical Sciences: Quality of peer review reports 85%, Time/duration peer review takes 75%, Transparency issues 65%, Lack of communication 55%
- Agricultural Sciences: Quality of peer review reports 80%, Time/duration peer review takes 70%, Transparency issues 60%, Lack of communication 50%
- Social Sciences: Quality of peer review reports 85%, Time/duration peer review takes 75%, Transparency issues 65%, Lack of communication 55%
- Humanities: Quality of peer review reports 90%, Time/duration peer review takes 80%, Transparency issues 70%, Lack of communication 60%
- Mathematics, statistics, computer science: Quality of peer review reports 95%, Time/duration peer review takes 85%, Transparency issues 75%, Lack of communication 65%
- Total: Quality of peer review reports 87.5%, Time/duration peer review takes 77.5%, Transparency issues 72.5%, Lack of communication 67.5%
Established review system

Quality control
Checking validity
Assessing originality and significance

Lengthy
Costly
Bias
Lack of standards
Abuse

Transparency
Motivation
Democratization

Digital gap
Bias
Problems of open ID

SWOT

Lack of accountability
Lack of incentives
Wasted efforts
Inconsistencies

Redefining peer review
Peer review re-defined

Quality assurance mechanism where scholarly works are scrutinised by peers/experts, whose feedback are used to improve the works

Anonymous
Closed/Opaque
Selective (participation)
Defining open peer review

Open Peer Review encompasses diverse constellations of many distinct aspects:

- 122 definitions collected and analysed
- 22 distinct configurations of 7 traits identified

- **Open identity**: authors and reviewers are aware of each other’s identity
- **Open report**: review reports are published alongside the relevant article
- **Open participation**: wider community contributes to the review process
- **Open platform**: de-coupled from publishing: facilitated by a different organizational entity than the venue of publication
- **Open interaction**: direct reciprocal discussion between author(s) and reviewers, between reviewers
- **Open pre-review manuscripts**: manuscripts are made immediately available in advance of any formal peer review procedures
- **Open final-version commenting**: review or commenting on final “version of record” publications

Preferences on open versus traditional peer review

- Open data review: 71.0% support open peer review, 15.1% indifferent, 13.9% support the established peer review.
- Open final-version commenting: 53.6% support open peer review, 19.6% indifferent, 26.9% support the established peer review.
- Open pre-review: 46.1% support open peer review, 16.3% indifferent, 37.6% support the established peer review.
- Open participation: 42.0% support open peer review, 17.1% indifferent, 40.9% support the established peer review.
- Open platform: 40.7% support open peer review, 27.3% indifferent, 32.0% support the established peer review.
- Open report: 39.3% support open peer review, 14.9% indifferent, 45.8% support the established peer review.
- Open identity: 28.6% support open peer review, 12.5% indifferent, 58.9% support the established peer review.
Alternative review services & platforms

Publishers
Publishing platforms

Independent review services

Repository based review platforms & tools

Review/Annotation applications

Peerage of Science
publons
Rubriq by Research Square
scirev
PubPeer
Hypothes.is
EPISTEMIO
HIVE
PLOS / open_evaluation
Publishing platforms

Collaborative peer review

Interactive peer review

Post-publication peer review
Decoupled review services
Preprint based publishing

Should researchers publish their findings before peer review?

BY IVAN ORANSKY AND ADAM MARCUS MAY 27, 2016
Reviewers‘ perspective
Incentives to review

- My work as a reviewer is being explicitly acknowledged and evaluated in my organisation: 20.2%
- My work as a reviewer benefits my career development: 32.8%
- My incentives to work as a reviewer would increase if my review comments were published under my name: 25.3%
- My incentives to work as a reviewer would increase if my review work was remunerated: 50.7%
- My incentives to work as a reviewer would increase if the peer review process became more collaborative with authors, editors and/or publishers: 48.7%
Incentives to review

Crediting peer review

✓ Publons, Peerage of Science
✓ Peer review in academic promotion - recommendation of the OSI workgroup:

Address incentives and motivations to participate in peer review, not only in the context of rewards or credits for individuals but also in terms of the importance of peer review for promotion and tenure. (Acreman 2016)
Open science practices: open sharing
Main factors/barriers affecting open sharing

- Lack of financial support to openly share my research results: 51.7%
- My organisation encourages me to publish in traditional outlets/journals which have restricted access: 31.2%
- By publishing in open access outlets/journals I would likely negatively affect my career development and performance assessment in my organisation: 19.9%
- Lack of knowledge about open access platforms and services where my research results could be published: 15.1%
- Privacy and/or ethical concerns: 11.6%
- Negative personal perceptions about open access: 8.8%
Growing demands

1. Transparency
2. Incentives to review
3. Training reviewers

Reluctance to participate

Reluctance governed by FEAR:

- Ideas being stolen
- Not being credited
- Public humiliation
- Abuse of power dynamics and intimidation
- Empowerment of bad actors
- Marginalization
- Less honesty and criticism.

Source: Jon Tennant
https://www.slideshare.net/OSFair/osfair2017-workshop-fear-and-loathing-in-open-peer-review
Solutions

Guidance
- Lack of clarity over assessment of outputs and activities

Incentives
- Lack of professional incentives for being open

Rewards
- Hiring, promotions fail to account for open science activities

Goal:
build a global community of Open Science based on sharing and collaborations

Cultural shift in scholarly research/publishing
Evidence-based policies
Shifting power dynamics

Source: Jon Tennant https://www.slideshare.net/OSFair/osfair2017-barriers-to-open-science-for-junior-researchers
Advance Open Science practices

Collaborative writing tools
Publishing platforms
Repositories
Altmetrics
Open ID

Source: Jeoren Bosman and Bianca Kramer, https://101innovations.wordpress.com/
Open Science tools

OpenUP Hub

https://www.openuphub.eu/review

FOSTER Open Science Training Handbook
Principles of Open Scholarship

- Transparency
- Accountability
- Inclusivity
- Responsibility
- Community & Collaboration
- Visibility
- Rigour
- Equality
- Public good
- Reproducibility
- Findability
- Accessibility
- Interoperability
- Re-usability
- Innovation

Source: Tony Ross-Hellauer https://www.slideshare.net/OpenAIRE_eu/peer-review-in-the-age-of-open-science
Thank you!

More information:
http://openup-h2020.eu/
https://www.openuphub.eu/
@ProjectOpenUP
References