Open Citations

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April 26, 2019
Agenda

- Background
- Open Citations Movement
- Comparison
- Conclusion and Further Discussion
Citations

- Reveal research and publication patterns
- Identify new research questions
- Determine research impact
- Bibliometrics, Citation Analysis, Scientometrics, Informetrics is the study of citations
Sources of Citation Data

- Web of Science (Clarivate Analytics)
- Scopus (Elsevier)
- Google Scholar
Open Citation Data

“citation data now needs to be recognized as part of the Commons”

(Shotton, 2013)
Initiative for Open Citations

“Citations are the links that knit together our scientific and cultural knowledge. They are primary data that provide both provenance and an explanation for how we know facts. They allow us to attribute and credit scientific contributions, and they enable the evaluation of research and its impacts. In sum, citations are the most important vehicle for the discovery, dissemination, and evaluation of all scholarly knowledge.”
Initiative for Open Citations

“The present scholarly communication system inadequately exposes the knowledge networks that already exist within our literature. Citation data are not usually freely available to access, they are often subject to inconsistent, hard-to-parse licenses, and they are usually not machine-readable.” (I4OC, n.d., is available under a CC0 Public Domain Dedication.)
Public Domain Dedication

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Open Metadata

“10. No closed metadata: Publishers shall make bibliographic records, usage metrics, and citation data for our authors freely available, easy to parse, and machine readable.”

(2018, University Committee on Library and Scholarly Communication, Assembly of the Academic Senate, University of California)
How to participate

Crossref Access to Citation Data:
Open – Journal makes the references open
Limited – Available through a Crossref Metadata Plus Account
Closed – Journal does not make them available to Crossref

I4OC is encouraging open whenever possible
How to participate

If you register journal articles with Crossref, make sure you set your references to open

Requested to make reference metadata “open” allows access through Crossref REST API (no license restrictions) and will get harvested by other citation data projects (OpenCitations.net)
Participants

https://i4oc.org/#publishers
Open Citations.net

- Open and Linked Data for Citations
- Three services
  - Open Citation Corpus Linked Data Index
    - Harvested from Crossref data
  - CRowdsourced Open Citation Index (CROCI)
    - Crowdsourced citations
- [https://opencitations.net/browser/br/428357](https://opencitations.net/browser/br/428357)
Comparison:

- Web of Science (WoS) vs. the Open Citation Corpus.
- Sample set of 4515 papers by URegina authors published between 2008-2017 (identified through WoS)
- OCC dataset from Nov. 2018
  - 46,534,705 bibliographic records
  - 445,826,118 citation links
- Only compared records with a DOI
WoS vs. OCC – Times Cited

Total # of times the URegina papers were cited
- OCC: 37,356
- WoS: 88,655

OCC coverage for citing articles was only about 42% of WoS coverage.
## Most Cited Articles

<table>
<thead>
<tr>
<th>Rank</th>
<th>Title</th>
<th>Year</th>
<th>Google Scholar</th>
<th>Web of Science</th>
<th>OCC</th>
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<tbody>
<tr>
<td>1</td>
<td>Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC</td>
<td>2012</td>
<td>13,459</td>
<td>5,278</td>
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<td>The ATLAS Experiment at ...</td>
<td>2008</td>
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<td>The Physcomitrella genome</td>
<td>2008</td>
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<td>1,030</td>
<td>624</td>
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<tr>
<td>4</td>
<td>Lakes and reservoirs as re...</td>
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<td>1,402</td>
<td>982</td>
<td>646</td>
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<tr>
<td>5</td>
<td>Indication of Electron Neu...</td>
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<td>6</td>
<td>The ATLAS Simulation Infr...</td>
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<td>497</td>
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<tr>
<td>7</td>
<td>Observation of a Centralit...</td>
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<td>488</td>
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<tr>
<td>8</td>
<td>Combined search for the ...</td>
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<td>243</td>
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<tr>
<td>9</td>
<td>The Selaginella Genome I...</td>
<td>2011</td>
<td>532</td>
<td>388</td>
<td>267</td>
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<tr>
<td>10</td>
<td>Three-way decisions with ...</td>
<td>2010</td>
<td>613</td>
<td>378</td>
<td>182</td>
</tr>
</tbody>
</table>
Network Graph of Citations

- 30 Psychology publications by U of R authors published between 2008-2017
Comparison

- Using OCC for informetric studies and research evaluation is a work in progress at this point in time.
- For informetric research, the more complete the dataset the better.
- Although the citations are open, you still need to turn to other tools for author disambiguation, subject categories, and institutional links.
Why?

- Web of Science was collecting citation data long before Crossref started collecting it, and likely has better data.
- Unsure of retroactive coverage of Crossref data
- Elsevier does not participate in the CrossRef Open program
In the News

- Journal of Informetrics (JOI)
- Quantitative Science Studies (QSS)
Questions:

- How do we promote open citations?
- How will this movement affect research impact practices?
- Will having open citations help better represent the work done in humanities and social sciences?
References

References

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