Impact in scholarly communications

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Impact

Scholarly communication cycle involves "**evaluating** research and other scholarly writings for **quality**" (ARL, 2013)

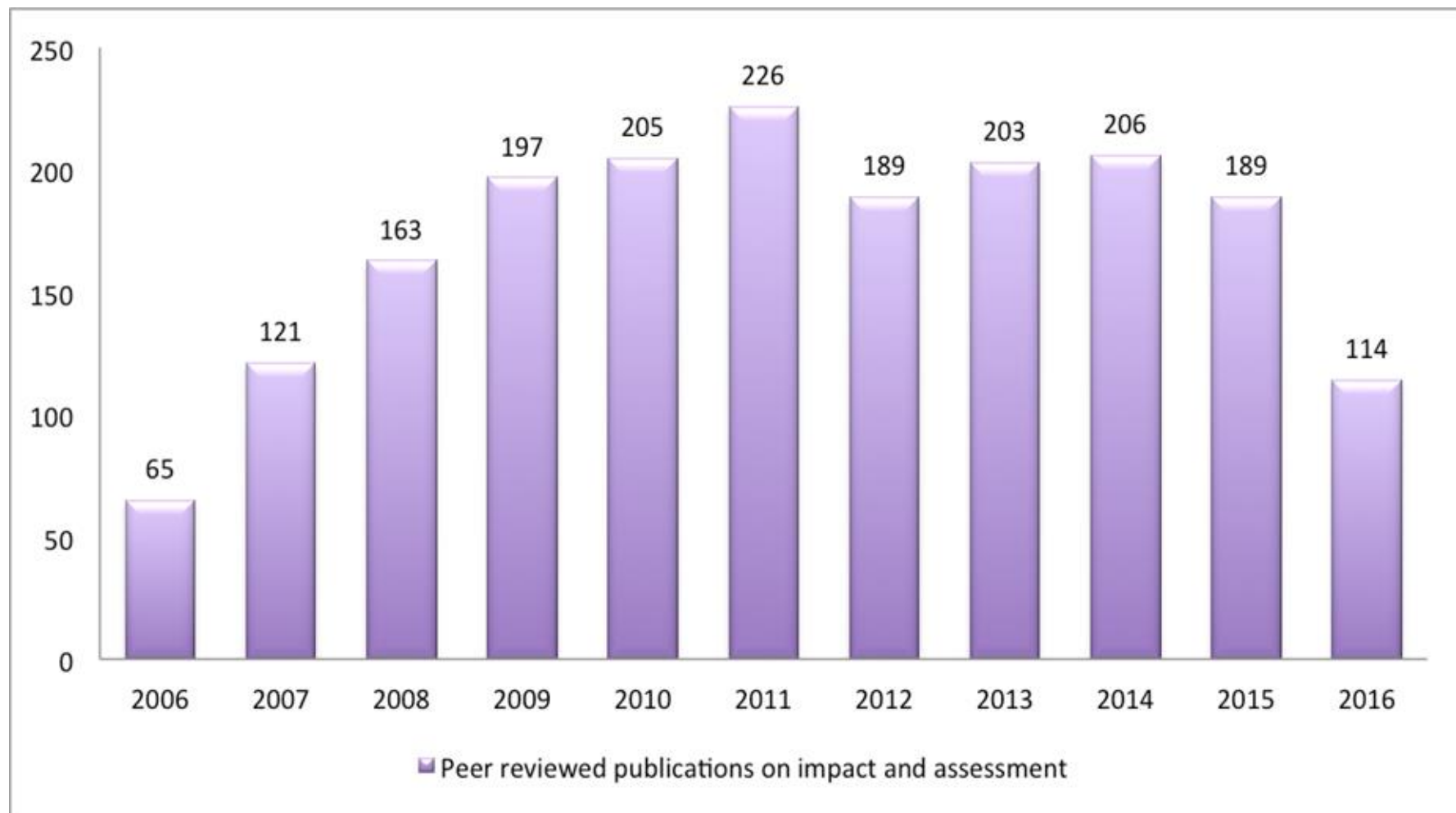# Measuring impact has *real* impact on scholar's careers and livelihoods

Studying impact in scholarly communications

Multiple data streams offer a robust picture

Impact

usage	peer-review	citations	alt-metrics
downloads views	expert opinion		storage links bookmarks conversations

Impact is a hot topic

LITA search: SU:impact OR SU:assessment AND libraries

Peer reviewed publications on impact and assessment

# Research impact of paywalled versus open access papers

Field	Paper (n)	Reference (n)	not OA (arc)	OA (arc)	gold (arc)	green (arc)
TOTAL	3,350,910	34,865,430	0.81	1.23	1.06	1.28
Agriculture, Fisheries & Forestry	138,025	804,386	0.85	1.18	0.73	1.35
Biology	151,424	1,882,514	0.74	1.17	1.33	1.18
Biomedical Research	291,325	5,581,332	0.80	1.14	1.16	1.09
Built Environment & Design	16,648	84,825	0.83	1.28	0.79	1.35
Chemistry	317,930	2,432,155	0.90	1.24	0.65	1.34
Clinical Medicine	823,924	9,323,440	0.81	1.28	1.25	1.28
Communication & Textual Studies	28,178	37,152	0.78	1.93	0.81	2.16
Earth & Environmental Sciences	117,429	1,332,707	0.82	1.16	0.82	1.20
Economics & Business	66,037	607,155	0.65	1.25	0.67	1.27
Enabling & Strategic Technologies	250,651	2,404,079	0.89	1.18	0.79	1.30
Engineering	193,856	1,029,715	0.85	1.25	0.86	1.36
General Arts, Humanities & Social Sciences	3,932	11,757	0.65	1.69	0.99	1.65
General Science & Technology	31,793	1,906,904	0.93	1.10	0.84	1.20
Historical Studies	25,468	50,016	0.80	1.58	0.68	1.91
Information & Communication Technologies	97,786	582,010	0.72	1.23	0.98	1.27
Mathematics & Statistics	107,426	558,567	0.78	1.14	1.12	1.22
Philosophy & Theology	17,117	28,107	0.70	1.74	0.76	1.98
Physics & Astronomy	424,091	3,954,894	0.75	1.27	0.92	1.34
Psychology & Cognitive Sciences	70,022	1,026,674	0.69	1.23	1.15	1.19
Public Health & Health Services	85,703	804,085	0.83	1.17	1.00	1.23
Social Sciences	86,513	421,516	0.69	1.49	0.89	1.63
Visual & Performing Arts	5,632	1,440	0.83	2.19	1.17	2.69

Individual author comparison download rate OA and paywall

Comparison of my peer-reviewed journal publications in 2013 & 2014
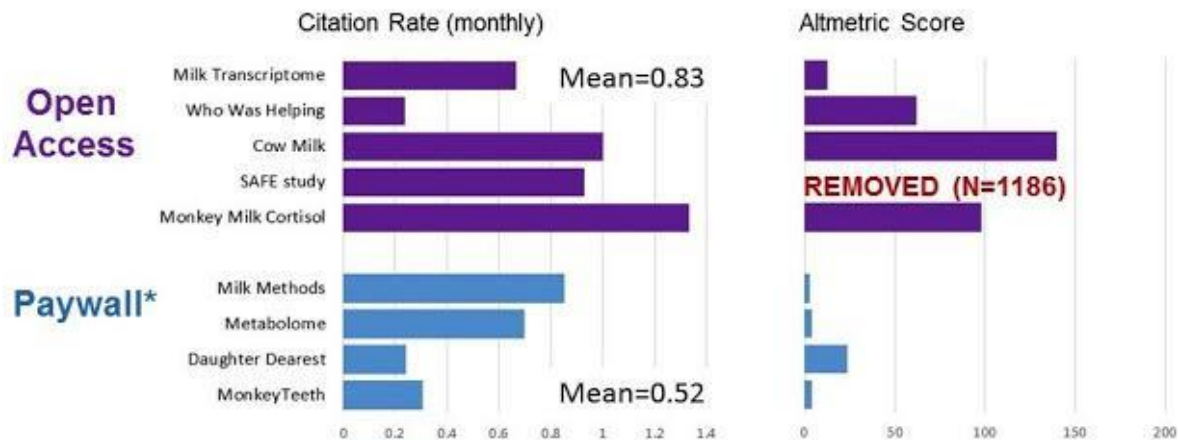
What questions can impact address?

Author impact

How is this author's work received?

Journal impact

How does this journal rank among others it its field?

Article Level Metrics

How do people engage with an individual article immediately, and over time?

Institutional research outputs

What is the value of research at-large and of individuals at this institution?

Author impact

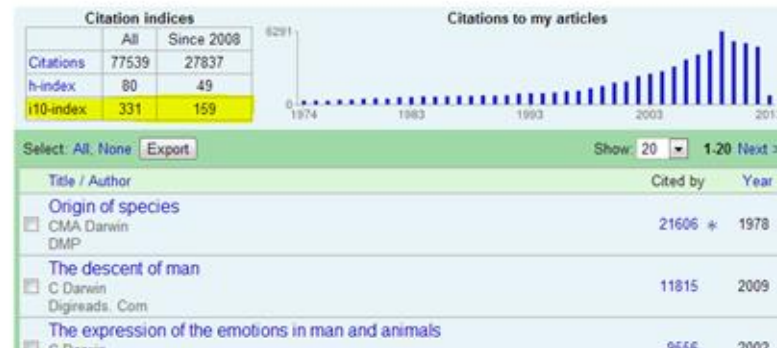|	
H-index	Measures the impact of a particular scientist
G-index	Measures the impact of a particular scientist, but adds more weight to highly cited articles
I10-index	The number of publications with at least 10 citations

Charles Robert Darwin

naturalist (1809-1882)
life sciences - evolution - biogeography - speciation - natural selection
Verified email at unr.edu.ar
Homepage

Citation indices

	All	Since 2008
Citations	77539	27837
h-index	80	49
i10-index	331	159

Citations to my articles

Select: All, None Export   Show: 20   1-20 Next >

Title / Author	Cited by	Year
Origin of species CMA Darwin DMP	21606	1978
The descent of man C Darwin Digireads. Com	11815	2009
The expression of the emotions in man and animals C Darwin	9556	2002

Journal impact measures

Impact Factor (IF)	Measures the frequency with which the average article in a journal has been cited in a particular year. It ranks a journal by calculating the times it's articles are cited. The higher the rank, the more impactful the journal.
Journal Citation Reports (JCR, Web of Science)	Ranks journals in science, technology, and social sciences—best as a comparison tool between journals. Measures include citation and article counts, impact factor, immediacy index, cited half-life, citing half-life, source data listing, citing journal listing, cited journal listing, subject categories, and publisher information. (Whew!)
Eigenfactor	Rates the "total" importance of a journal over time.
SCImago & Country Reports (Scopus)	Ranks journals, disciplines, and output of materials by country.
Google scholar metrics	A list of the top 100-journals ranked according to five-year h-factors (index and mean), and shows highest cited articles (h5) in each publication

Article level metrics (ALMs)

Article-Level Metrics (ALMs) are a relatively new approach to quantifying the reach and impact of published research

They are a toolkit of heterogeneous data points that can be mixed and matched as circumstances warrant

ALMs pull from two distinct data streams: scholarly visibility and social visibility

Altmetrics and ALMS are not interchangeable

What's a method?

What's a product?

altmetrics	Uses the social web (Twitter, Facebook, Mendeley) for analyzing impact
ImpactStory	An open source tool. Enter a DOI to generate an "impact report" on the article
Altmetric	Subscription services that altmetrics tools such as Explorer
Snowmall Metrics	Metrics aiming to be global standards that enable institutional benchmarking, and to cover the entire spectrum of research activities
CitedIn	Produces an impact report for PubMed articles. Requires installing API
Plum Analytics	Product offering comprehensive analytics of research outputs
Publisher ALMs	BioMed Central, Public Library of Science (PLOS), Frontiers, Nature Publishing Group and Elsevier, and others offer ALMs

Products offering article level metrics (and more)
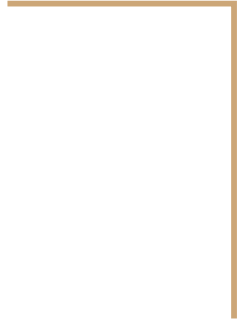
Discussion

What products does your institution subscribe to? (If you don't know, who you would contact to find out?)

Who pays for the products?

Scholar visibility

Establishing & managing a personal brand
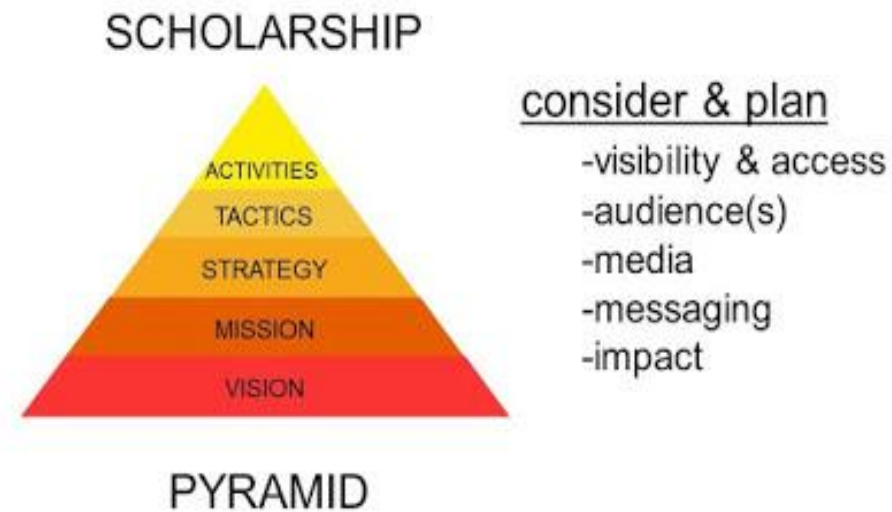
Personal websites/blogs

Social Media: Twitter,
Facebook, Instagram

Research communities:
researchgate,
academia.edu, mendeley

Identity disambiguation:
ORCID and Researcher ID

Google Scholar profile

Scalar, Storify

SCHOLARSHIP

consider & plan
-visibility & access
-audience(s)
-media
-messaging
-impact

ACTIVITIES
TACTICS
STRATEGY
MISSION
VISION

PYRAMID

Group work

1. Brainstorm a comprehensive bibliometrics service for faculty and graduate students. Consider such things as:

- What expertise will you need to offer these services?

- What is the level of service you will offer?

- What resources will you need to acquire?

- Who are your on campus partners?

Putting it all together: tracking impact at the researcher level
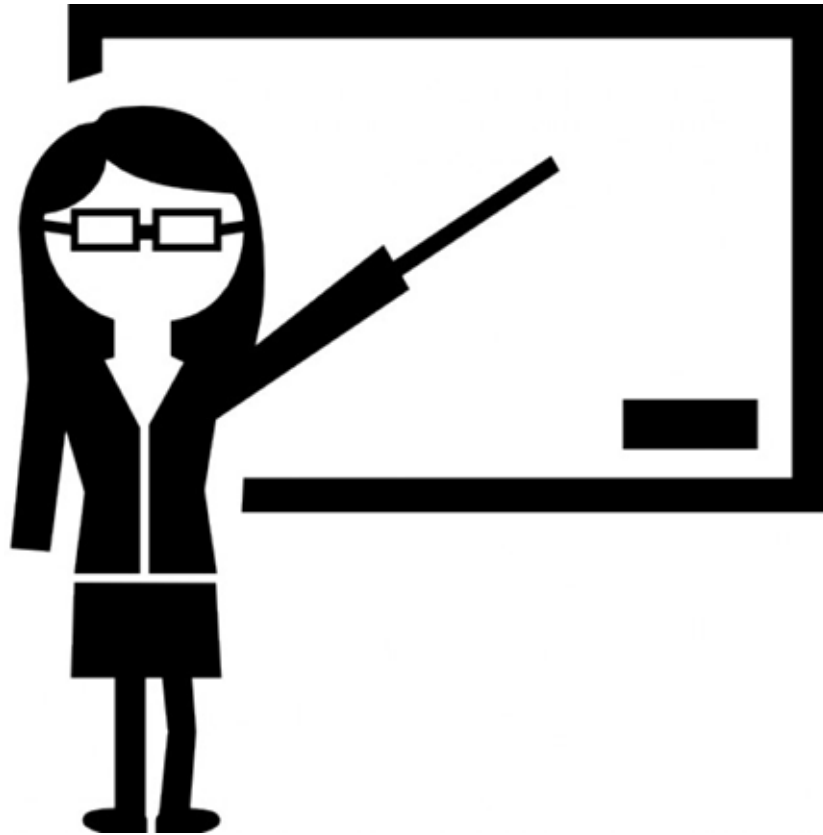
Publication influence
Journal impact factor factor
Author impact factor
Article level metrics

Scholar visibility
Personal website with CV (may be institutional)
ORCID ID
Research Gate/ Academia.edu account

Social visibility
Twitter account
Facebook profile
Article level metrics (times tweeted, posted/comment on Facebook, appears on blogs, etc.)

Potential Library Services

- Training on citation tracking systems/tools

- Education for article level metrics

- Education on research dissemination platforms

- Be involved research offices or grants

Institutional productivity

Institution systems to measure productivity

VIVO: Open source semantic web platform designed to aggregate research outputs at the institutional level. Used by more than 20 institutions worldwide, including Cornell University, where it was developed.

Symplectic elements: Collect, understand and showcase the outputs of academic research. Integrates with OA repositories, and more. Advertises itself as a single point of truth.

Pure: Research outputs, research datasets, grants, organizational structures, and courses taught.

Group discussion

- Working in teams, craft an argument for OR against your Library's involvement in institutional productivity systems.

Impact: Whose job is it?
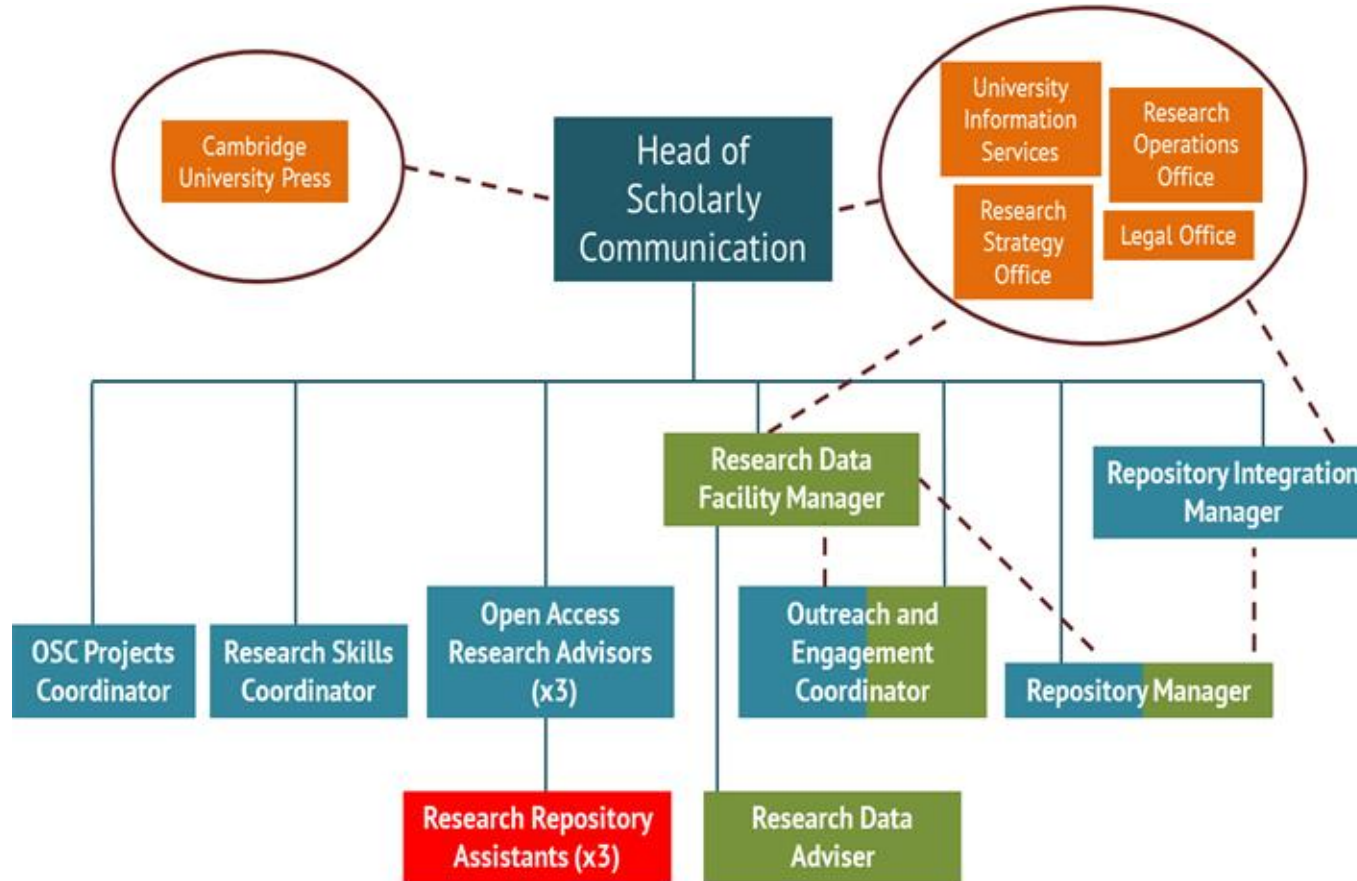
Current OSC team structure early 2016

PRE_TeamStructure_V20_20160812

Library staff – paid by Library
TES – paid by RCUK money Transition/Block grant
Research Data Facility – paid by Business Case

Pros and Cons of Impact

Pros:

Shortcut to determine a sense of scholarly activity and reception, exploring different audiences

Use numbers to tell a story of the reach of your work

"A citation is listed in the Nth percentile of Biology research published in 2015 on Impactstory."
"Paper covered by more than 100 media outlets worldwide, including The Wall Street Journal and The New York Times."

Cons:

No one likes to be reduced to a "number" (even when it is a very good number)

Newer and open access journals are typically ranked lower than established, traditional journals.

Many impact measurements disadvantage younger/newer scholars.

Not all impact metrics are created equal!

All impact metrics can be "gamed"

Questions?

Thank you!