One h-Index to Rule them All? Using h-Index Realities to Educate Researchers about their Online Presence

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Purpose of the Study
At the University of Minnesota, we’ve noticed that more faculty members are asking their liaison librarians about h-index and other productivity measures. Researchers are also becoming more aware of how they appear to potential collaborators who find them online. By comparing h-index calculations and citation counts in three commonly used databases, librarians can make the point that researchers must take the time to review their online presence in any database potential collaborators might use.

Data Collection
For each of the 76 full-time Associate Professors in the College of Science & Engineering in Spring 2013:

Google Scholar
- Search by author name for profile.
- If found, recorded count of citations and h-index.

Scopus
- Searched using Author Search for author last name/first initial and affiliation of University of Minnesota Twin Cities.
- Recorded count of citations and h-index.
- When multiple records were found, used only the record with the most associated citations. Tools are provided to allow authors to merge their records.
- Note that Scopus only uses articles published since 1996 to calculate h-index.

Web of Knowledge
- Searched using Author Search for last name and first initial and affiliation of the University of Minnesota.
- Ran Citation Report on initial result set and recorded count of citations and h-index.
- Wok was the most likely of the three to result in inaccurate initial sets, but tools are provided to allow authors to add items to their ResearcherID publication list.

Results

Researchers can ensure that their online presence reflects their work and scholarly contribution by taking the time to create or review their profiles in databases where potential collaborators are likely to look.

Librarians can assist by providing step-by-step instructions on the most efficient way to set up and refine profiles in each high-use database in the researcher’s field. Sample Workflow for University of Minnesota faculty

Calculating h-Index

1. Sort all your publications in descending order by how many times they’ve been cited.
2. Go down the list until the last record where the number of times cited is greater than or equal to the count of the item on the list.
3. The number of the item on the list is your h-index.

Example
Nicholas Hopper, Computer Science & Engineering

Why is the Google Scholar count so much higher than the others?
- Google Scholar pulls from a wider range of sources: journal and conference proceeding publishers, institutional repositories, departmental and author websites.
- Because all the data collection is done automatically, it isn’t unusual for a Google Scholar profile to contain multiple copies of the same article. The profile owner can merge multiple instances of the same article.

Technical reports aren’t indexed by WoK or Scopus, but are often cited in engineering and computer science.

What is Google Scholar missing that Scopus has?
- Two papers from Lecture Notes in Computer Science
- Two Message from the Program Chairs from Lecture Notes in Computer Science
- Two papers from the Proceedings of the ACM Conference on Computer & Communications Security

Why is the Scopus count so much higher than Web of Knowledge?
- Scopus includes many more conference proceedings than Web of Knowledge.

Recommended Resources

- Google Scholar h-index was highest for all 11 faculty members who had a Google Scholar profile.
- Four faculty members, all from Math, had no record in any of the three databases.
- Scopus works well for most science and engineering fields, but papers published before 1996 are not used to calculate h-index.

Data Sources
Any database that provides both citation information by author and “cited by” counts for those citations can be used to calculate h-index. The most common databases used for this purpose in Science and Technology are Web of Knowledge (WoK), Scopus, and Google Scholar. Results are affected by the scope of the database (titles, years, subjects, publication types), the accuracy of the database’s Citations algorithm, and the accuracy of author identification.

Recommendations
Researchers can ensure that their online presence reflects their work and scholarly contribution by taking the time to create or review their profiles in databases where potential collaborators are likely to look.

Librarians can assist by providing step-by-step instructions on the most efficient way to set up and refine profiles in each high-use database in the researcher’s field.

If you find more than one Author record for yourself, request that they be merged.

Set up a profile associated with your Google account.

Use your Researcher ID to add publications automatically to your ORCID account.

Set up a profile associated with your Google account.

Use your Researcher ID and ORCID accounts, plus your CV to make sure all publications are added.

Publications for your Experts@Minnesota profile come from Scopus, but may not be there if you’ve just updated your Scopus profile.

Add research interests and keywords.

Add links to your CV and faculty web page.