Balancing the Irregularities of Citation Metrics in Tenure and Promotion of Faculty in Art, Architecture and Design-Related Disciplines

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Selected Publications
Promotion and Tenure: “Publish or Perish”
“Research metrics can provide crucial information that would be difficult to gather or understand by means of individual expertise. But this quantitative information must not be allowed to morph from an instrument into the goal.”

Leiden Manifesto

http://www.leidenmanifesto.org/
Research in Art, Architecture and Design vs STEM Disciplines

- It is less collaborative,
- It often has non-textual forms of scholarship output,
- It is not necessarily linear, originality and creativity are valued the most,
- Its value may not diminish overtime as fast as in some STEM disciplines,
- It addresses both, the general public and the community of specialists,
- It focuses mostly on primary rather than secondary sources and therefore high citation counts may be less indicative of relevance.
- The number of citations for a work on an obscure subject can be much lower than for a work on a popular one.
Bibliometric methods

• **Journal Impact factor** is a widely used journal-level metric, defined as the average number of citations received per paper within a journal calculated over a limited length of time – usually two, three or five years from a date of publication. IF are not calculated for the arts & humanities CI. It is out of date and must be seen in the context of its field.

  Eugene Garfield: “Impact factor is a mixed blessing. ...in the wrong hands it might be abused”

• **H-Index** is an index that attempts to measure both the productivity and impact of the published work. It reflects both the number of publications and the number of citations per publication. It is automatically captured by WoS, Scopus, Publish or Perish, but cannot be compared across disciplines (also can’t be used to compare researchers at different stages of their careers).

• **SCImago journal rankings** is a free tool based on Google's page ranking algorithm, but many journals in other than Northern America and Western Europe are not indexed at all
Tools and Metrics

• Many known metrics are narrowly focused and do not capture the full range of research activities and multitude of outputs in art and design disciplines.
• Many works have merits that are not reflected by conventional bibliometric methods.
• Most tools are skewed toward science and technology
• Main sources of citations to books are often books, which are typically remain mostly “invisible” to existing tools.
• Many journals, conference proceedings and materials in other than English Language are underrepresented
• Citation patterns are different, it takes longer to be cited, if cited at all.
Journal Ranking
Citation patterns

• Citation rates vary in different fields of research:
  • Sciences produce 350,000 cited references weekly
  • Social sciences - 50,000
  • Humanities – 15,000
• The average ten-year old paper in molecular biology may collect 40 citations, while the average ten year old paper in computer science – four, and even less in arts and humanities.
• Even in non-STEM disciplines - 98% of arts and humanities paper remain uncited vs 74.7 percent in social science
Citation patterns in biology vs arts and humanities 1996-2014
Comparison of non-cited materials in selected journals in Architecture, Biomedical Science and Computing
Web of Science

This database currently includes:
Science Citation Index Expanded™ (SCI) (1900 to present) - 69%
Social Sciences Citation Index® (SSI) (1900 to present) – 21%
Arts & Humanities Citation Index® (A&HSI) (1975 to present)- 10%

- 8.2 million records across 160,000 conference proceedings cover SCI and SSI only
- Portion of materials on visual arts, design and architecture within A&HSI is smaller, than for humanities, performing arts, music, etc.
- It covers ISI journals only, many national and regional journals in arts and humanities are not covered
- Recently added Book Citation Index is still insufficient
- Many publications in languages other than English are not included
- May provide underestimation of an actual citation impact
Scopus

• Has a broader coverage of the scholarly literature than WoS. Provides data for many bibliometric indicators and related analytical tools. Allows for data visualization.

• Article Metrics module includes new metrics such as: Scholarly activities, Social Activities, Scholarly Commentaries, Mass Media

• Some studies report that journals covered by Scopus have a low citation impact and tend to be more nationally oriented

• The portion of materials on particularly art, architecture and design in Scopus Book Expansion project is small
Web of Science, Scopus, Google Scholar

- WoS and Scopus are the most authoritative.
- Overlap in their coverage exists: 58% between WoS and Scopus and 30% between GS and WoS+Scopus, although there are still some differences.
- GS produces more than twice as many citation as WoS and almost twice as Scopus.
- Google Scholar has wider variety of sources and stands out in its coverage of conference proceedings, dissertations and non-English language journals, especially in arts and humanities.
- Starting 2015 Google Scholar begins collaboration with WOS.
- GS has its own limitations: not all citation are of an equally good quality, does not perform as well for older publications, it is also susceptible to gaming, limited to Google users only, has problems with diactirics.
Google Scholar Citations
Microsoft Academic Search
Publish or Perish calculates the following citation metrics:

- Total number of papers
- Total number of citations
- Average number of citations per paper
- Average number of citations per author
- Average number of citations per author per year
- Average number of papers per author
- Average number of authors per paper
- Hirsch's h-index and related parameters, shown as h-index and Hirsch azy,yy, m=z.zz in the output. Also Zhang's e-index.
- Egghe's g-index, shown as g-index in the output
- The contemporary h-index, shown as bc-index and acyy,yy in the output
- Three variations of the individual h-index, shown as hi-index, hi,norm, and hi-index index in the output
- The average annual increase in the individual h-index, shown as hi,annual
- The age-weighted citation rate
- An analysis of the number of authors per paper.

Please note that these metrics are only as good as their input. We recommend that you consult the following topics for information about the limitations of the citation metrics and the underlying sources that Publish or Perish uses:

- Accuracy of the results
- Reflections on the h-index
- Reflections on Google Scholar
CumInCAD: Cumulative Index of Computer Aided Architectural Design

Access to CumInCAD is available on campus or via remote access. In addition, each user must create an individual log on to access the full-text readings. Select “New User” on the CumInCAD homepage.

Questions? Please contact Dr. Maya Gervits
ACM digital library to count downloads
Book Reviews

• Counts of reviews seems to be useful indicators of a publication reception

• Choice: Current Reviews of Academic Libraries and Book Reviews Plus can serve as a useful alternative sources for research evaluation.

• Google Books Provide more numerous citations from books in comparison to conventional citation databases. It does not provide any statistics but allow for manual search to identify citations in digitized books. However, it is not complete and consistent, although less likely to be spammed.

• Amazon Review should be used with caution
JSTOR, Academic Search Premier, Art Full Text & Avery Index for locating citations and reviews
The Metric tide: a report of the independent review of the role of metric in research assessment and management

• “...quantitative indicators such as citation-based data, cannot sufficiently provide nuanced or robust measures of quality when used in isolation...”.

• “quality needs to be seen as a multidimensional concept that cannot be captured by any one indicator...”

• “...one size is unlikely to fit all: a mature research system needs a variable geometry of expert judgement, quantitative and qualitative measures...”

• “...metrics have to be intertwined with the context of the discipline in questions...”

• “... certain disciplines, especially the Social Sciences and Humanities (SSH) create special challenges for bibliometric analyses. ... developing metrics for the ways in which impact is created in these disciplines is harder and the use of ad-hoc data that are contextualized by interpretation of their meaning may be more suitable...”
International perspective

- Australia - citations are used for most science, engineering and medical disciplines, for others only peer reviews;
- Canada - uses assessment models that incorporate both quantitative and qualitative indicators combined with expert judgement.
- Denmark - different weights are applied for different sorts of output;
- Italy - bibliometric analysis used in the natural science and engineering, for social science and humanities - only peer reviews;
- Netherlands - a research unit’s own strategy and target are guiding principals for the evaluation;
- New Zealand - evaluation is based on evidence portfolios and conducted by a peer-review panel with additional advice from invited experts;
Altmetric tools

• Scopus added a module which captures Social and Scholarly Activities, Scholarly Commentaries, and Mass Media
• Plum Analytics and Altmetrics.com include indicators such as amount of online attentions garnered in the following categories: usage, captures, citations, mentions and social media. However, their coverage of art, architecture and design is almost non-existing.
• Libcitations- counts of library holdings of a given publication
• Research Gate and Academia.edu – measure impact based on how much attention scholarly work has received from peers.
• Mendeley - helps to reveal the hidden impact by recording how many times an author’s work has been included in bibliography.
• Twitter, Facebook, ImpactStory, CiteULike, Reddit, Digg, Slideshare, figshare, ORCID, ets. can help to capture evidence of various types of impact.
• These and other new and emerging tools have their limitations, lack standardized methods and are not mediated by peer-review process, therefore before using them on a large scale we need to conduct more examination.
SIGGRAPH Conferences Acceptance Rate

(http://www.siggraph.org/publications/statistics)
ACSA conference acceptance rate
Other evidence

- statistical data that indicates the acceptance-rate of paper submissions,
- publishers’ prestige
- juried exhibitions and conferences,
- patents,
- curatorial engagements,
- competitions,
- auctions records,
- professional awards,
- media coverage,
- creative work,
- mentions in syllabi and other course materials,
- any contribution to the scholarly discourse regardless of its format can support a specific argument about the significance of an individual or body of work.
Possible Solutions

• Colleges and departments establish equivalencies between research, creative work, and other scholarly activities and decide what evidence needs to be presented for the evaluation of scholarship in their respective disciplines.

• Expert reviews can compare the work in question to the state of scholarship in the field to which it contributes.

• Librarians:
  – keep faculty and administration informed on metrics and tools, which allow to produce a more well-rounded profile of the scholarly output.
  – work on reports that contextualize available data
  – offer subject guides, workshops and consultations that help faculty to collect and manage their own scholarly work to demonstrate various impact.
It is time for a broad discussion

Courtesy of: http://gampang.co/blog/velferd