# science communication:

going beyond IF and Scopus index (v2.0)

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# Introduction: scientific communication

## abstract

Menulis saat ini bukannya menjadi salah satu bentuk akuntabilitas riset. Tetapi juga menjadi indikator kinerja seorang akademia (periset/dosen/mahasiswa dll). Namun demikian saat ini pemikiran kita hanya selalu berisi beberapa pertanyaan berikut: terindeks Scopus atau tidak?, berapa *impact factor* nya?, atau kalau saya menulis topik ini apakah akan meningkatkan indeks sitasi saya atau tidak ya? Hal ini diperburuk dengan pola pikir bahwa tugas kita menulis hasil riset kemudian mempublikasikannya di jurnal. Terserah akan diapakan oleh penerbit jurnal tersebut. Kini menjadi lebih mengemuka lagi saat pemikiran tersebut menjadi persyaratan administrasi pangkat dan jabatan atau insentif.

Saya tidak mengatakan bahwa indikator tersebut salah, tapi menurut kemudian kita menjadi lupa dengan esensi menjadi seorang akademia, yaitu: melakukan riset untuk membantu masyarakat (atau bangsa dalam skala luas), melaporkannya, dan menyebarluaskannya untuk diketahui khalayak. Menulis seolah menjadi beban berat. Sepertinya, belum apa-apa sudah memikirkan Scopus, indeks sitasi, dll. Pada akhirnya tidak jadi menulis. Malah salah bukan.

## abstract

Dalam paparan ini saya menyampaikan bahwa saat ini telah terjadi perkembangan yang luar biasa, bernama Open Science. Aliran ini bertumpu kepada prinsip bahwa ilmu itu terbuka dan milik semua orang. Dengan demikian maka indikator kinerja seorang akademiapun harus ditambah dengan instrumen-instrumen yang lebih terbuka. Bahwa Scopus index, impact factor, dan indeks sitasi adalah pekerjaan panjang yang tidak berhenti saat kita menerima email "accepted". Partisipasi redaksi jurnal dan penerbit juga berperan dalam mencapainya. Untuk itu diperlukan komunikasi saintifik (science communication) yang handal.

Karena itu saya mengusulkan masyarakat akademia untuk:

- terus menulis: dalam media formal maupun non formal,
- menggunakan indikator *impact factor*, *Scopus Indexing* dengan tidak berlebihan, serta memahami bahwa *citation index* adalah sebuah indikator *outcome*, bukan indikator proses,
- mengutamakan media *open access* dan sajikan data mentah secara terbuka,
- mencoba menghasilkan artikel dalam Bahasa Inggris,
- memanfaatkan *social media*.

## Pilihan di tangan kita.

- Apakah akan menjadi akademia yang tertutup atau terbuka.
- Apakah kita akan menjalin jejaring luas atau puas dalam 'tempurung' saja.
- dan Apakah menjadi makhluk yang mensyukuri nikmat dan tidak kikir membagi ilmu atau sebaliknya.

### scientific/scholarly communication according to Wikipedia

- refers to public communication presenting science-related topics to non-experts.
- aims to generate support for scientific research or study, or to inform decision making, including political and ethical thinking.
- emphasizes on explaining methods and findings.

**Figure 1:** Research cycle (Research resources: Edinburgh Napier Univ.

*The journal Impact Factor is the average number of times articles from the journal published in the past two years have been cited in the JCR year. The Impact Factor is calculated by dividing the number of citations in the JCR year by the total number of articles published in the two previous years. (Thomson Reuters: Web of Science)*

Hence IF reflects:

- age: the operational period of the medium (journal)
- visibility: meaning older journals are read by more people than younger journals
- recognition: meaning more citations

is it important? some would say yes

does it apply to all of us? definitely no

CI reflects:

- age: old articles have higher chance to get more citations than recent ones,
- contextual: articles match with certain issues will attract more readers,
- closed-calculation: CI is calculated based on articles which are published in journals that include in the WoS indexing database.

is it important? some would say yes
does it apply to all of us? definitely NO

Indexed by Scopus means:

- journal/conference registration by journal/conference editorial,
- selection by Scopus team based on Scopus criteria,
- recognition (to some parties).

is it important? to some extent yes
does it apply to all of us? definitely NO

current state: legacy scientific media

legacy scientific media characteristics

Closed-system: readers (and even authors) have to be subscribed!

- closed data (electronic supplementary data services are available with fee),
- blind peer-review (pre publication)
- closed-loop distribution, copyright transfer agreement

Just go to Elsevier

# future trend: open science

open science components FOSTER 2015

- open data
- open methods (to endorse reproducibility and replicability)
- (using) open source software
- open access to research outputs
- open peer-review (pre or post publication)

- PLOS
- F1000Research
- RIO journal
- ScienceOpen
- The Winnower
- HESS
- Nature Communications
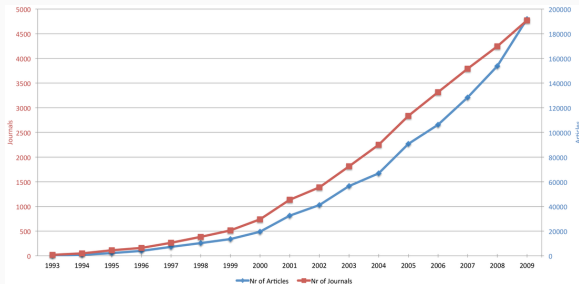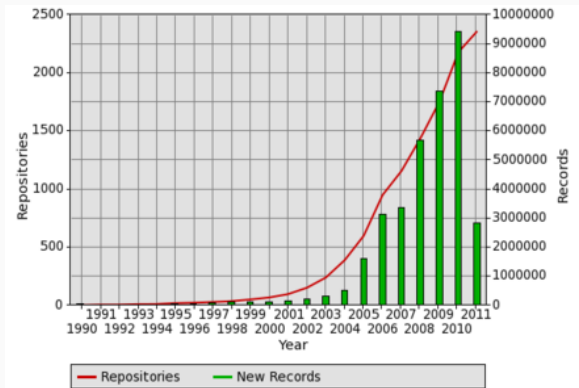- etc more and more: go to DOAJ for more list

Figure 2: The development of open access

Wikipedia/Open Access

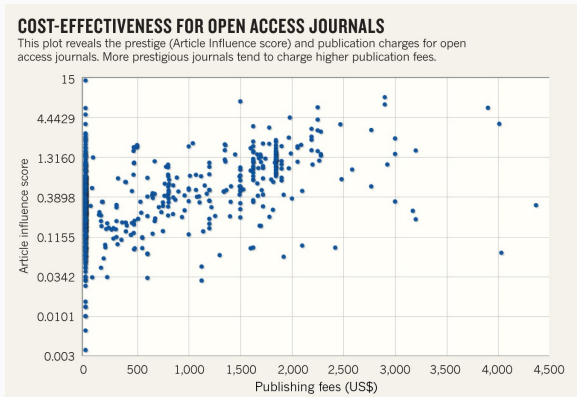Figure 3: Number of self-archiving repositories and records

Wikipedia/Registry of Open Access Repositories

Figure 4: Journal APC vs reputation

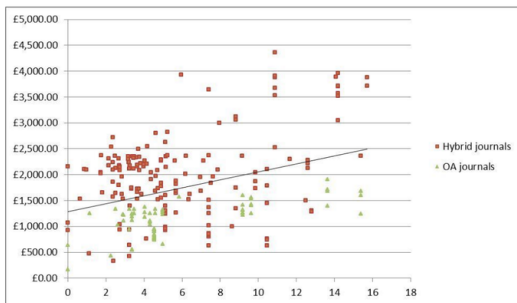Price doesn't always buy prestige in open access

Figure 1: Graph showing cost of article processing fee plotted against journal impact factor

**Figure 5:** Journal's APC vs IF

Busting the top five myths about open access publishing

- stage 1: research proposal
- stage 2: research implementation
- stage 3: report writing and publications
- stage 4: dissemination
- stage 5: data set management

- write and publish your proposal to invite comments and (who knows) a funder (eg: on RIOJournal),
- make a literature review paper as the basis of the proposal, and publish it,
- uploads preliminary data set in accessible repository.

- blog about it,
- using Open Science Framework, make a Wiki page,
- publish a short communication or Early Research Outcome (eg on RIOJournal)

- make a report and upload it along with the data set to accessible repository (eg: Figshare, Zenodo, or OSF) or self archiving system,
- cite the repository in your papers,
- post the repository on socmed (read How and why I use blogging).

## stage 3: report writing and publications

- Where to publish?
- How much does it cost?
- Do we still have rights?
    - open access vs conventional/legacy journals.
    - problem with open access: `article publishing cost`
    - problem with legacy journals: `copyright transfer agreement`

- it's about how to increase impact: via `online visibility`
- what are the tools? You can try: ImpactStory or GrowKudos
- how much does it cost? `Connection cost only`

- go to conferences
- maintain a social media and promote your results: Twitter, Facebook, RG, Academia, Growkudos
- snail (e)mail to colleagues, use signatures (insert ORCID or Google Scholar Site).

## scientific social media vs open access space

- is RG/Academia an open access space?
- answer: no, they're socmeds
- they offers archiving facilities in return of selling ads.

- make it accessible. Read: Making Datasets Visible and Accessible: DataCite's First Summer Meeting and Making open data accessible to data science beginners)
- use general and public formats (eg: odt, csv, etc). Read: Membuat Data Geosains Dapat Didata dan Dirujuk.
- use DOI.

further readings

A curated list of readings are also available on my Zenodo repository

- Tennant, J., 2016, The open citation index, Blog Science Open.
- Pevatolo, M.C., 2016, Private spaces, public science? Open access and academic social media, https://t.co/ublvRi9ScM
- Kim, H., 2015, How to index journal in Scopus and WoS, (Zenodo repo)
- Broch, E., 2011, Journal Impact factors: what they mean, what they don't mean, and why you should care, Princeton blogs (Zenodo repo)

- The Conversations: Busting the top five myths about open access publishing
- Nature: Price doesn't always buy prestige in open access
- Wikipedia/Registry of Open Access Repositories
- Wikipedia/Open Access
- How and why I use blogging
- more readings online.

take home notes

science is about:

1. honesty in researching the problem
2. bravery in publishing the results
3. big heart in getting feedback

LaTeX source is available at
Overleaf

Slides/decks in pdf is available at
Slideshare