Making Scholarly (Scientific) Publishing Works for All Disciplines and Regions: Purpose, Process and Action

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The health of a country’s research activities is reflected in the scholarly activities of its researchers. Scholarly output is an indication of quality, and it covers the number of research outputs especially in the form of journal publications. This takes the form of researchers’ publication in journals outside their country as well as in their own national journals.

For many years, the scholarly journals publication system in South-east Asia is plagued by many problems and the establishment of journals hosting systems and citation indexing systems has helped improve the situation of "knowing" about the publication of journals containing the records of science. By collating publishing information, it has been possible to harness and collate data on performances of
How can the scholarly publishing system maximize benefit to the global science (all regions) and to wider audiences (all disciplines) for scientific research?
I will speak on these:

- **PURPOSE**
- **PROCESS**
- **ACTION**

Scholarly Publishing
Scholarly publishing contains the published record of scientific knowledge.

Scientific publication plays essential roles in preserving and disseminating the record of science.

- It makes knowledge claims, and maintain rigour by making concepts and evidence openly available to be tested against reality, logic and the scrutiny of peers.
- It communicates the results of scientific inquiry into the public sphere promptly, and circulating them efficiently to maximize their availability to all who may wish or need to access them.
What is publishable ....

Journals editors like to publish papers that are going to be widely read and useful to the readers

Papers that report “original and significant” findings that are likely to be of interest to a broad spectrum of its readers

Papers that are well organized and well written, with clear statements regarding how the findings relate to and advance the understanding/development of the subject

Papers that are concise and yet complete in their presentation of the findings

“Publishing in journals has now becoming the norm, not publishing is being the exception”
THE CURRENT CYCLE OF SCHOLARLY PUBLISHING

Research, data collection and analysis

Authoring

Researchers work
Funders and University pay

Peer review

Researchers work
University pays

Publication

Researchers pay
Publishers pay
University pays

Libraries work
University pays

Discovery and dissemination

Universities must pay multiple times to produce and access the research

Researchers work
University pays

Publishers work
Publishers pay
University pays
Researchers pay

The current cycle of scholarly publishing involves various stages, each with its own actors and financial responsibilities. The process begins with research, data collection, and analysis, where researchers invest significant time and effort. This work is supported financially by funders and universities.

The next stage is authoring, where researchers write articles. Universities typically bear the cost of this stage.

Once the manuscript is ready, it goes through peer review. Researchers who submitted the article are often involved in this process, and universities finance the peer review activities.

Finally, the article is published. Researchers are involved in this step, and publishers take the lead in disseminating the article. Publishers cover the costs of production and dissemination, while universities contribute through payments to libraries for access.

Each cycle highlights the complex financial landscape of scholarly publishing and underscores the economic dynamics that influence research dissemination.
Number of different journals in Scopus by year (increased exponentially but slowing down in 2010).

The percentage of Scopus articles with first author from the 12 countries with the most articles.

Mike Thelwall, Pardeep Sud; Scopus 1900–2020: Growth in articles, abstracts, countries, fields, and journals. Quantitative Science Studies 2022; 3 (1): 37–50. doi: https://doi.org/10.1162/qss_a_00177
Purpose: The scientific responsibilities

- To be globally inclusive, with none left behind, a voice for all, and sensitive to diverse perspectives.
- Ideas, evidence and data to circulate freely, quickly and efficiently, disseminated widely and deeply, and openly available for sceptical scrutiny, application and re-use.
- Preservation for future generations.
Does the current scholarly publishing system serve the essential purpose?

- Deficits to be addressed:
  - Access is not universal for readers and authors, whether in academia, industry of civil society. It fragments the science community.
  - Much of the record of science is privatized & inaccessible to discovery tools.
  - Peer review is foundering under pressure and ill-adapted to many needs.
  - Data is a first-class output of science, too much is lost or unusable.
  - With the demise of the physical library of record, how do we maintain the record of science for the future.
  - The needs of some disciplines are not sustainably supported, there is poor interoperability between them.
  - Opportunities for new digital modes of publication not fully utilised.
  - Private technology platforms used in science governance and assessment with proprietary indicators monitoring researchers, institutions and fields of research.
Process: Publication Planning and Execution

Publishers also have responsibilities for ensuring the integrity of the research literature and these are set out in publication ethics guidelines.

Adhering to the highest standards of applicable laws, accepted publication guidelines, and ethical guidelines on role-associated responsibilities, authorship, and content.

Researchers have a responsibility to ensure that their publications are honest, clear, accurate, complete and balanced, and should avoid misleading, selective or ambiguous reporting.

Strictly avoiding plagiarism, duplication, and any other unethical practices.

NOT ONLY TO PUBLISH BUT ALSO TO PUBLISH ETHICALLY

Ensuring the timely reporting and publication of all study results regardless of outcome.

A detailed and permanent record of research - that the work is conducted and reported honestly, objectively, and fairly.

Journal editors and peer reviewers work hard to ensure the content published is ethically sound.

Detailing out the methodology and research design and ensure replication / reproducibility of study.

Ensuring accuracy, completeness, and a lack of bias in publications.
Journal Ethical Policies – Author Declarations

- **Authorship Statement** - Declaration of substantive contribution signed by all authors

- **Conflict of Interest Statement** - Declaration of real and apparent Conflicts of Interest, in language comprehensible to average reader, signed by all authors

- **Redundant Publication Statement** - Declaration that the work has not been published previously in whole or in part

- **Human/animal subjects Statement** - Declaration that the study was reviewed by an Ethical Review Committee

- **Duplicate submissions** - Declaration that the work has not been published, or is not being considered for publication, by another journal

- **Accurate disclosure of funding** (is any)

- **Declaration of authors roles in the paper** (if required)
Journal editors (and publishers) should owe the truth about their publication

The Public – for funding support

Funding Institutions – for giving us resources

Colleagues & Collaborators - whose research publications may be based on our research publications

Authors and their Employers - employment, resources, and because their reputations can be affected by what we do

Research Participants – out of respect for their autonomy

The Readers & Library - obligations of research stem from its nature as the pursuit of truth and knowledge
FACTORS INVOLVED IN JOURNAL CHOICE

(Findings from Harbingers 2.0 study involving 177 ECRs from 8 countries – China, France, Malaysia, Poland, Russia, Spain, UK & USA [SEE - http://ciber-research.com/harbingers-2/ ]

1) Indexed in WoS and/or Scopus (told to do so – a proxy for reliability)
2) High Impact Factor;
3) Relevant to the field;
4) Generally considered prestigious;
5) Appropriate audience;
6) High standards of peer review;
7) Fast processing;
8) Trusted and used in past;
9) Interdisciplinary in coverage;
10) Approved by university/government;
11) Open access;
12) No page charges or article processing charges (APCs);
13) Easier to get into;
14) Contains innovative features;
15) Practices open peer review;
16) Has both hard copy and online variants;
17) Familiar editor or editorial board.
Action: The principles for scientific journals

Be the right journal

Be a core journal in the discipline.

Be indexed by authoritative abstracting and indexing agencies

Be affordable open access

Responsible and reproducible research (R3)

Diversity and inclusivity through opening the record of science
1. MUST BE THE RIGHT JOURNAL

- Presence of:
  - Aims and scope
  - Types of articles
  - Readership
  - Current hot topics (go through recent abstracts)
  - Reliable journal metrics
  - Guide for authors;
  - Known editor and the editorial board members in the field; reviewers who are familiar with the works
  - Peer-reviewed - “THE GOLD STANDARD”
2. MUST BE A CORE JOURNAL IN THE DISCIPLINE

- The journals that authors cite most to write the paper
- The journal that others would read
- The journal that authors would submit to and review for
- The journal that has a bibliometrics study / single journal study published
...by authoritative Indexing & Abstracting agency – indexation entails a greater chance to be available in library databases, which means that the published articles have a higher chance of being found, read, and, hopefully, cited.
4. MUST BE AN AFFORDABLE OPEN ACCESS JOURNAL

- **GOLD** – accessible by all, requires APC
- **DIAMOND & BRONZE** - free to read and publish
- **HYBRID** – allows archiving of pre-prints
- **GREEN** – accessible and deposit pre-prints; double exposure
Why bother publishing one’s research if the findings are not going to reach researchers around the globe?

- Chances of being cited is increased – early citations
- Quality is not short-changed – it is refereed
- Reach a wider audience – achieving the basic objective of publishing (sustainable and socially desirable)
- Fees for scientific publishing should enable global open access by both readers and authors
- Fees for open access publishing should ultimately be addressed by research funders and institutions, not individual authors.
- BUT need to check indexation status

Be careful of probable, potential or possible predatory journals
JOURNAL WHITELISTS OR BLACKLISTS?

- Whitelist promotes publication quality and ethics
- Exclude deceptive publishers
- Blacklist indicates which journals to avoid, not which to publish
- Include deceptive publishers

SEEKING FOR RELIABLE OPEN ACCESS JOURNALS …..
5. Must produce Responsible (and reproducible) research

• The ability to produce ethically acceptable, sustainable and socially desirable research outcomes for the public, through their publications.

• It is about understanding how to conduct research and publish in accordance with contemporary good practice.

• The purpose is to raise research quality and increase the overall reproducibility of scientific results.
A framework that supports the reproducibility of research through the adoption of transparent research practices.

Journals are taking to implement open science practices, that are based on the core principles of the scientific community. It is becoming an alternative way to assess journal qualities, and is an improvement over traditional metrics that measure mean citation rates (see https://topfactor.org/journals).

Share or make open the data and supplementary materials that supports the results or analyses presented in the article.

Include a Data Availability statement, even where there is no data associated with the article.

Cite and fully reference all data, program code, and other methods in the article.

https://www.cos.io/initiatives/top-guidelines
The science community is raising its voice; funders, governments, universities and research institutions must now step up to reform open access to the scientific record according to the principles:

6. Diversity and Inclusivity

Principles for scientific publishing

Opening the Record of Science.

I. Affordable, universal open access
II. Open licensing of the record of science
III. Rigorous, efficient, timely peer review
IV. Concurrent publication of data and evidence (FAIR)
V. Maintaining the record of science
VI. Respecting the needs of disciplines and regions
VII. Adaptability to new opportunities
VIII. Accountability to the scientific community

Options for reform

Normalize
- Rapid communication to disciplinary peers through preprint servers.
- Overlay processes
- Innovative approaches to peer review and quality control
- Rights retention strategies and open licences
- Concurrent deposition of relevant data/evidence in line with FAIR principles as a condition of publication.

Develop and implement
- Business models that support 8 principles and diverse publication modes
- A sustainable business model for learned society open access publication
- Reform peer review
- Platform-agnostic discovery services
- Global curation infrastructures for the Record of Science
- A record of versions, not a version of record
- Reform incentives away from bibliometrics

Governance
- International organizations as custodians of the scientific interest
- Compliance and audit of agreed standards (8 principles)
- Adhere to UNESCO open science values
- Foreground academic institutions
- Build on robust, distributed, community controlled infrastructures

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PRIORITIES FOR ACTION

1. BE THE RIGHT JOURNAL
2. BE THE CORE JOURNAL REFERRED TO IN THE FIELD
3. INDEXED BY TRUSTED A&I AGENCIES
4. AFFORDABLE OPEN ACCESS
5. TRANSPARENCY AND OPENNESS IN PUBLISHING
6. DIVERSITY AND INCLUSIVITY
Publications of the International Science Council

Major report and occasional papers on specific issues in scientific publishing

Opening the Record of Science
Making Scholarly Publishing Work for Science in the Digital Era

Business Models and Market Structure within the Scholarly Communications Sector
ISC Occasional Paper
September 2020

Strengthening Research Integrity—the Role and Responsibilities of Publishing
Draft ISC Discussion Paper
October 2021
Thank you
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