Duration and quality of the peer review process: the author's perspective

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Peer Review Process

- 28,000 scientific journals, 2.5 million articles published per year.

- Many more submitted.

- Critique: peer review is too slow: writing review report takes a few hours, reviewers take weeks to months to submit the report.

- SciRev-data: 1st rev rnd: >3 months: 1/3; >6 months: 10%.

- Process has been getting slower in recent decades.

- Writing review reports does not have priority for most researchers:
    - Lots of other academic obligations
    - No payment, anonymously.

- Problem for authors and editors.

- Weakest link in scientific process, which has become much more efficient in other aspects (literature, analyses, communication, paper processing).

SciRev.sc

- SciRev.sc makes peer review process more transparent.

- Researchers share review experiences with colleagues and select an efficient journal to publish their work.

- Journals with efficient review process are rewarded for this and may attract more and better manuscripts.

How to use SciRev?

- Final decision on submission => SciRev.sc.

- Register

- Fill in questionnaire. Questions on:

    - Duration of different phases of peer review process

    - Number, quality and difficulty of review reports

    - Outcome

    - Rating (incl. motivation).

Checks

- Registration
  - Institutional email address
  - Confirmation email
  - Google search (connection with institute, publications, etc.).
- Reviews
  - No connection to journal or other journal in field
  - Accepted papers: mentioned on website journal?

Journal scores

- Information from reviews translated into scores for journals.

- Score: mean of all reviews of a journal.

- Scores for:
  - duration of first review round
  - total manuscript handling time
  - number of review rounds
  - immediate rejection time
  - number of review reports
  - quality and difficulty of review reports
  - overall rating of the review experience.

Motivations

- Authors have the possibility to add motivation to overall rating.

- Shown on website when given permission.

- Qualitative information in addition to the quantitative journal scores.

- You can find them at www.scirev.sc/reviews

Environmental Modelling and Software

Review this journal

Journal info (provided by editor)

Issues per year	12
Articles published last year	205
Manuscripts received last year	989
% accepted last year	22
% immediately rejected last year	n/a
Open access status	optional
Manuscript handling fee?	no
Kind of complaint procedure	n/a
Two-year impact factor	4.54
Five-year impact factor	4.28

Journal homepage

Disciplines: Water science, Modeling and simulation

SciRev ratings (provided by authors)

(based on 3 reviews)

Duration of manuscript handling phases		Click to compare
Duration first review round	3.9 mnths	compare
Total handling time accepted manuscripts	4.1 mnths	compare
Decision time immediate rejection	n/a	compare
Characteristics of peer review process		Click to compare
Average number of review reports	3.7	compare
Average number of review rounds	1.7	compare
Quality of review reports	4.0	compare
Difficulty of reviewer comments	4.5	compare
Overall rating manuscript handling	3.3 (range 0-5)	compare

Aims and Scope

Environmental Modelling & Software publishes research articles, reviews and short communications on recent advances in environmental modelling and/or software. The aim is to improve our capacity to represent, understand, predict or manage the behaviour of environmental systems at all practical scales, and to communicate those improvements to a wide scientific and professional audience.

EMS publishes contributions in the areas of:
· Generic frameworks and techniques for multi-disciplinary issues
· Development, evaluation and application of environmental models, software, information and decision support systems
· Issues and methods related to the integrated modelling, assessment and management of environmental systems

Editor login

Latest review

Show all reviews

First review round: 13.0 weeks. Overall rating: 4 (very good). Outcome: Accepted.
Show all »

Related journals

- PLoS Computational Biology
- Metamaterials
- BMC Systems Biology

Analysis of SciRev data

- 3500 reviews

- Immediately rejected: 572 (16.3%)

- Rejected after 1st rev round: 693 (19.8%)

- Accepted after 1 or more rev rounds: 2128 (60.8%)

- Immediately accepted: 43 (1.2%)

- Withdrawn: 64 (1.8%)

- Sample not representative, but data interesting because they show the range of author experiences and might show specific pattern.

Analysis of SciRev data

- Results for all reviews, accepted/rejected, 10 fields:

  - General journals

  - Natural sciences, Engineering, Mathematics and Computer sciences

  - Medicine, Public health

  - Psychology, Economics and Business, Social sciences, Humanities.

Analysis of SciRev data

- Aspects we study are:

  - Duration first review round

  - Total review duration

  - Immediate rejection time

  - Number, quality and difficulty of review reports

  - Time authors take to revise and resubmit their manuscript

  - Rating

  - More qualitative information provided in the motivations.

Analysis of SciRev data

- We find clear differences in these aspects between the 10 fields:

  - Medicine, Public health shortest durations

  - Mathematics and Computer sciences, Economics and Business longest durations.

- Authors find duration an important aspect of the review process (regression, qualitative results).

Duration first review round

- Important for authors: substantial part of total manuscript evaluation time, and determines time lost if rejected.

- Includes time first evaluation manuscript, finding reviewers, time they need to write reports, time editor needs to evaluate these report.

- Average: 13 weeks

- < 1 month: 19%, > 3 months: 32%, > 6 months: 10%

- Medicine: 8 weeks; Economics and Business: 18 weeks

- Medicine: 28% < 1 month; Econ & Business: 18% > 6 mnth

Total review duration

- Similar results

- Total time a manuscript is under responsibility of a journal.

- Average: 17 weeks

- Medicine: 12 weeks; Economics and Business: 25 weeks.

Immediate rejection time

- Time an editor takes to inform authors not to be interested.

- Average: 12 days

- < 1 week: 50%, > 2 weeks: 37%, > 4 weeks: 17%

- Medicine: 10 days; Mathematics (& Comp. sc): 17 days

- Medicine: 62% < 1 wk; Mathematics (& Comp. sc): 1/3 > 4 wks

- Not only reviewers are to blame for long durations, manuscript handling at editorial offices is important too. If editors take a month for an immediate rejection, they are probably also slow in finding reviewers and processing their reports.

- Immediate rejection time indicator of overall performance editorial office.

Revision time

- Time authors take to revise their manuscript.

- Average: 39 days

- Public health: 29 days; Economics and Business: 64 days

- Not explained by more referee reports (2-2.3) or more difficult reports (2.6-3.3).

Impact factor

- We expected that impact factor might be related to duration.

- Journals with higher impact factor in general have more resources and better organised editorial offices.

- Reviewers might be more motivated to review for higher impact journals.

- Negative significant correlations between impact factor and

    - Duration 1st review round: -0.29

    - Total review duration: -0.27

    - Immediate rejection time: -0.18

Rating

- Rating: 0 (very bad) – 5 (excellent)
- Associated with higher rating:
  - Shorter duration 1st review round
  - Lower number review rounds
  - Acceptance of paper.
- Authors find duration important, incl aspects which affect it.
- Authors in fields with longer duration (Economics and Business, Mathematics and Computer sciences) are more positive than authors in fields with shorter durations (Medicine, Public health).
- Expectations play a role.

Qualitative findings

- 1879 reviews with motivation.

- Half (918) positive.

- Of the negative ones:

  - 39% (371) express concern about duration

  - 45% (437) concerns role of editor: poor communication (not responding to emails, etc.), and not taking position vis-à-vis reviewers

  - 15% (141): poor quality review reports (superficial, contradictory, etc.).

Conclusions

- Large variation in durations between fields (Economics and Business, Mathematics and Computer sciences slowest durations; Medicine, Public health fastest durations).

- Journals with higher impact factor have lower durations.

- Long duration might be due to difficulties in finding reviewers who submit reviewer reports in time.

- But variation in immediate rejection time indicates that also inefficiencies at editorial offices play a role.

- The fact that a substantial proportion (17%) of journals takes over 4 weeks for an immediate rejection points in this direction.

- Editors who take so much time for checking whether a manuscript is of interest, probably will take as much time for the more laborious task of evaluating the manuscript and reviews for the final decision.

Thank you!

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