February 21, 2017

Literature Review from Search to Publication, Part 2: Finding proper articles

Nader Ale Ebrahim

Available at: https://works.bepress.com/aleebrahim/188/
Part 2: Finding proper articles

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www.researcherid.com/rid/C-2414-2009
http://scholar.google.com/citations

21st February 2017
LITERATURE REVIEW FROM SEARCH TO PUBLICATION
Part 2: Finding proper articles

Nader Ale Ebrahim, PhD
====================================
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www.researcherid.com/rid/C-2414-2009
http://scholar.google.com/citations

Abstract: “Research Tools” can be defined as vehicles that broadly facilitate research and related activities. “Research Tools” enable researchers to collect, organize, analyze, visualize and publicized research outputs. Dr. Nader has collected over 700 tools that enable students to follow the correct path in research and to ultimately produce high-quality research outputs with more accuracy and efficiency. It is assembled as an interactive Web-based mind map, titled “Research Tools”, which is updated periodically. “Research Tools” consists of a hierarchical set of nodes. It has four main nodes: (1) Searching the literature, (2) Writing a paper, (3) Targeting suitable journals, and (4) Enhancing visibility and impact of the research. This workshop continues the previous one and some other tools from the part 1 (Searching the literature) will be described. The e-skills learned from the workshop are useful across various research disciplines and research institutions.

Keywords: Literature Review, Improve citation, Research impact, Open access, h-index, Research Visibility, Bibliometrics, Systematic literature review
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Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)


For more information, visit www.prisma-statement.org.
Critically Analyzing Information Sources

1- Initial Appraisal:
- Author
- Date of Publication
- Edition or Revision
- Publisher
- Title of Journal (Distinguishing Scholarly Journals from other Periodicals)

2- Content Analysis:
- Intended Audience
- Objective Reasoning
- Coverage
- Writing Style
- Evaluative Reviews

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**h-index** (Jorge E. Hirsch)

- A scientist has index $h$ if $h$ of [his/her] $N_p$ papers have at least $h$ citations each, and the other $(N_p - h)$ papers have at most $h$ citations each.

H-index from a plot of decreasing citations for numbered papers

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H-index Example

Source: http://www.slideshare.net/librarian68/overview-of-citation-metrics

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56 citations 56 citations

h-index=6 h-index=4

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A scientist has index $h$ if $h$ of his/her $N_p$ papers have at least $h$ citations each, and the other $(N_p-h)$ papers have no more than $h$ citations each.

As an example, a researcher with an H-index of 15 has (of their total number of publications) 15 papers which have been cited at least 15 times each.

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Neither researcher can have an H-index of more than 6.

Publish or Perish is a free program that retrieves citations from Google Scholar and allows users to calculate:

- Total number of papers
- Total number of citations
- Average number of citations per paper
- Average number of citations per author
- Average number of papers per author
- Average number of citations per year
- Hirsch's h-index and related parameters
- The contemporary h-index
- The age-weighted citation rate
- Two variations of individual h-indices
- An analysis of the number of authors per paper


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# Publish or Perish

![Harzing's Publish or Perish 5.26.2.6249](#)

**Google Scholar query**

| Query       | Source | Papers | Cites | Cites/y | h | g | h|nom | h|ann | t|el | Query date | Cache date | Last update |
|-------------|--------|--------|-------|---------|---|---|---|-----|---|-----|------------|------------|-------------|
| "Fuzzy sets" | Google Scholar | 120 | 227779 | 4380.37 | 119 | 120 | 113 | 2.17 | 112 | 2/17/2017 | 2/17/2017 | 1223 |

**Metrics**

- **Publication years:** 1965-2014
- **Citation years:** 52 (1965-2017)
- **Papers:** 120
- **Citations:** 227779
- **Cites/year:** 4380.37
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Figure 1: Mean H-index Scores by Field of Study

- Sciences: 10.6
- Agricultural sciences: 8.9
- Engineering: 8.5
- Social sciences: 5.2
- Applied health sciences: 4.9
- Business: 3.8
- Humanities: 2.3
- Architecture and design: 0.9
- Fine arts: 0.8

Source: Making Research Count: Analyzing Canadian Academic Publishing Cultures

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Web of Science

- Web of Science® is perhaps the most well-known tool for determining the number of times a publication has been cited.

- **Web of Science®** is made up of three citation indexes owned by Thomson Scientific:
  - Science Citation Index ®
  - Social Sciences Citation Index ®
  - Arts & Humanities Citation Index ®.

Citation Report
Distinct Author Summary: Zadeh, LA

Results found: 75
Sum of the Times Cited [?] = 5107
Sum of Times Cited without self-citations [?] = 5114
Citing Articles [?] = 4159
Citing Articles without self-citations [?] = 4128
Average Citations per Item [?] = 68.16
h-index [?] = 28

Published items in Each Year

Citations in Each Year

The latest 20 years are displayed.
View a graph with all years.
Another guide to paper/journal quality is the general reputation of the association, society, or organization publishing the journal.

Leading professional associations such as American Psychological Association (APA) or the Institute of Electrical and Electronics Engineers (IEEE) publish a range of journals that are highly regarded.
The Institute for Scientific Information (ISI)

- The **Institute for Scientific Information** (ISI) was founded by Eugene Garfield in 1960. It was acquired by Thomson Scientific & Healthcare in 1992, became known as Thomson ISI and now is part of the Healthcare & Science business of the multi-billion dollar Thomson Reuters Corporation.

- ISI offered bibliographic database services. Its speciality: citation indexing and analysis, a field pioneered by Garfield. It maintains citation databases covering thousands of academic journals, including a continuation of its long time print-based indexing service the Science Citation Index (SCI), as well as the Social Sciences Citation Index (SSCI), and the Arts and Humanities Citation Index (AHCI). All of these are available via ISI's Web of Knowledge database service.
The most commonly used measure of journal quality is Impact Factor. This is a number which attempts to measure the impact of a journal in terms of its influence on the academic community. Impact Factors are published by Thomson-ISI.
What are journal impact factors?

Impact factors are a measure of the "quality" of a journal - they identify the most frequently cited journals in a field.

Impact factors can be used to:
- Identify journals in which to publish
- Identify journals relevant to your research
- Confirm the status of journals in which you have published

**The Impact factor formula**

The impact factor of a journal is based on the average number of times that articles published in that journal in the two previous years (e.g. 2008 and 2009) were cited in the subsequent year (i.e. 2010). This is calculated using the following formula:

\[
\text{Impact factor} = \frac{\text{Cites in 2010 to items published in 2008 and 2009}}{\text{Number of items published in 2008 and 2009}}
\]

If an impact factor is lower than 1.0 that means there were more articles published in the journal than there were cites to those articles in any given year.

Be aware that...

• Many journals do not have an impact factor (sources other than JCR need to be consulted).

• The impact factor cannot assess the quality of individual articles.

• Only research articles, technical notes and reviews are “citable” items. Editorials, letters, news items and meeting abstracts are “non-citable items”.

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CiteScore 2015 methodology

CiteScore 2015 counts the citations received in 2015 to documents published in 2012, 2013 or 2014, and divides this by the number of documents published in 2012, 2013 and 2014.

3-year publication window
The 3-year CiteScore time window was chosen as a best fit for all subject areas. Research shows that a 3-year publication window is long enough to capture the citation peak of the majority of disciplines.

Frequency

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Document types
All types of documents (research articles, review articles, conference proceedings, editorials, errata, letters, notes, and short surveys) are included in the CiteScore calculation. Although articles in press are included in Scopus they are not included in the calculation.

Source: https://journalmetrics.scopus.com/
Keeping up-to-date (Alert system)
What is an alert service?

- Many journal databases and book publishers offer free alert services. These are an effective means of keeping track of the latest research.

- Alert services come in different forms. The most common include:
  - a search alert. This is a saved search which alerts you when a book or article that matches your search terms is published.
  - a TOC (Table of Contents) alert. Such an alert notifies you when a new issue of a journal is published, and provides you with the issue's table of contents.
  - a citation alert. This advises you when a new article cites a particular work.
  - Most alert services are email-based. An increasing number are now offered as an RSS feed. If you are just beginning, you might like to try email alerts first. These are generally easier to create.
Keeping up-to-date

Create a Google Alert

• Enter the topic you wish to monitor.
• Search terms:
• Type:
• How often:
• Email length:
• Your email:
Keeping up-to-date
How to Read a Paper
THE THREE-PASS APPROACH

1-The first pass

The first pass is a quick scan to get a bird’s-eye view of the paper. You can also decide whether you need to do any more passes. This pass should take about five to ten minutes and consists of the following steps:

1. Carefully read the title, abstract, and introduction
2. Read the section and sub-section headings, but ignore everything else
3. Read the conclusions
4. Glance over the references, mentally ticking off the ones you’ve already read.

1- The second pass

In the second pass, read the paper with greater care, but ignore details such as proofs. It helps to jot down the key points, or to make comments in the margins, as you read. The second pass should take up to an hour. You should be able to summarize the main idea of the paper, with supporting evidence, to someone else.

1. Look carefully at the figures, diagrams and other illustrations in the paper. Pay special attention to graphs.
2. Remember to mark relevant unread references for further reading (this is a good way to learn more about the background of the paper).

1- The third pass

To fully understand a paper, particularly if you are reviewer, requires a third pass. The key to the third pass is to attempt to virtually re-implement the paper: that is, making the same assumptions as the authors, re-create the work. By comparing this re-creation with the actual paper, you can easily identify not only a paper’s innovations, but also its hidden failings and assumptions.

This pass can take about four or five hours for beginners, and about an hour for an experienced reader.

Mind Map Tools

Source: Mind Map Tools, By: Seyyed Ali Fattahi Computer PhD Candidate FTSM UKM

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Task for second session

• Measure the downloaded papers/journal's quality
• Turn on Alert system in WoS and other databases
• Create your literature review Mind Map
My recent publications
Questions?

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Twitter: @aleebrahim

www.researcherid.com/rid/C-2414-2009
http://scholar.google.com/citations

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www.researcherid.com/rid/C-2414-2009
http://scholar.google.com/citations
References

4. Mind Map Tools, By:Seyyed Ali Fattahi Computer PhD Candidate FTSM UKM

My recent publications:


My recent presentations:


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