Article, author and journal metrics: what librarians need to know | November 12, 2015

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Introducing Scopus’ Article-Level Metrics

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Library Connect Webinar:
Article, author and journal metrics: what librarians need to know

12 November 2015
Contents

• Context for article-level metrics – what are altmetrics?
• 2014 in Article-Level Metrics
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  - Social Activity
  - Future plans
• Differences between disciplines
• Altmetric conferences
2014 in Article-Level Metrics (2.4M publications)

Taylor, Michael (2015): Engineers Don’t Blog and Other Stories (why Scopus uses subject area benchmarking).

http://dx.doi.org/10.6084/m9.figshare.1568135
How to find Article-Level Metrics on Scopus
Article-Level Metrics - Citation

Citations
82 Cited by documents

Citation Count
82
Cited by in Scopus

Field-Weighted Citation Impact
69.47

Citation Benchmarking
99th percentile
Compared to Medicine (all) articles of the same age and document type

Cited by
82 Citations
Date range: 2011 to 2015

Benchmarking
Measures of activity relative to specific research domains, based on cited by in Scopus
Compared to Medicine (all) articles of the same age and document type

All Citations
99th percentile
Article-Level Metrics – Scholarly Activity

Scholarly Activity

125 readers from 2 sources
Indirect measurement of activity by people using scholarly platforms such as Mendeley and CiteULike.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Readers/Saves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mendeley</td>
<td>111 Readers</td>
</tr>
<tr>
<td>CiteULike</td>
<td>14 Saves</td>
</tr>
</tbody>
</table>

Mendeley Reader demographics

View publication in Mendeley

By discipline

- 1% Biological Sciences

By academic status

- 1% Ph D Student

By country

- 1% United States

Map Legend:
1 Reader

Benchmarking

Measures of activity relative to specific research domains based on all sources of Scholarly Activity

Compared to Medicine (all) articles of same age and document type

<table>
<thead>
<tr>
<th>Category</th>
<th>Quantity</th>
<th>98th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Scholarly Activity</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Mendeley</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>CiteULike</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>
Article-Level Metrics – Scholarly Commentary

Scholarly Commentary
14 mentions
Reviews, articles, and blogs by experts and scholars, such as F1000 Prime, research blogs, and Wikipedia.

Blogs

The Human Epigenome Roadmap
_massgenomics_
20 April 2015

Aside from the occasional somatic mutation, the genome of every cell in an individual’s body is largely preserved. Yet different types of cells (and tissues, and organs) are incredibly diverse. The majority of that specialization is governed by

The epigenome mapped in more than 100 tissues and cell types
_EpiBeat_
18 March 2015

A consortium of researchers published a description of 111 epigenetic maps produced as part of the Roadmap Epigenomics Program. A useful tool for understanding epigenetic changes associated with several conditions, such as Alzheimer’s disease, cancer.

Human Epigenome Map Yields Insights into Development, Disease
_NIH Research Matters_
09 March 2015

Human Epigenome Map Yields Insights into Development, Disease
More than 100 reference human epigenomes from a broad range of cell and tissue types revealed epigenomic factors associated with age, sex, tissue type, and various diseases.

Landscape of chemical tags paves way for autism studies
_SFAR.org - Simons Foundation Autism Research Initiative_
02 March 2015

Julia YellowIn

It’s been 12 years since researchers sequenced the human genome, unearthing an estimated 20,000 genes. Now, in a feat tha

Mapa del epigenoma humano
_Noticias de la Ciencia y la Tecnología (Amazing® / NCYT®)_
23 February 2015

La secuenciación del genoma humano puso los cimientos para el estudio de la variación genética y su conexión con una amplia gama de enfermedades. Pero el genoma es solo parte de la historia, ya que los genes p

Map reveals ‘instruction book’ to our DNA
_Futurity.org_
20 February 2015

How can the body’s 200 different types of specialized cells develop from an identical genome? It’s possible because of the chemical markers that attach to DNA to activate or silence genes. These chemical markers, known as the epigenome, vary va
Mass Media

39 stories from 26 sources
Coverage of research output in the mass media

Researchers track the body’s biological activities to explain how genes make us who we are
*MedicalXpress*
12 March 2015

Keck Medicine of USC researchers in the lab of Peggy Farnham were key participants in the recent publication of a landmark collection of scientific papers related to mapping the DNA and histone modifications in human epigenomes and the ways that they coord

Cracking the codes of human disease
*COSMOS magazine*
02 March 2015

A massive international research project is deepening our understanding of illness.

Épigénomé : “l’ADN poubelle” finalement une mine d’or
*Sciences et Avenir*
24 February 2015

Des chercheurs viennent de publier la cartographie la plus complète de l’épigénomé humain qui détermine l’évolution des gènes d’un individu au cours de sa vie.

NIH-supported researchers map epigenome of more than 100 tissue and cell types
*Today Topics*
22 February 2015

Much like mapping the human genome laid the foundations for understanding the genetic basis of human health, new maps of the human epigenome may further unravel the complex links between DNA and disease. The epigenome is part of the machinery that helps di

NIH-supported researchers map epigenome of more than 100 tissue and cell types
*Medical News Today*
22 February 2015

Much like mapping the human genome laid the foundations for understanding the genetic basis of human health, new maps of the human epigenome may further unravel the complex links between DNA and...
Article-Level Metrics – Social Activity

Social activity
161 mentions from 4 sources
Mentions characterized by rapid, brief engagement on platforms used by the general population, such as Twitter, Facebook, and Google +.

Twitter – 132 tweets from 127 accounts

Facebook – 12 posts from 11 accounts

Twitter

132 Tweets

12 Posts

Google +

16 Posts

Reddit

1 Post

Twitter

Isela Valenzuela  @anaiselavl  |  24 August

NutriGenome  @NutriGenome  |  04 August

Facebook

Dorothy M Pinyati Nunez  |  04 March
http://www.nature.com/nature/journal/v518/n7539/full/nature14248.html nature.com

Blog Científico De Células Madre  |  28 February

Ming Tang  @tangming2005  |  22 July
Integrative analysis of 111 reference human epigenomes http://t.co/TMKHDYlt68

ohmiyajohn  @ohmiyajohn  |  13 June

Manolis Kellis.

View 10 more
Discipline differences: citation (l) vs scholarly activity (r)

- Chemistry (N = 128555)
- Chemical Engineering (N = 54126)
- Neuroscience (N = 69249)
- Biochemistry, Genetics and Molecular Biology (N = 21545)
- Immunology and Microbiology (N = 14035)
- Materials Science (N = 226507)
- Environmental Science (N = 72737)
- Physics and Astronomy (N = 779828)
- Energy (N = 60885)
- Pharmacology, Toxicology and Pharmaceutics (N = 48383)
- Agricultural and Biological Sciences (N = 21584)
- Earth and Planetary Sciences (N = 438717)
- Psychology (N = 779828)
- Medicine (N = 69249)
- General journals (eg, Nature, Science, PNAS) (N = 44086)
- Computer Science (N = 147434)
- Health Professions (N = 433717)
- Decision Sciences (N = 31675)
- Dentistry (N = 54126)
- Veterinary (N = 31675)
- Business, Management and Accounting (N = 21584)
- Economics, Econometrics and Finance (N = 189083)
- Mathematics (N = 104461)

2 or more (%)

- Neuroscience
- Psychology
- Biochemistry, Genetics and Molecular Biology
- Immunology and Microbiology
- Chemical Engineering
- Agricultural and Biological Sciences
- General journals (eg, Nature, Science, PNAS)
- Environmental Science
- Chemistry
- Dentistry
- Health Professions
- Economics, Econometrics and Finance
- Business, Management and Accounting
- Pharmacology, Toxicology and Pharmaceutics
- Medical Sciences
- Decision Sciences
- Veterinary
- Nursing
- Computer Science
- Social Sciences
- Earth and Planetary Sciences
- Energy
- Materials Science
- Physics and Astronomy
- Arts and Humanities
- Mathematics
- Engineering

2 or more (%)

0% 20% 40% 60% 80% 100%
Altmetric conferences

• Five years since the term “altmetrics” was coined

• 2:AM Amsterdam www.altmetricsconference.com

• http://www.altmetricsconference.com/schedule/ - All videoed and put on the schedule page. Particularly the Altmetrics in the Library session with Kristi Holmes https://www.youtube.com/channel/UCCzpkWNIT48Lu2y6Qb3iG7g

• Future events in the US and Europe?
Article-Level Metrics – The future

- Views and usage
- Research data metrics
- NISO standards
- Zotero
- Academic research, e.g., http://elsevier.kdu.insight-centre.org

Thank you!
Strategies for supporting metrics in academic libraries

Library Connect Webinar:
Article, author and journal metrics: what librarians need to know

NOVEMBER 12, 2015
RACHEL BORCHARDT
SCIENCE LIBRARIAN, AMERICAN UNIVERSITY
BORCHARD@AMERICAN.EDU
American University’s evolving strategies

- Goal: increasing awareness of tools, resources, context and issues surrounding metrics

- Target: primarily faculty, but also graduate students

- Methods: blend of online and in person information and support
But first, some context

- Personal experiences at American University, 2012 - present
- Liberal arts university, 12K FTE
- Known for applied social sciences (like School of International Service)
- Strong interest in “high impact research” on campus
- Largely skeptical of altmetrics – strong push for Impact Factor (for now)

- Full disclosure: my status as a published author on metrics likely helped open doors
  ◦ .. So your mileage may vary
Level 1: Online information support

http://tinyurl.com/AUmetrics
Level 2: General and targeted outreach

- Library workshops
- One-on-one assistance
- Flyers distributed at pre-tenure open interest meeting

1004: Bibliometrics and Impact Factor (Anderson B-14)
Rachel Borchardt (Library) & Robin Chin Roemer (Library)

Want to learn how to find, measure and track your own research output? This workshop will introduce the topic of bibliometrics, or the analysis of scholarly literature and impact. An overview of major bibliometric research tools will be provided (e.g. Web of Science, Scopus, and Google Scholar), along with a demonstration of some alternative tools for use by individuals. Time will be given for a hands-on exploration of these tools.

Need help finding your research metrics? Check out our faculty research guide, attend a workshop or email for an appointment:

Research guide: http://tinyurl.com/AUMetrics

Library research metrics workshops: April 23rd and 24th, 3:00 pm, Library 306 Classroom

Email: Rachel Borchardt, borchard@american.edu
Level 3: More targeting, rebranding, repackaging and more integration

- Targeted workshops
  - New faculty Research, Teaching and Learning workshops
  - Sponsored Research Resources workshops

- Increased focus on “Research Impact” vs. “metrics” or “bibliometrics”

602: Measuring Research Impact and Managing your Research Identity (MGC 203/205)

Rachel Borchardt (Library) & Stefan Kramer (Library)

Learn about the tools and metrics used to measure the impact of scholarly research, including Impact Factor, h-index, journal rankings, and more. New and emerging tools, along with more general information about metrics and considerations for different disciplines, will also be discussed. Additionally, participants will learn about the purpose and benefits of Open Researcher and Contributor Identifiers and how to get your own unique author identifier to help manage your scholarly profile. This workshop is especially useful for any faculty preparing a personal research file, particularly pre-tenure faculty. Faculty are encouraged to bring their own laptop.
Maximizing Research Impact

Resources for Measuring and Maximizing Research Impact

Rachel Borchardt, Science Librarian
borchard@american.edu
August 24, 2015
3 steps to success

Maximizing Research Impact

• Making strategic publication decisions

• Maximizing exposure of your research

• Utilizing tools to track scholarly impact and engagement
Strategic publication decisions: research prior to submission

- Impact Factor and beyond, including rankings
- Finding times cited
- Journal acceptance rates
- Usage and altmetrics availability
- Other considerations, including disciplinary differences and cultural considerations
Maximizing exposure of research

- Open Access / Institutional Repository
- Author profiles, including Google Scholar and ORCID
- Scholarly networks
- Effective abstract and keywords

Visibility and Citation Impact

Abstract
The number of publications is the first criteria for assessing a researcher output. However, the main measurement for author productivity is the number of citations, and citations are typically related to the paper’s visibility. In this paper, the relationship between article visibility and the number of citations is investigated. A case study of two researchers who are using publication marketing tools confirmed that the article visibility will greatly improve the citation impact. Some strategies to make the publications available to a larger audience have been presented at the end of this paper.

Keywords: H-index, research tools, increase citations, publication marketing, bibliometrics, improve citations, maximized research visibility, increase research impact
Tracking Impact and Engagement

- Scholarly network metrics
- Web of Science and other usage counts
- Altmetrics tools, including Impactstory and Altmetric
Level 4 and beyond: department and university levels

Target: improve tenure and promotion guidelines for departments

Method: only when invited, for now
Other integrated activities

- Scholarly Communication series
  ◦ Target audience: faculty and administrators
  ◦ To raise awareness of key issues
  ◦ Series of external expert speakers

- Tabling at annual faculty brunch
  ◦ Chance to discuss metrics with interested

- Faculty library newsletter email
  ◦ One issue a year focuses on research information

- Faculty research LibGuide
  ◦ Tabbed guide linking to research metrics, Open Access, copyright and more
Lessons Learned

- Develop key messages and information for target groups and events
  - Tenure and promotion
  - Grant applications and evaluations
- Word of mouth can be extremely effective
- Action-oriented delivery more effective than purely informational
Future directions

- Contacting NSF and NIH grant recipients
- Working with grants office to identify grant applicant metrics needs
- Integration with grad student activities
- Flyer with library support for research activities
- Reaching out to faculty on junior sabbatical (usually in 4th year of pre-tenure) with research assistance
- Menu of research-oriented workshop/presentation topics for deans and department heads
Thank you!

Rachel Borchardt
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METRICS SUPPORT AT THE DEPARTMENT LEVEL

Library Connect Webinar:
Article, author and journal metrics: what librarians need to know

Rebecca Reznik-Zellen, Lamar Soutter Library, University of Massachusetts Medical School
November 2015
Research analytic tools enable libraries to provide support for evaluation projects that exceeds the provision of Journal Impact Factors and h-Indices.
USE CASES

EXTERNAL BENCHMARKING
- Evaluating a department or research group against peer and model institutions

INTERNAL BENCHMARKING
- Evaluating a department or research group against internal markers

PROMOTION
- Showcasing research performance in grant applications and promotional and recruitment materials
EXTERNAL BENCHMARKING

Department of Emergency Medicine
I’m looking for a way to evaluate our research performance against other Emergency Medicine departments.
EMERGENCY MEDICINE BENCHMARKING PROJECT

METHOD

1. Random selection of peer institutions and subset of faculty from each institution
2. Creation of researcher and research group entities in SciVal for each peer institution and UMMS
3. Generation of institutional research group’s productivity and impact measures

CHALLENGES

1. Selecting the most useful metrics for the project
2. Accounting for clinical faculty with no publication record
3. Correctly identifying researchers from other institutions and ensuring an accurate publication records
PRODUCTIVITY
scholarly output
2003-2013
articles only
no subject filters

UMMS: 74 publications
Hahnemann: 64 publications
Barnes: 1,173 citations; 40 cited publications; 26.1 citations per publication

UMMS: 965 citations; 66 cited publications; 13.0 citations per publication

Hahnemann: 1,015 citations; 54 cited publications; 15.9 citations per publication

IMPACT citations, cited publications, and citations per publication 2003-2013 articles only including self-citation no subject filters
Prior to accessing this software, we were relegated to crude measures, and benchmarking against our own internal performance. Now, we have a much more robust and standardized capability that has provided much insight into how we fare against our peers. It is an absolutely essential capability for our department.

Edwin Boudreaux, PhD, Director Emergency Medicine Research
Departments of Emergency Medicine, Psychiatry, and Quantitative Health Sciences
University of Massachusetts Medical School
“What is the best way to quantify the impact of a department or division, in terms of their collective publication record?”

Neal Silverman, PhD, Professor of Medicine, Director of Research Infectious Diseases and immunology, Department of Medicine University of Massachusetts Medical School
PROMOTION

Mindfulness Research Collaborative
“How can we present collaboration within our research group?”

Jean King, PhD, Associate Provost for Biomedical Science Research, Professor of Psychiatry, Radiology & Neurology, Director, Center for Comparative Neuroimaging
University of Massachusetts Medical School
What is the service we are providing?
Libraries should establish their role not simply as providers of access to research outputs, but as curators of that portion which is provided by their own institution, and as sources of bibliometric information and interpretation for their institutions.
LIBRARY ROLES

- Understand features of and use cases for research analytic tools
- Explain and help select meaningful metrics
- Develop methods and train staff
- Generate reports of benchmarking data
- Extend bibliographic data to other tools
MOVING FORWARD

- Integrate research analytics into core Scholarly Communication services
- Develop programmatic collaborations across campus
THANKS!

Any questions?

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Questions and Thank You!

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