



UNIVERSITY OF COPENHAGEN



Altmetrics for the Social Sciences and Humanities

Alesia Zuccala

Department of Information Studies

COST Action CA15137 Training School 2019

“Evaluation procedures and
their impact on SSH careers”

January 8, 2019



Guest Editor: ASLIB Scholarly Books and their Evaluation Context in the Social Sciences and Humanities

<https://www.emeraldinsight.com/toc/ajim/70/6>

Alesia Ann Zuccala

Department of Information Studies (INF)
Søndre Campus, bygn. 4, Njalsgade 76, 2300
København S, Building: 4A-2-67

a.zuccala@hum.ku.dk

Mobile: +45 35 32 14 20

ORCID: [0000-0003-3045-0857](https://orcid.org/0000-0003-3045-0857)



[Presentation](#) [CV](#) [Research outputs](#) [Activities](#) [Most downloaded](#)

ENRESSH TransWG Meeting (Nov. 5-6, 2018): "Scholarly Books and their Evaluation Context in the Social Sciences and Humanities"

Personal Webpage: http://individual.utoronto.ca/azuccala_web/index/

Most downloads

Can we rank scholarly book publishers? A bibliometric experiment with the field of history.

1732
downloads

Contribution to Journal › Journal article › Research › peer-review



Book reviews in humanities research evaluations

1564
downloads

Contribution to Journal › Journal article › Research › peer-review



Inciting the Metric Oriented Humanist: Teaching Bibliometrics in a Faculty of Humanities

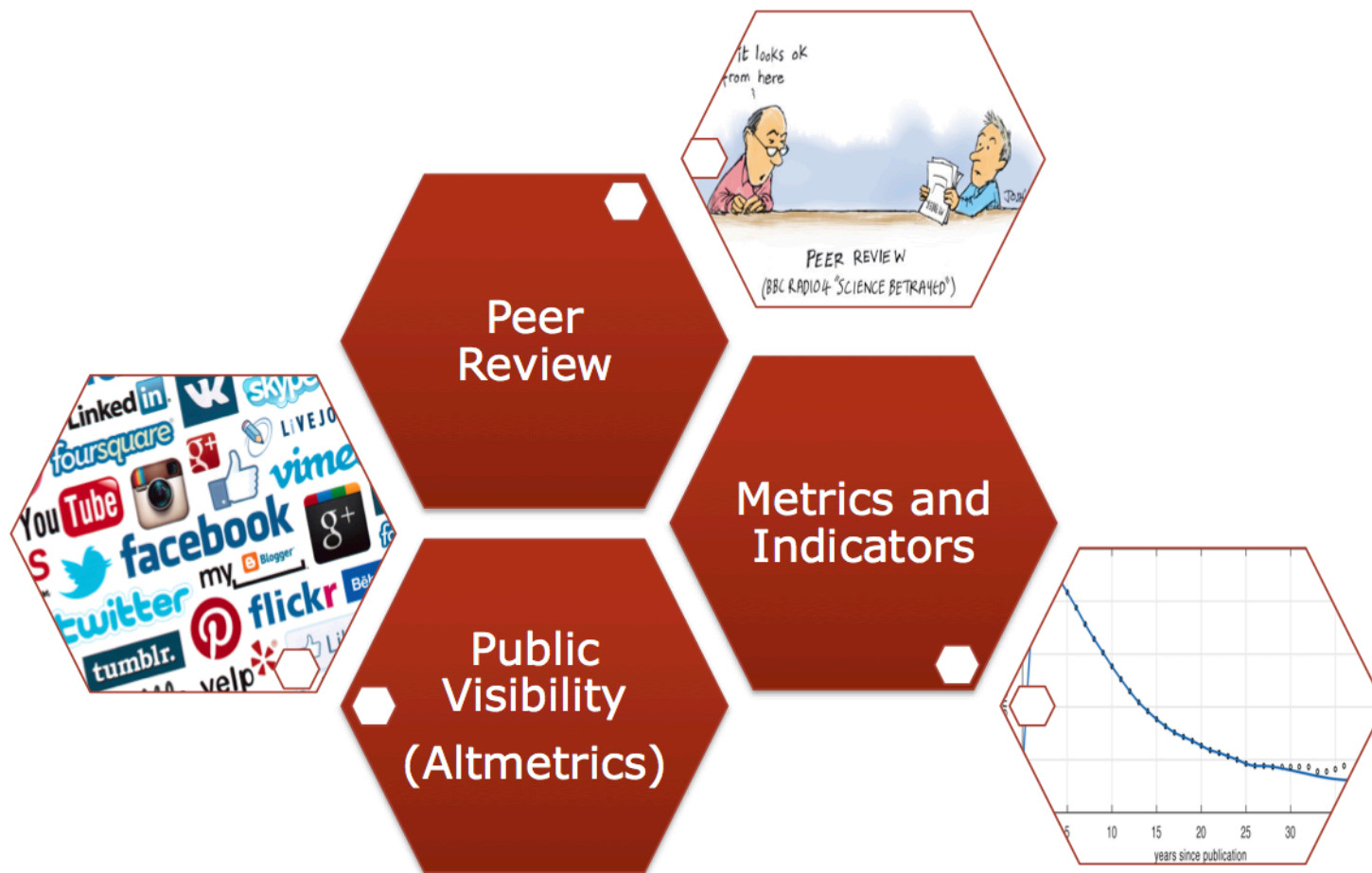
1212
downloads

Contribution to Journal › Journal article › Research › peer-review



[See more](#)

Issues Related to Research Evaluation:



Overview

1. Alternative metrics versus Bibliometrics
2. What do we know about the Social Web?
3. Do Altmetrics relate to citation impact?
4. Are Altmetrics useful for the Social Sciences and Humanities?
5. Library holding counts (Libcitations)
6. Libcitations, WorldCat, cultural impact and fame.
7. Altmetrics and understanding broader impact...



Alternative metrics versus Bibliometrics



Bibliometrics

Publications ('Productivity')

- Commercial Databases; Thomson Reuters Web of Science; Elsevier's Scopus
- Google Scholar
- ResearchGate
- National Repositories (e.g., PURE; CRISTIN)

Altmetrics

Bibliometrics

Publications ('Productivity')

- Commercial Databases; Thomson Reuters Web of Science; Elsevier's Scopus
- Google Scholar
- ResearchGate
- National Repositories (e.g., PURE; CRISTIN)

Citations ('Impact')

- Commercial Databases; Thomson Reuters Web of Science; Elsevier's Scopus
- Google Scholar
- ResearchGate

Altmetrics

Usually subjected to "normalization"

- Each field co-authors at a different rate
- Each field cites at a different rate

Citation Theory

New bibliometric indicators “cannot be thought of as given from ‘above’, or detached from the theoretical framework”

They “should preferably be developed in response to and as aids in the solution of interesting questions and problems” (Holton, 1978, p. 55).

Holton, G. (1978). Can science be measured? In Y. Elkana, J. Lederberg, R.K. Merton, A. Thackray, & H. Zuckerman (Eds.), *Toward a metric of science: The advent of science indicators* (pp. 39–68). New York: John Wiley & Sons.



Citation Theory

1965: “Citations bestow a certain intellectual and scientific respectability on citing papers” (Kaplan, 1965).

1960s-Present: a long history of study

- Citations as objects or concept symbols?
- Is it a normative response to give recognition to peers or is it purely rhetorical? (i.e., to convince; persuade?)
- What are the underlying motivations?



Citation Theory

1990-Present: Extensive reviews related to citation theory (Bornmann & Daniel, 2008; Cronin, 1998; Moed, 2005; Wouters, 1999)

- One citation theory has never really superseded another as being primary or all-encompassing because each has its proper place
- Moed (2005) – “extreme positions are not useful”; it is difficult to prove that there are no links between a collection of cited references (i.e., the constructivist view) or to assert that citation is the only valid measure of quality



Bibliometrics

Publications ('Productivity')

- Commercial Databases; Thomson Reuters Web of Science; Elsevier's Scopus
- Google Scholar
- ResearchGate
- National Repositories (e.g., PURE; CRISTIN)

Citations ('Impact')

- Commercial Databases; Thomson Reuters Web of Science; Elsevier's Scopus
- Google Scholar
- ResearchGate

Altmetrics

'Other' Academic

- Academic Web Pages (Webometrics); Mendeley, WorldCat library holdings; Amazon book reviews; F1000

Bibliometrics

Publications ('Productivity')

- Commercial Databases; Thomson Reuters Web of Science; Elsevier's Scopus
- Google Scholar
- ResearchGate
- National Repositories (e.g., PURE; CRISTIN)

Citations ('Impact')

- Commercial Databases; Thomson Reuters Web of Science; Elsevier's Scopus
- Google Scholar
- ResearchGate

Altmetrics

'Other' Academic

- Academic Web Pages (Webometrics); Mendeley, WorldCat library holdings; Amazon book reviews; F1000

The Social Web

- Twitter; Facebook; Blogs; Redditt; Goodreads

Bibliometrics

Altmetrics

Publications ('Productivity')

- Commercial Databases: Thomson Reuters Web of Science; Elsevier's Scopus
- Google Scholar
- ResearchGate
- National Science Foundation (NSF) PUF (Publications of the United States)
- CRISTIN

Public
Visibility?

Cultural
Relevance?

Social
Impact?

'Other' Academic

- Academic Web Pages (Webometrics); Mendeley, WorldCat library holdings; Amazon book reviews; F1000

The Social Web

- Twitter; Facebook; Blogs; Redditt; Goodreads

Altmetrics Manifesto



Jason Priem
(PhD student)
University of North
Carolina at Chapel Hill

Altmetrics refers to 'alternative' metrics and it is based on using the Social Web for gathering data on the impact of scholarship.

- volume of academic literature is exploding, and nobody can filter *everything*
- *citation impacts* are narrow, and do not reflect impact outside the academy
- impact factors like the '*Journal Impact Factor*' can be manipulated, and/or incorrectly used

<http://altmetrics.org/manifesto/>



What do we know about the Social Web?



The Social Web

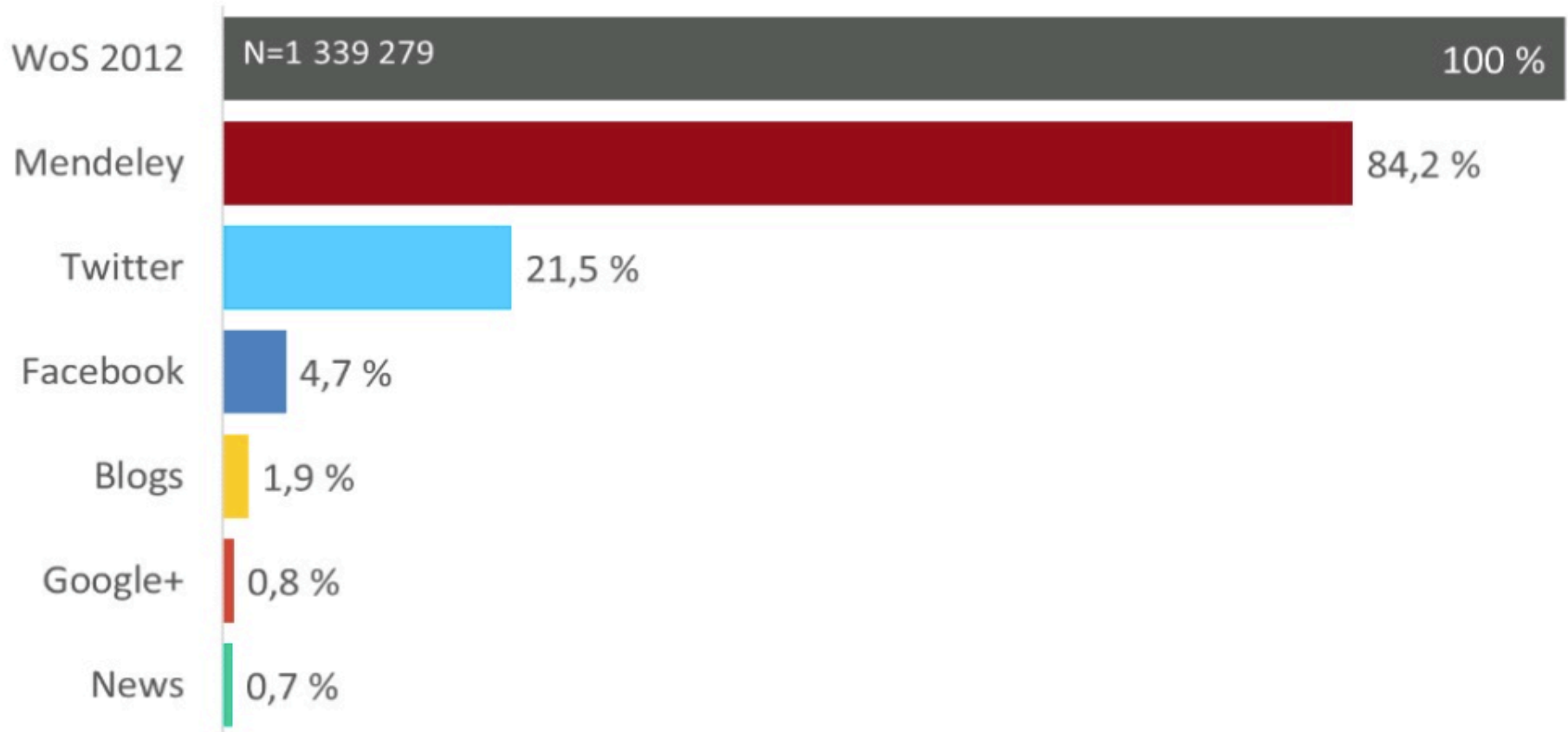
Scholarly impacts can be measured by using public Application Programming Interfaces (APIs) to gather data within days or weeks from:

- Twitter
- Mendeley (reference manager)
- Blogs
- Bookmarks (Web)
- Facebook
- Amazon Reader Reviews
- Goodreads



The Social Web

Coverage per platform

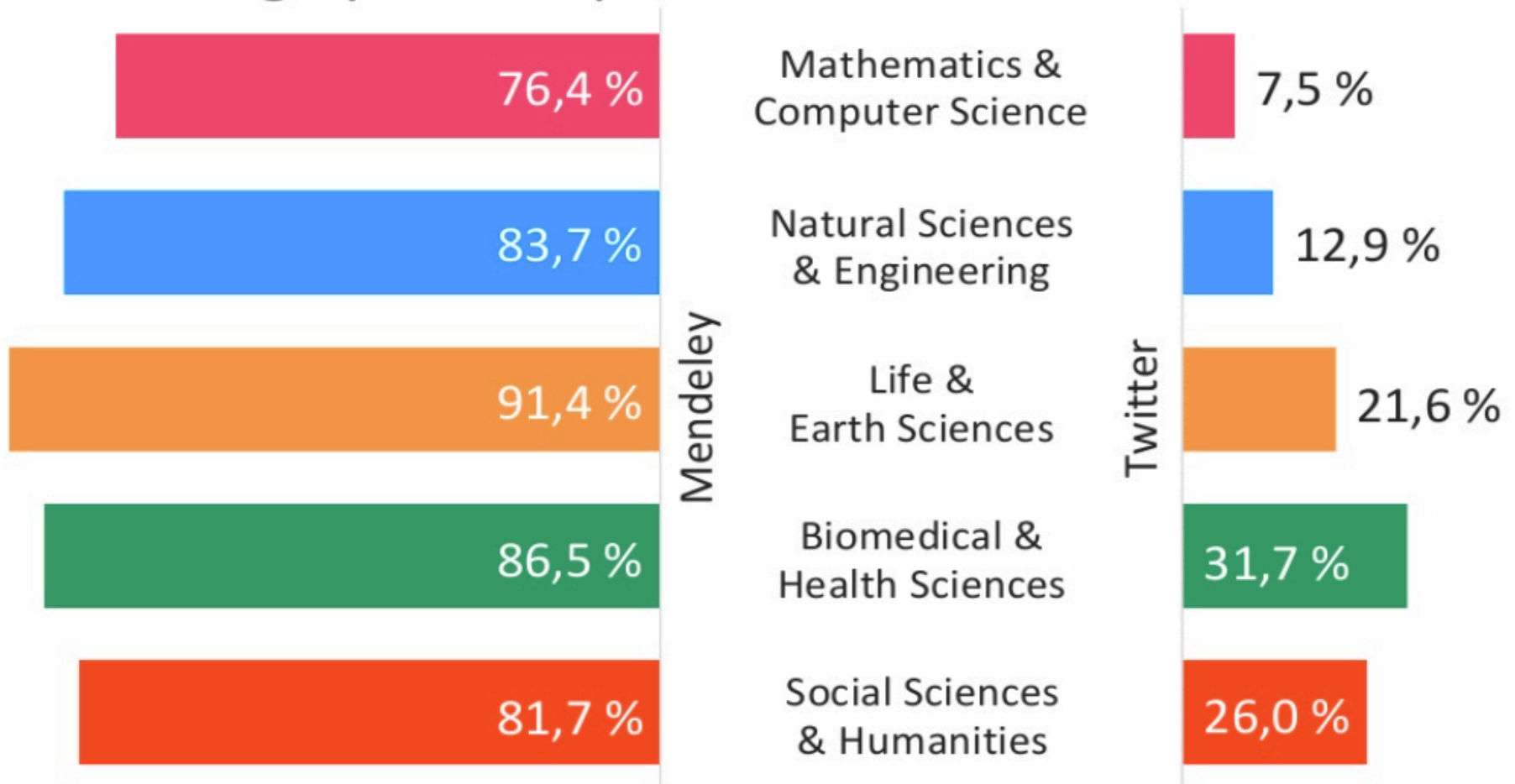


Haustein, S., Costas, R., & Larivière, V. (2015). Characterizing social media metrics of scholarly papers: The effect of document properties and collaboration patterns. *PLoS ONE*, 10(5), e0127830. doi: 10.1371/journal.pone.0120495

Zahedi, Z., & Haustein, S. (in preparation). Which document features attract users in Mendeley? An analysis of bibliographic characteristics of Web of Science publications and Mendeley readership counts.

The Social Web

Coverage per discipline



Haustein, S., Costas, R., & Larivière, V. (2015). Characterizing social media metrics of scholarly papers: The effect of document properties and collaboration patterns. *PLoS ONE*, *10*(5), e0127830. doi: 10.1371/journal.pone.0120495

Zahedi, Z., & Haustein, S. (in preparation). Which document features attract users in Mendeley? An analysis of bibliographic characteristics of Web of Science publications and Mendeley readership counts.

Why do scientists use Social Media?

- Many are using social media so as to 'amplify' their scientific impact; speed up connections between other scientists
- One in 40 scientists is active on Twitter!
- 25,000 blog entries have been indexed on the Research Blogging platform
- 2 Million scientists are using Mendeley - a reference sharing tool.



Audiences and User Groups

Identifying Twitter users

- Altmetric.com classification



- Among a random sample of 2,000 accounts tweeting papers, 34% of individuals identified as having PhD
(Tsou, Bowman, Ghazinejad, & Sugimoto, 2010)

Disciplinary Uses of Twitter

What are the scientific disciplines that have a higher propensity to present some **social media activity** vs. **citation impact**?

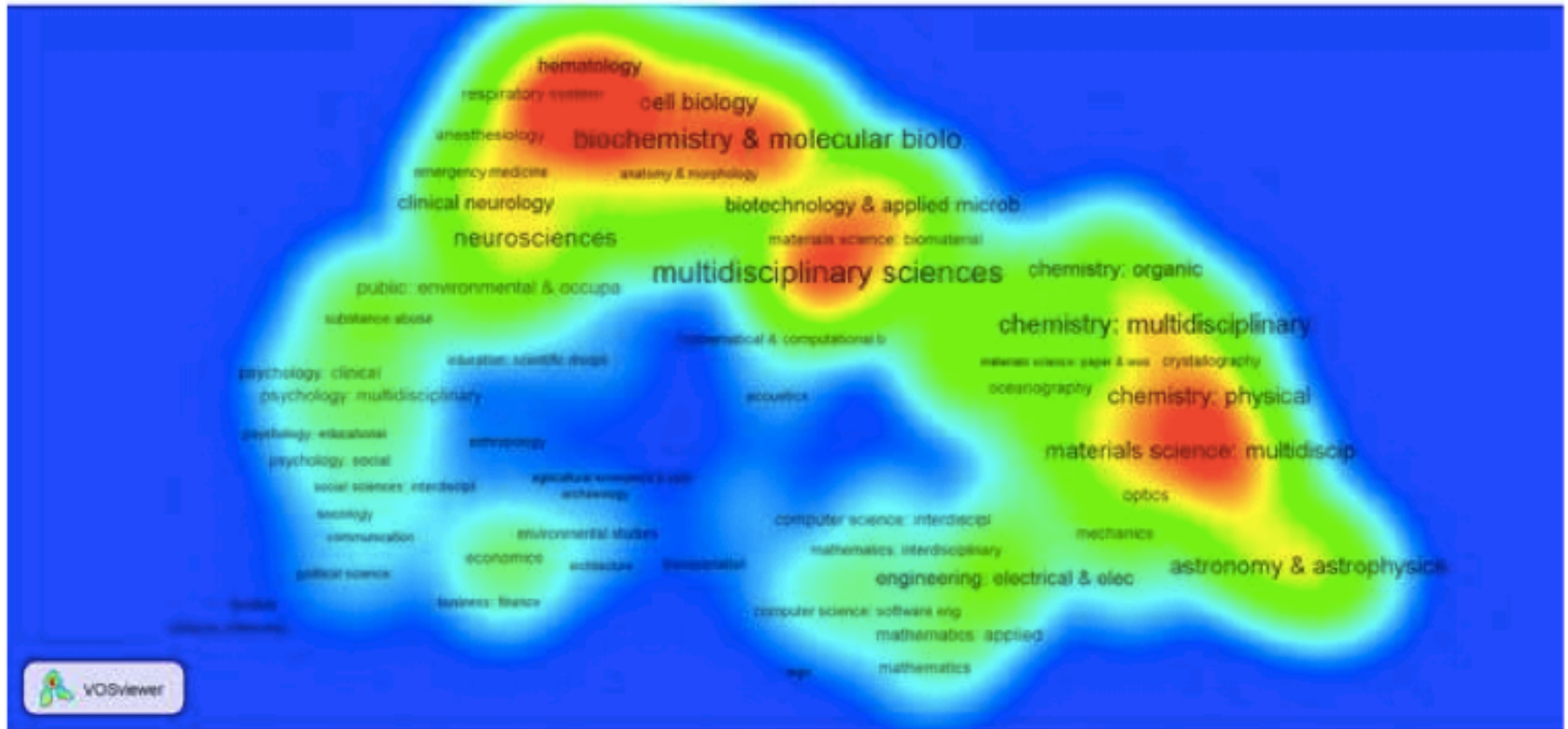
Costas et al., (2015) study:

500,216 Web of Science (WoS) publications (articles and reviews) from July until December 2011 with a Digital Object Identifier (DOI). The DOI is used as the linking element across the different data sources.



Disciplinary Rates of Citation

(b)

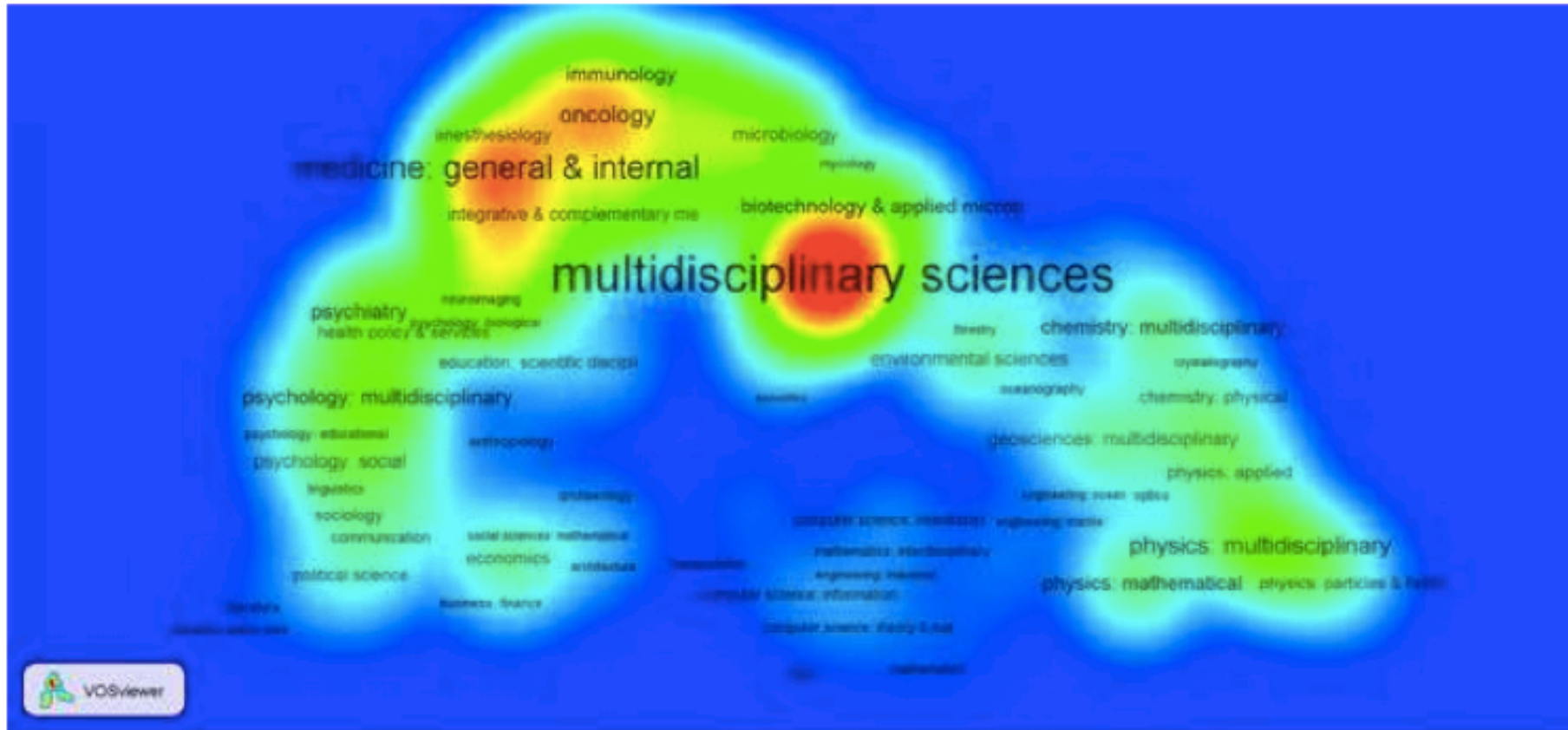


What are the scientific disciplines that have a higher propensity to present some social media activity vs. citation impact?



Disciplinary Uses of Twitter

(d)



Costas, R. Zahedi, Z., & Wouters, P. (2015). The thematic orientation of publications mentioned on social media *Aslib Journal of Information Management*, 67(3), 260-288



Audiences and User Groups

Identifying Twitter users

- Altmetric.com classification



- Among a random sample of 2,000 accounts tweeting papers, 34% of individuals identified as having PhD
(Tsou, Bowman, Ghazinejad, & Sugimoto, 2010)

Do Altmetrics relate to citation impact?



Do Altmetrics Work?

Altmetrics were suggested earlier as a possible approach to measuring impact because citations take time to build up..

BUT

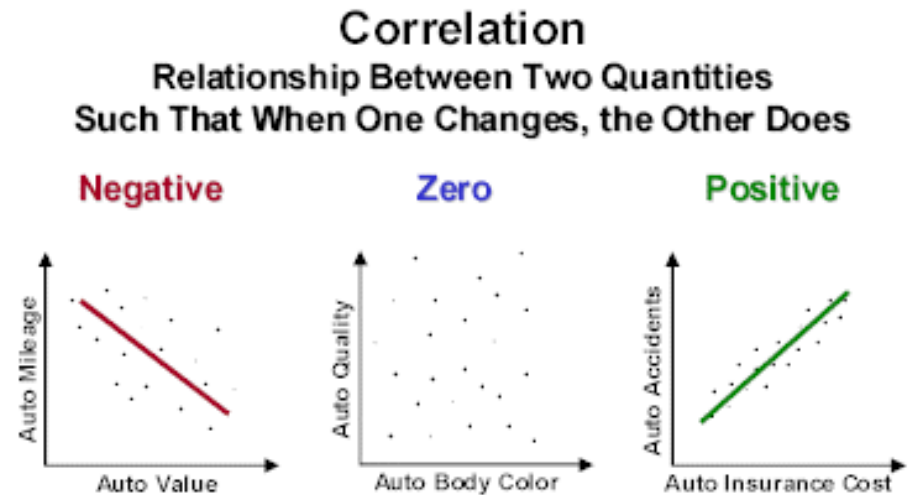
How can we develop a systematic approach to study that this is the case?



Citations and Altmetric Data

Do social media mentions correlate with subsequent citation rates for a given article?

If a correlation is found, then this might indicate that altmetrics and citations to a certain extent measure the same phenomenon



Citations and Altmetric Data

Two problems with using correlation:

- 1) Altmetric (Social Media) mentions rapidly occur so an article or book receives more altmetric counts if it is a newer publication rather than an older one (e.g., Tweeted most on pub day!)
- 2) The opposite is true for citations – which means that an article receives more citations if it is slightly older, rather than if it is newer



The Sign Test

Thelwall et al. (2013) use what is called a 'sign test':

Do higher altmetric values correlate with higher citation counts?

- Use ONLY articles of approximately the same age and that are similarly exposed to the same citation delay and Social Web uptake biases



How the sign test works:



2

3

6



B (3 Tweets)
is compared to the average of A &
C Tweets $[(2+6)/2 = 4]$

Prediction is that B will have less
citations

4

6

12

Cites

B (6 citations)
is compared to the average of A &
C citations $[(4+12)/2 = 8]$

Prediction is a success because 6
is less than 8

Citations and Altmetric Data

"The implication of success in the sign test (for Tweets) is that

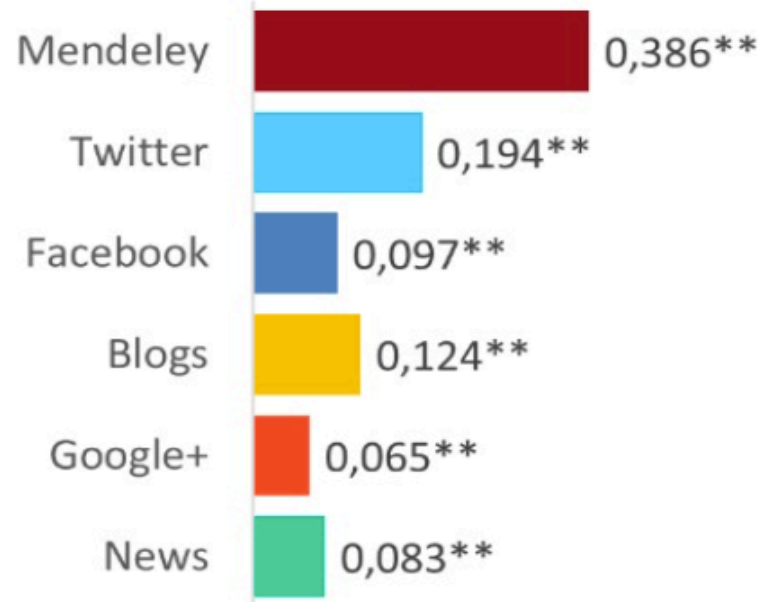
- an article with more tweets is likely to be more cited than articles with less tweets published at the same time.
- So you could use it in practice by assuming that, in general, more tweeted articles will eventually become more cited"



Citations and Altmetric Data

Spearman correlations with citations

Perfect negative correlation



Perfect positive correlation

Haustein, S., Larivière, V., Thelwall, M., Amyot, D., & Peters, I. (2014). Tweets vs. Mendeley readers: How do these two social media metrics differ. *Information Technology*, 56(5), 207–215. doi: 10.1515/itit-2014-1048

Haustein, S., Costas, R., & Larivière, V. (2015). Characterizing social media metrics of scholarly papers: The effect of document properties and collaboration patterns. *PLoS ONE*, 10(5), e0127830. doi: 10.1371/journal.pone.0120495

Are Altmetrics useful for the Social Sciences and Humanities?



Few Indictors relevant for the SSH

Periodic Table of Scientometric Indicators

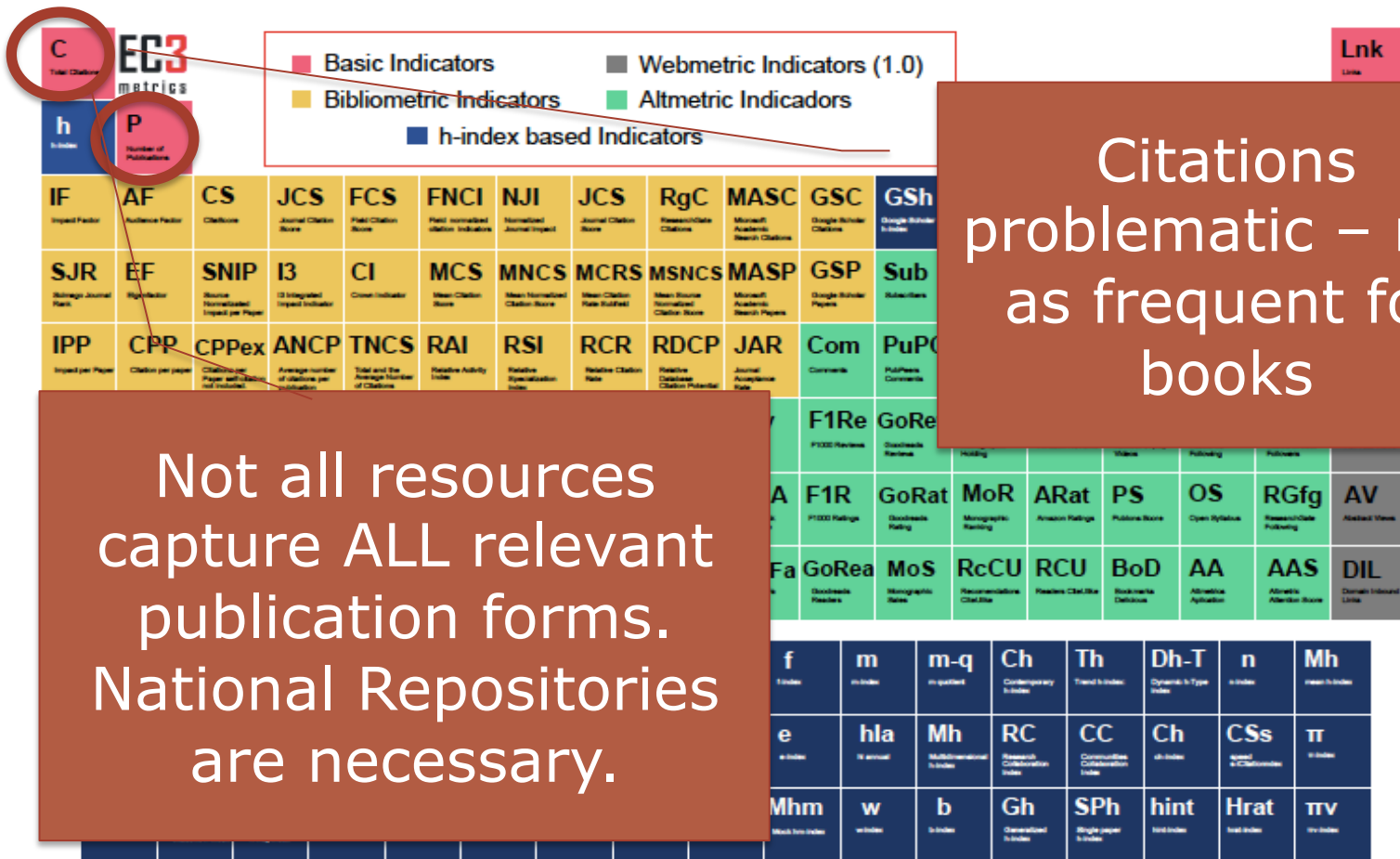
SJR	EF	SNIP	I3	CI	MCS	MNCS	MCRS	MSNCS	MASP	GSP	Sub	BM	TwM	FacS	ADV	RGD	Dwd
IPP	CPP	CPPex	ANCP	TNCS	RAI	RSI	RCR	RDCP	JAR	Com	PuPC	NM	WC	FacC	Afr	RGI	Ck
%SC	%Pnc	PR	LogZ	IK	TI	STP	NPJ	WCH	Rev	F1Re	GoRev	MoH	AREv	Play	Afg	RGfr	FTV
PT1	PT10	PT50	HCP	Q1	PWoS	NHCP	PTRJ	Exp	Q&A	F1R	GoRat	MoR	ARat	PS	OS	RGfg	AV
PCol	%CoA	NCol	ICol	SL	EN	Exc	Sav	ReR	F1FFa	GoRea	MoS	RcCU	RCU	BoD	AA	AAS	DIL

i10	g	a	h(2)	hg	q2	r	ar	k	f	m	m-q	Ch	Th	Dh-T	n	Mh
h5	Nh	SlS	Sih-T	Hw	Hm	Th	I10	v	e	hla	Mh	RC	CC	Ch	CSs	π
h5-m	2gh	Rbhm	h2-l	h2-c	h2-u	h3	p	Hbar	Mhm	w	b	Gh	SPh	hint	Hrat	πv



Few Indicators relevant for the SSH

Periodic Table of Scientometric Indicators



Few Indicators relevant for the SSH

Periodic Table of Scientometric

Book Reviews

Twitter Mentions

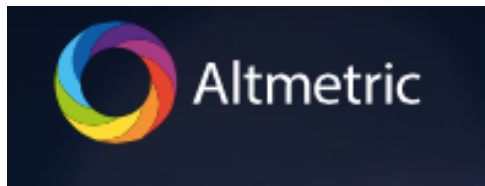
Goodreads Ratings

EC3 metrics		Legend															
C	P	Basic Indicators	Webmetric Indicators (1.0)														
h	P	Bibliometric Indicators	Altmetric Indicators														
		h-index based Indicators															
IF	AF	CS	JCS	FCS	FNCI	NJI	JCS	RgC	MASC	GSC	GSh	Lk	PM	MR	AP	BCP	WS
SJR	EF	SNIP	I3	CI	MCS	MNCS	MCRS	MSNCS	MASP	GSP	Sub	BM	TwM	FacS	AD		
IPP	CPP	CPPex	ANCP	TNCS	RAI	RSI	RCR	RDCP	JAR	Com	PuPC	NM	WC	FacC	Afr	RGI	Ck
%SC	%Pnc	PR	LogZ	IK	TI	STP	NPJ	WCH	Rev	F1Re	GoRev	MoH	ARev	Play	Afg		
PT1	PT10	PT50	HCP	Q1	PWoS	NHCP	PTRJ	Exp	Q&A	F1R	GoRat	ToR	ARat	PS	OS		
PCol	%CoA	NCol	ICol	SL	EN	Exc	Sav	ReR	F1FFa	GoRea	MoS	RcCU	RCU	BoD	AA		

i10	g	a	h(2)	hg	q2	r	ar	k	f	m	m-q	Ch	Th	Dh-T	n	Mh
h5	Nh	SIs	Sih-T	Hw	Hm	Th	I10	v	e	hla	Mh	RC	CC	Ch	CSs	π
h5-m	2gh	Rbhm	h2-l	h2-c	h2-u	h3	p	Hbar	Mhm	w	b	Gh	SPh	hint	Hrat	πv

Digital Object Identifier (DOI)

- The DOI is typically used to trace 'mentions' of journal articles on platforms like Altmetric.com



1. Add bookmarklet to your bookmarks toolbar
2. Visit any paper
3. Get article level metrics with a single click



Daniel Torres-Salinas, Juan Gorraiz, Nicolas Robinson-Garcia, (2018) "The insoluble problems of books: what does Altmetric.com have to offer?", *Aslib Journal of Information Management*, Vol. 70 Issue: 6, pp.691-707, <https://doi.org/10.1108/AJIM-06-2018-0152>



The problem of books...

- Altmetric.com contains almost 21m records indexed in its database, with around half of them including at least one mention in any of the metrics it covers....

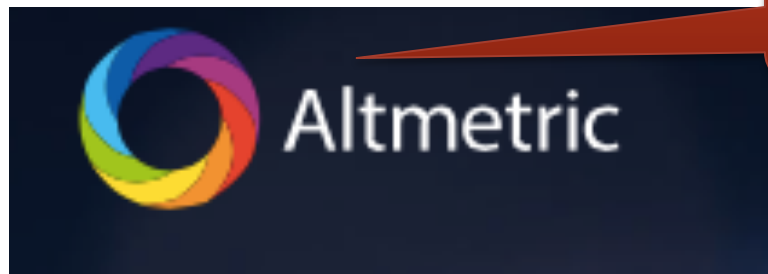


Daniel Torres-Salinas, Juan Gorraiz, Nicolas Robinson-Garcia, (2018) "The insoluble problems of books: what does Altmetric.com have to offer?", *Aslib Journal of Information Management*, Vol. 70 Issue: 6, pp.691-707, <https://doi.org/10.1108/AJIM-06-2018-0152>



The problem of books...

- Altmetric.com contains almost 21m records indexed in its database, with around half of them including at least one mention in any of the metrics it covers....




















The Altmetric 'donut'



Colors of the donut

The colors of the Altmetric donut each represent a different source of attention:

The Colors of the Donut

- | | |
|---|---|
|  Policy documents |  Google+ |
|  News |  LinkedIn |
|  Blogs |  Reddit |
|  Twitter |  Research highlight platform |
|  Post-publication peer-reviews |  Q&A (Stack Overflow) |
|  Facebook |  Youtube |
|  Sina Weibo |  Pinterest |
|  Syllabi |  Patents |
|  Wikipedia | |



The amount of each color in the donut will change depending on which [sources](#) a research output has received attention from:

Daniel Torres-Salinas, Juan Gorraiz, Nicolas Robinson-Garcia, (2018) "The insoluble problems of books: what does Altmetric.com have to offer?", *Aslib Journal of Information Management*, Vol. 70 Issue: 6, pp.691-707, <https://doi.org/10.1108/AJIM-06-2018-0152>



The problem of books...

In the case of books, ISBNs do not provide traceable links as DOIs do.



Altmetric.com does however track a series of data sources from which they extract all book records whenever DOIs are not available...

Without DOI (315 total sources)	471,347	With DOI (129 total sources)	327,751
books.google.com	272,555	No URL link	244,797
No URL link	176,508	books.google.com	40,660
market.android.com	9,443	link.springer.com	17,347
store.elsevier.com	2,715	documents.worldbank.org	7,273
rand.org	1,989	nap.edu	6,154
uk.sagepub.com	1,385	onlinelibrary.wiley.com	1,803
us.sagepub.com	1,157	oecd-ilibrary.org	1,801
berghahnbooks.com	1,129	rand.org	1,398
elsevier.com	907	tandfebooks.com	1,336
publications.jrc.ec.europa.eu	504	market.android.com	867
adb.org	392	un-ilibrary.org	864
<i>oapen.org</i>	<i>324</i>	elgaronline.com	714
nap.edu	278	booksandjournals.brillonline.com	390
thieme.de	276	publications.jrc.ec.europa.eu	223
iwmi.cgiar.org	267	<i>oapen.org</i>	<i>194</i>
elsevierhealth.com	162	uk.sagepub.com	163
ebookstore.thieme.com	161	<i>urn.kb.se</i>	<i>143</i>
facetpublishing.co.uk	103	www.elsevier.com	138

Notes: In bold URLs to nonprofit and governmental organizations providing reports. In italics those linking to library catalogs and open portals of books

Table IV.
Top 18 points of access used by Altmetric.com to retrieve books mentioned in the 2000–2018 period, ranked by total number of records and distinguished by those with and without DOI number



Without DOI (315 total sources)	471,347	With DOI (129 total sources)	327,751
books.google.com	272,555	No URL link	244,797
No URL link	176,508	books.google.com	40,660
market.android.com	9,443	link.springer.com	17,347
store.elsevier.com	2,715	documents.worldbank.org	7,273
rand.org	1,989	nap.edu	6,154
uk.sagepub.com	1,385	onlinelibrary.wiley.com	1,803
us.sagepub.com	1,157	oecd-ilibrary.org	1,801
berghahnbooks.com	1,129	rand.org	1,398
elsevier.com	907	tandfebooks.com	1,336
publications.jrc.ec.europa.eu	504	market.android.com	867
adb.org	392	un-ilibrary.org	864
<i>oapen.org</i>	324	elgaronline.com	714
nap.edu	278	booksandjournals.brillonline.com	390
thieme.de	276	publications.jrc.ec.europa.eu	223
iwmi.cgiar.org	267	<i>oapen.org</i>	194
elsevierhealth.com	162	uk.sagepub.com	163
ebookstore.thieme.com	161	<i>urn.kb.se</i>	143
facetpublishing.co.uk	103	www.elsevier.com	138

Notes: In bold URLs to nonprofit and governmental organizations providing reports. In italics those linking to library catalogs and open portals of books

Table IV.
Top 18 points of access used by Altmetric.com to retrieve books mentioned in the 2000–2018 period, ranked by total number of records and distinguished by those with and without DOI number

Many 'books' published by worldbank with DOI

Daniel Torres-Salinas, Juan Gorraiz, Nicolas Robinson-Garcia, (2018) "The insoluble problems of books: what does Altmetric.com have to offer?", *Aslib Journal of Information Management*, Vol. 70 Issue: 6, pp.691-707, <https://doi.org/10.1108/AJIM-06-2018-0152>



The problem of books...

Almost **70 percent** of the outputs indexed by Altmetric.com are journal articles, with books representing around 5 percent and book chapters 2.3 percent.

Type of research output	Research outputs	Outputs with mentions	Total mentions	Average mentions
Article	14,494,667	10,248,575	67,789,339	4.68
Data set	26,888	21,206	112,959	4.20
Books	1,189,253	818,135	2,675,537	2.25
Books Chapters	5,044,984	78,959	2,238	0.00
Clinical Trials	36,882	35,646	17,298	0.47
News Stories	96,609	95,251	8,893,913	92.06
All outputs	20,889,929	11,298,415	79,890,012	3.82

Table I.
Contents of
Altmetric.com by
type of output

Daniel Torres-Salinas, Juan Gorraiz, Nicolas Robinson-Garcia, (2018) "The insoluble problems of books: what does Altmetric.com have to offer?", *Aslib Journal of Information Management*, Vol. 70 Issue: 6, pp.691-707, <https://doi.org/10.1108/AJIM-06-2018-0152>



The problem of books...

Almost **70 percent** of the outputs indexed by Altmetric.com are journal articles, with books representing around 5 percent and book chapters 2.3 percent.

Average mention to books is only 2.25 & book chapters is 0!

Type of research output	Research outputs	Outputs with mentions	Total mentions	Average mentions
Article	14,494,667	10,248,575	67,789,339	4.68
Data set	26,888	21,206	112,959	4.20
Books	1,189,253	818,135	2,675,537	2.25
Books Chapters	5,044,984	78,959	2,238	0.00
Clinical Trials	36,882	35,646	17,298	0.47
News Stories	96,609	95,251	8,893,913	92.06
All outputs	20,889,929	11,298,415	79,890,012	3.82

Table I.
Contents of
Altmetric.com by
type of output

Daniel Torres-Salinas, Juan Gorraiz, Nicolas Robinson-Garcia, (2018) "The insoluble problems of books: what does Altmetric.com have to offer?", *Aslib Journal of Information Management*, Vol. 70 Issue: 6, pp.691-707, <https://doi.org/10.1108/AJIM-06-2018-0152>



Library holding counts (Libcitations)

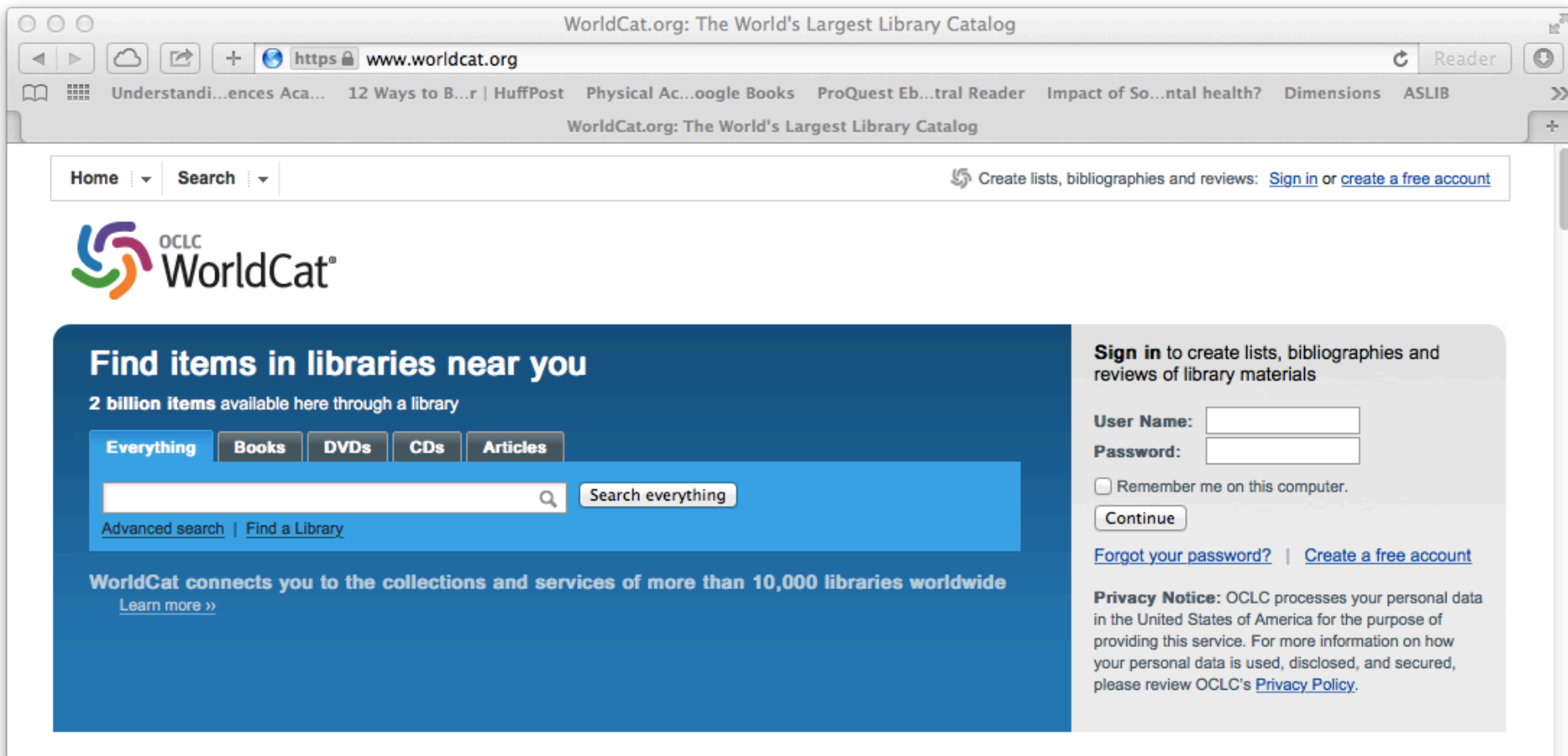


Libcitations

- Supplement citation measures for book-oriented scholars in the humanities and social sciences.
- Are counts of the libraries that hold a given book (ISBN) in WorldCat or another large union catalog.
- Range in WorldCat from one to several thousands per book.
- Serve as one measure of a book's cultural impact.
- Were introduced in JASIST by White et al. (2009).
- Were independently introduced as "catalog inclusions" by Torres-Salinas & Moed (2009).
- Have been adopted as an Altmetric by Plum Analytics.



WorldCat (www.worldcat.org)




WorldCat.org: The World's Largest Library Catalog

WorldCat.org: The World's Largest Library Catalog

Home Search

Create lists, bibliographies and reviews: [Sign in](#) or [create a free account](#)

 OCLC WorldCat®

Find items in libraries near you

2 billion items available here through a library

Everything Books DVDs CDs Articles

Search everything

[Advanced search](#) | [Find a Library](#)

WorldCat connects you to the collections and services of more than 10,000 libraries worldwide
[Learn more >>](#)

Sign in to create lists, bibliographies and reviews of library materials

User Name:

Password:

Remember me on this computer.

[Forgot your password?](#) | [Create a free account](#)

Privacy Notice: OCLC processes your personal data in the United States of America for the purpose of providing this service. For more information on how your personal data is used, disclosed, and secured, please review OCLC's [Privacy Policy](#).



Libcitations as a 'metric'

- Libcitations reflect librarians' evaluations of books for their clienteles
- But they also reflect reputations created by
 - authors
 - authors' agents
 - past and present editors in publishing houses
 - referee readers
 - marketers
 - book reviewers

Would you rather have your book held by 10 libraries or 1,000 libraries?



Libcitations as a 'metric'

- Could libcitations to books be an alternative measure of scholarly impact?
- Both White et al. (2009) and Torres-Salinas & Moed (2009) ask:

Are citations and libcitations correlated?



Individual books as unit of analysis

	Qualitative Variables	Quantitative Variables
Scopus	<ul style="list-style-type: none">• Field of citing journal (<i>History</i> or <i>Literature</i>)• Period of citing journal (1996-2000 or 2007-2011)	<ul style="list-style-type: none">• Citation Count
WorldCat	<ul style="list-style-type: none">• Main Dewey Class	<ul style="list-style-type: none">• Total libcitation count• ARL libcitation count• Non-ARL libcitation count

We can compare correlations in fields, periods, and Dewey classes.

Correlations

Low positive correlations (Spearman rho's) between citations and lib citations in both fields and in both periods (Total library holdings, ARL holdings, and non-ARL holdings).

Correlations between citations and ARL lib citations are always slightly higher

History 1996-2000			History 2007-2011			History combined		
Total	ARL	Non-ARL	Total	ARL	Non-ARL	Total	ARL	Non-ARL
0.26	0.29	0.25	0.25	0.28	0.24	0.24	0.26	0.23
N=20996			N=50466			N=71462		
Literature 1996-2000			Literature 2007-2011			Literature combined		
Total	ARL	Non-ARL	Total	ARL	Non-ARL	Total	ARL	Non-ARL
0.23	0.28	0.22	0.18	0.24	0.17	0.20	0.24	0.19
N=7541			N=35929			N=43470		

All correlations are statistically significant, $p < 000$.



Libcitations, WorldCat, cultural impact and fame..



White & Zuccala (2018)....

- We show how libcitation counts operationalize 'cultural impact' in terms of intuitive notions of fame.
- Using WorldCat data, we illustrate high, medium, and low degrees of fame with 170 titles published during 1990–1995 or 2001–2006 and spanning the 10 main Dewey classes.



TABLE 3. Top 20 nonfiction titles in the entire sample by ARL libcitation counts, with total lib citations also shown.

Year	Fame	Author	Nonfiction titles	ARLcites	Libcites
1994	2	Fish	There's no such thing as free speech, and it's a good thing, too	178	1466
1990	2	Moynihan	On the law of nations	176	1348
1990	2	Rhode, ed.	Theoretical perspectives on sexual difference	176	1136
1990	1	Walker	In defense of American liberties: a history of the ACLU	172	2162
1994	0	Keast	Faculty tenure; a report and recommendations	172	1349
1992	2	Hall	The Oxford companion to the Supreme Court of the United States	171	2790
2001	2	Rawls	Justice as fairness: a restatement	171	1301
2001	2	Patterson	Brown v Board of Education: a civil rights milestone and its troubled legacy	170	2068
1990	2	Thomson	The realm of rights	170	907
1992	2	Annas, ed.	The Nazi doctors and the Nuremberg code: human rights and human experimentation	170	888
2004	3	Schlesinger	The imperial presidency	168	3087
2004	3	Lessig	Free culture: how big media uses technology and the law to lock down culture and control creativity	168	2002
1991	1	Hoff	Law, gender, and injustice: a legal history of U.S. women	168	980
1990	2	Williams	The American Indian in western legal thought: the discourses of conquest	168	878
1992	2	Annas	Gene mapping: using law and ethics as guides	168	775
1994	3	S. Carter	The culture of disbelief: how American law and politics trivialize religious devotion	167	2357
1993	2	Bork	The antitrust paradox: a policy at war with itself	167	1300
1993	2	Massey	American apartheid: segregation and the making of the underclass	166	1538
2001	0	McSherry	Who owns academic work? battling for control of intellectual property	165	944
1991	2	Glendon	Rights talk: the impoverishment of political discourse	165	923



TABLE 3. Top 20 nonfiction titles in the entire sample by ARL libcitation counts, with total lib citations also shown.

Year	Fame	Author	Nonfiction titles	ARLcites	Libcites
1994	2	Fish	There's no such thing as free speech, and it's a good thing, too	178	1466
1990	2	Moynihan	On the law of nations	176	1348
1990	2	Rhode, ed.	Theoretical perspectives on sexual difference	176	1136
1990	1	Walker	In defense of American liberties: a history of the ACLU	172	2162
1994	0	Keast	Faculty tenure; a report and recommendations	172	1349
1992	2	Hall	The Oxford companion to the Supreme Court of the United States	171	2790
2001	2	Rawls	Justice as fairness: a restatement	171	1301
2001	2	Patterson	Brown v Board of Education: a civil rights milestone and its troubled legacy	170	2068
1990	2	Thomson	The realm of rights	170	907
1992	2	Annas, ed.	The Nazi doctors and the Nuremberg code: human rights and human experimentation	170	888
2004	3	Schlesinger	The imperial presidency	168	3087
2004	3	Lessig	Free culture: how big media uses technology and the law to lock down culture and control creativity	168	2002
1991	1	Hoff	Le		980
1990	2	Williams			878
1992	2	Annas			775
1994	3				2357
1993	2	Born			1300
1993	2	Massey			1538
2001	0	McSherry			944
1991	2	Glendon			923

Fame scale:

3 = Wikipedia title and author entries

2 = Wikipedia author entry

1 = Wikipedia citation

0 = No Wikipedia data



TABLE 3. Top 20 nonfiction titles in the entire sample by ARL libcitation counts, with total lib citations also shown.

Year	Fame	Author	Nonfiction titles	ARLcites	Libcites
1994	2	Fish	There's no such thing as free speech, and it's a good thing, too	178	1466
1990	2	Moynihan	On the law of nations	176	1348
1990	2	Rhode, ed.	Theoretical perspectives on sexual difference	176	1136
1990	1	Walker	In defense of American liberties: a history of the ACLU	172	2162
1994	0	Keast	Faculty tenure; a report and recommendations	172	1349
1992	2	Hall	The Oxford companion to the Supreme Court of the United States	171	2790
2001	2	Rawls	Justice as fairness: a restatement	171	1301
2001	2	Patterson	Brown v Board of Education: a civil rights milestone and its troubled legacy	170	2068
1990	2	Thomson	The realm of rights	170	907
1992	2	Annas, ed.	The Nazi doctors and the Nuremberg code: human rights and human experimentation	170	888
2004	3	Schlesinger	The imperial presidency	168	3087
2004	3	Lessig	Free culture: how big media uses technology and the law to lock down culture and creativity	168	2002
1991	1	Hoff	Law, gender, and injustice: a legal history of U.S. women	168	980
1990	2	Williams	The American Indian in western legal thought: the discourses of conquest	168	878
1992	2	Annas	Gene mapping: using law and ethics as guides	168	775
1994	3	S. Carter	The culture of disbelief: how American law and politics trivialize religion	167	2357
1993	2	Bork	The antitrust paradox: a policy at war with itself	167	1300
1993	2	Massey	American apartheid: segregation and the making of the underclass	166	1538
2001	0	McSherry	Who owns academic work? battling for control of intellectual property	165	944
1991	2	Glendon	Rights talk: the impoverishment of political discourse	165	923

ARL cites = Association of Research Libraries
 Libcites = Total Libraries Worldwide



White & Zuccala (2018)....

- Libcitation counts for individual scholars or academic departments can be field-
normalized or assigned to percentiles just as citations are (Waltman, 2016).

Waltman, L. (2016). A review of the literature on citation impact indicators. *Journal of Informetrics*, 10(2), 365–391.

White, H.D. & Zuccala, A. (2018). Libcitations, WorldCat, cultural impact and fame. *Journal of the Association for Information Science and Technology*, 69(12), 1502-1512.



TABLE 6. Titles from 2001–2006 with lib citations at (or near) the top, middle, and bottom of the count distributions in main Dewey classes.

Year	Fame	Author	Main Dewey classes and titles	Libcites
			<i>0 Generalia, computing</i>	
2002	0	Knowles	The Oxford dictionary of modern quotations	2592
2002	2	Hamilton	Refiguring the archive	194
2006	1	Bergmann	Medienmenschen: wie man wirklichkeit inszeniert	3
			<i>1 Philosophy, psychology</i>	
2005	3	Honderich, ed.	Oxford companion to philosophy	2498
2005	0	Carone	Plato's cosmology and its ethical dimensions	281
2005	0	York	Respect for the world: universal ethics and the morality of terraforming	3
			<i>2 Religion</i>	
2003	3	Krakauer	Under the banner of heaven: a story of violent faith	2931
2001	1	Murphy	Jesuit slaveholding in Maryland: 1717–1838	195
2001	2	Roth	História dos marranos: os judeus secretos da Península Ibérica	2
			<i>3 Social sciences</i>	
2006	3	J. Carter	Our endangered values: America's moral crisis	3380
2004	1	Edkins	Sovereign lives: power in global politics	244
2006	0	Wilson	The beat: policing a Victorian city	2
			<i>4 Language</i>	
2002	4	McCrum	The story of English	3433
2005	1	Göksel	Turkish: a comprehensive grammar	127
2001	0	Caprini	Nomi propri	7
			<i>5 Science</i>	
2004	3	Bryson	A short history of nearly everything	3284
2001	1	Scarth	Volcanoes of Europe	294
2003	0	Blanchard	L'art populaire dans le briançonnais: les cadrans solaires	3
			<i>6 Technology</i>	
2003	3	Agatston	The South Beach diet	3088
2005	1	Cunfer	On the Great Plains: agriculture and environment	231
2001	0	Giannetti	Trattato di dermatologia	2
			<i>7 Arts, recreation</i>	
2004	2	Bordman	The Oxford companion to American theatre	2140
2003	1	Williams	Cricket and England: a cultural and social history of the inter-war years	255
2006	0	Møller	Technicolor dreamin': the 1960s rainbow and beyond	2
			<i>8 Literature</i>	
2005	4	Didion	The year of magical thinking	3337
2002	0	Worman	The cast of character: style in Greek literature	242
2006	0	Faranda	Via seminario, 19	3
			<i>9 History, geography</i>	
2001	2	J. Carter	An hour before daylight: memories of a rural boyhood	3383
2003	0	Campbell	English public opinion and the American Civil War	188
2006	0	Cust	Cases in the court of chivalry, 1634–1640	2

Nonfiction titles at the Top, middle, and bottom of the libcitation distribution

White & Zuccala (2018)....

Suppose an author produces a reference work that is bought by a thousand libraries. Would the fact that it never circulates diminish the author's achievement?



White & Zuccala (2018)....

- We cannot de-couple libcitation (presence in a library) from circulation statistics (borrowing record and usage) entirely....
- **Neither measure really conveys what goes on in readers' heads or the uses to which they put what they read.** Both merely suggest degrees of impact that need further interpretive comment if they are to be properly judged.



White & Zuccala (2018)....

A similar point about journal articles is made on the Altmetric website:

*"To get at true evidence of impact, **you need to dig deeper into the numbers and look at the qualitative data underneath**: who's saying what about research, where in the world research is being cited, reused, read, and so on."*



Altmetrics and understanding broader impact...



Do Altmetrics point to broader impact?

- We need more qualitative studies concerning the underlying motives about when and why people mention scholarly research on social media
- Broad notions of impact can mean something unique from citations
- Arguments against the value of altmetrics include the ease with which they can be manipulated and their susceptibility to skew in favor of comical or sexual titles



Do Altmetrics point to broader impact?

- We need more qualitative study concerning

In 2013 the top PLoS article (from PLOS Neglected Tropical Diseases) on altmetric.com was entitled: "An In-Depth Analysis of a Piece of Shit: Distribution of *Schistosoma mansoni* and Hookworm Eggs in Human Stool"

- Arguments against the value of altmetrics include the ease with which they can be manipulated and their susceptibility to skew in favour of comical or sexual titles



Public Visibility:

- blogs and tweets can be said to have the explicit intention of being public: this can be contrasted with anonymous data that can be harvested and interpreted from many other sites.
- Of course, formal citation in a peer-reviewed article is also a public act, and this serves to introduce two other important criteria: that of **context** and **immediacy**. **A tweet may have virtually no context** (Taylor, 2013)



Social Impact:

- “when one tweets a reference to a paper, it can be observed that the communication is necessarily brief, and is unlikely to have taken much time or thought. **Frequently it is in the form of a ‘retweet’ and can be classified as the mere repetition of a message through personal networks**”



Social Impact:

- scholarly **blogs** link to papers when attempting to précis the content for a non-academic audience (<http://realclimate.org/>) or engage misleading and mendacious uses of research to promote **commercial and political aims** (Taylor, 2013)



Underlying Motivations:

- Each example of Altmetric data has its own set of potential underlying motives, and each example requires different research: tweets may be subject to qualitative research, but are less easily studied by user surveys.



Underlying Motivations:

- With Twitter, the poster may choose to call attention to their tweet, to direct people to their response, may address the tweet to the authors, or may add inflections by the arbitrary (or organized) use of hashtags (Taylor, 2013)



Underlying Motivations:

- With Twitter, the poster may choose to call attention to their research or organization. .altmetric research has focused more on correlation than on motivation, and has relied upon assumptions rather than empirical evidence to postulate the relative level of engagement with an article...



Overall criticism of Altmetrics...

Criticism has grown as more empirical studies have found that **most social media based indicators are (if at all) complements and is not an alternative to citation-based indicators...**

Rousseau and Ye (2013, p. 2) stated that altmetrics was “a good idea but a bad name” and have proposed ***influmetrics***

Haustein, S., Bowman, T. D., & Costas, R. (2016). Interpreting “altmetrics”: viewing acts on social media through the lens of citation and social theories. In C. R. Sugimoto (Ed.), *Theories of Informetrics and Scholarly Communication. A Festschrift in Honor of Blaise Cronin* (pp. 372–405). Berlin: De Gruyter.



Haustein et al. (2016) “Framework”

This differentiates between various acts leading to online events on different sources in relation to the document or agent. The proposed framework that classifies these acts into **three categories** (Figure 1).

We argue that these three categories—***access***, ***appraise*** and ***apply***—capture various stages and facets of use and interactions with research objects

Haustein, S., Bowman, T. D., & Costas, R. (2016). Interpreting “altmetrics”: viewing acts on social media through the lens of citation and social theories. In C. R. Sugimoto (Ed.), *Theories of Informetrics and Scholarly Communication. A Festschrift in Honor of Blaise Cronin* (pp. 372–405). Berlin: De Gruyter.



Haustein et al. (2016) “Framework”

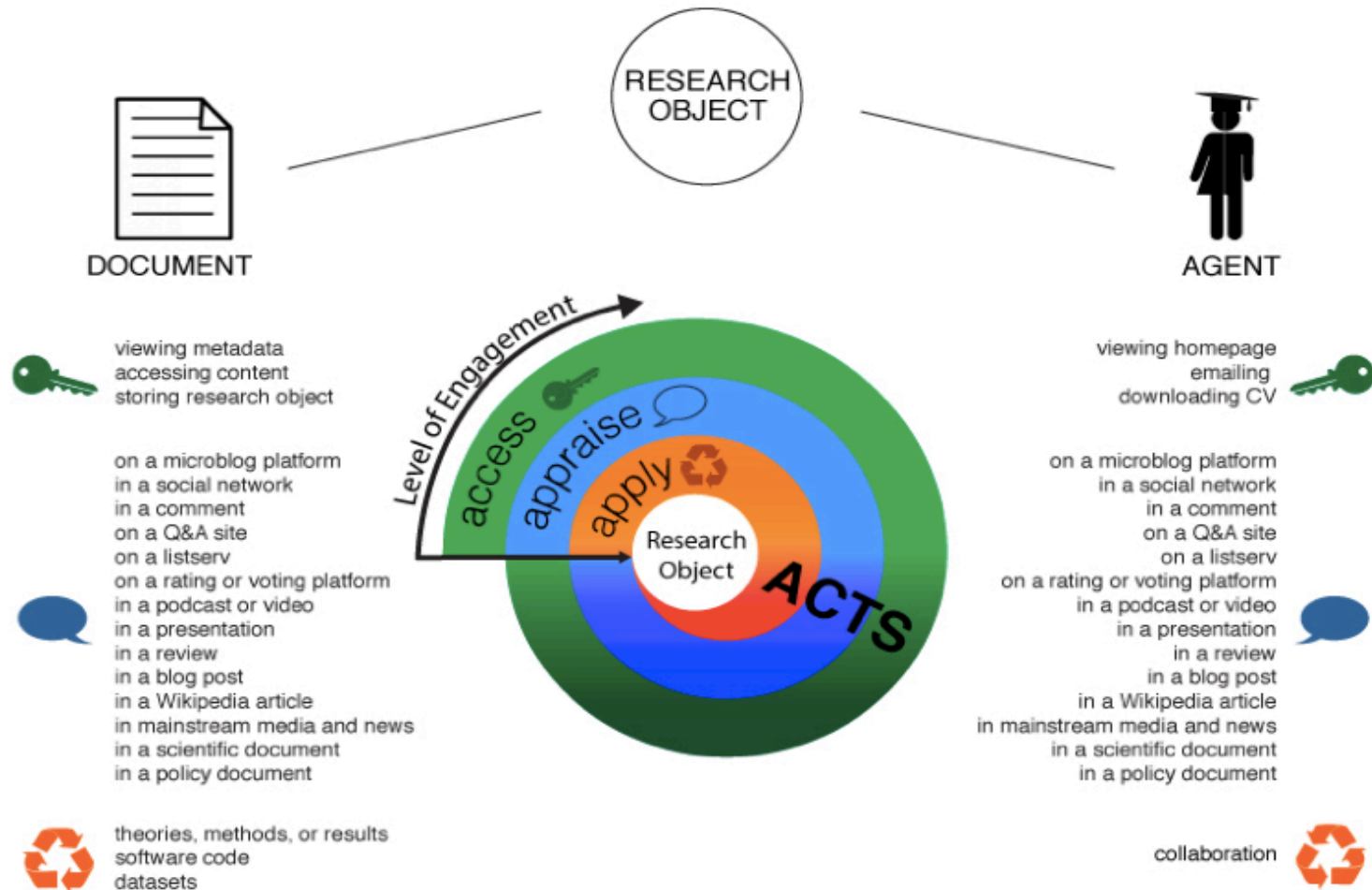


Figure 1. Framework of categories and types of acts referring to research objects (scholarly documents and agents).

Haustein, S., Bowman, T. D., & Costas, R. (2016). Interpreting “altmetrics”: viewing acts on social media through the lens of citation and social theories. In C. R. Sugimoto (Ed.), *Theories of Informetrics and Scholarly Communication. A Festschrift in Honor of Blaise Cronin* (pp. 372–405). Berlin: De Gruyter.