Journal Impact Measures

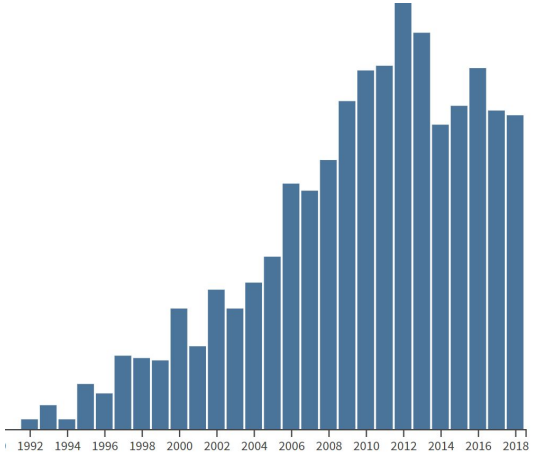
The Impact Factor


SEPTEMBER 20–24
2021
ONLINE

- Introduction
- Definition and calculation
- Problems and limitations
- The Journal Citation Reports

1
Introduction

2300 papers about the impact Factor!!



nature cell biology

EDITORIAL

Impact Factor Distortions

Bruce Alberts is Editor-in-Chief of *Science*.

THIS EDITORIAL COINCIDES WITH THE RELEASE OF THE *SAN FRANCISCO DECLARATION ON RESEARCH Assessment* (DORA), the outcome of a gathering of concerned scientists at the December 2012 meeting of the American Society for Cell Biology.* To correct distortions in the evaluation of scientific research, DORA aims to stop the use of the "journal impact factor" in judging an

Editorial | Published: 24 December 201

Ending the tyranny of the impact facto

Nature Cell Biology **16**, 1 (201

nature International weekly journal of science

Home | News & Comment | Research | Careers & Jobs | Current Issue | Archive | A

Archive > Volume 535 > Issue 7611 > News > Article

NATURE | NEWS

Beat it, impact factor! Publishing elite turns against controversial metric

Senior staff at leading journals want to end inappropriate use of the measu

Ewen

Hate journal impact factors? New study gives you one more reason

Why the impact factor of journals should not be used for evaluating research

BMJ 1997 ; 314 doi: https://doi.org/10.1136/bmj.314.7079.497

(Published 15 February 1997)

Cite this as: *BMJ* 1997;314:497

Declaration of independence from journal impact factor

Coalition of academics, publishers and funders rejects metric 'obsession'

By Elizabeth Gibney

Citation analysis as a tool in journal evaluation

In 1972 Garfield released his first journal impact factors. The result was a list of journals ranked by the average number of citations per research article using the information from the SCI. 2200 Journals

Science (178):471-479, 1972

Item No. (1)	Cited Journal (2)	Times Cited Last Quarter 1969 (3)	1969 Citations to 1967 and 1968 Articles (4)	Articles Published in 1967 and 1968 (5)	Impact Factor (6)
1	J AM CHEM SOC	26323	22156	3946	5 614
2	PHYS REV	20674	20740	5767	3 596
3	J BIOL CHEM	17112	10768	1777	6 059
4	NATURE LONDON	15325	15956	6811	2 342
5	J CHEM SOC	14028	17764	5827	3 048
6	J CHEM PHYS	13690	11696	3738	3 128
7	SCIENCE	9752	11880	3968	2 993
8	BIOCHIM BIOPHYS ACTA	9550	10956	3531	3 102
9	P NAT ACAD SCI USA	8260	11548	1348	8 566
10	BIOCHEM J	7638	6348	2074	3 060
11	LANCET	7617	8164	5496	1 485
12	PHYS REV LETT	6581	11380	2317	4 911
13	CR ACAD SCI	5789	6576	8345	0 788
14	AM J PHYSIOL	5420	3156	1013	3 115
15	J ORG CHEM	5401	5756	2475	2 325
16	J APPL PHYS	5190	5072	2880	1 761
17	P SOC EXP BIOL MED	5079	3468	1920	1 806
18	J MOL BIOL	4982	7340	833	8 811
19	J PHYSIOL LOND	4966	3036	1248	2 432
20	P ROY SOC LOND	4864	1916	621	3 085
21	J CELL BIOL	4813	4596	1357	3 386
22	J CLIN INVEST	4785	3652	1086	3 362
23	J PHYS CHEM	4703	4516	1939	2 329
24	CHEM BER	4541	2128	1037	2 052

The first ranking of journals using the impact Factor

Uses of the Impact Factor

In his seminal paper Garfield addressed four possible users and uses

Individual scientists face the problem of **selecting journals to read and keep**, as well as compiling reference for their students

would appear to be of great potential value in the **management of library journal collections**

Editors and editorial boards of scientific journals may also find citation analysis **helpful for editorial policies**

Perhaps the most important application of citation analysis is in studies of **science policy and research evaluation**

2
Definition and calculation

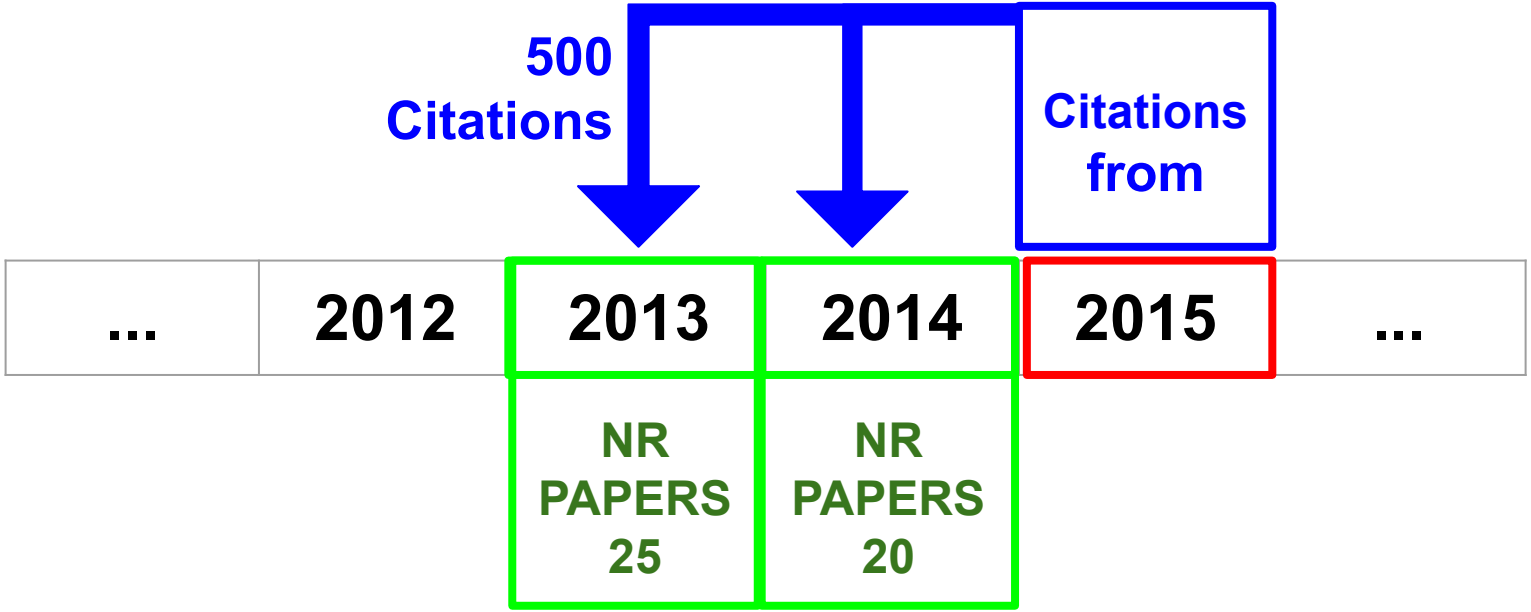
Definitions

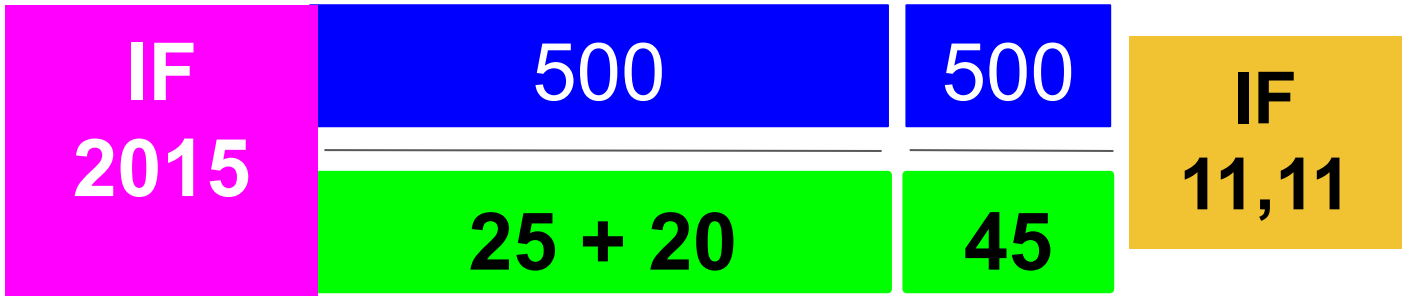
1972 definition: "*dividing the number of times a journal has been cited by the number of articles it has published during some specific period of time. The journal impact factor reflect an average citation rate per article*"

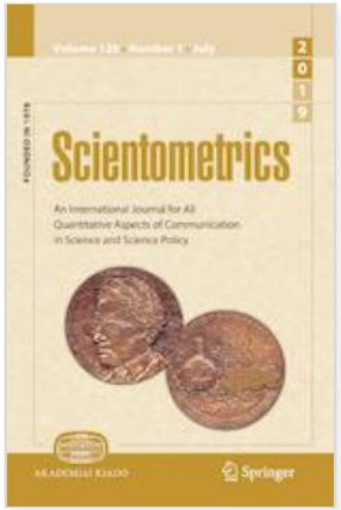
JCR Definition: all citations to the journal to items published in the previous two years divided by the total number of scholarly items published in the journal in the previous two year

A functional approximation of the mean citation rate per citable item

A Journal Impact Factor of 1.0 means that, on average, the articles published two years ago have been cited one time.


500
Citations
Citations
from
...
2012
2013
2014
2015
...
NR
PAPERS
25
NR
PAPERS
20


IF
2015
500
25 + 20
500
45
IF
11,11

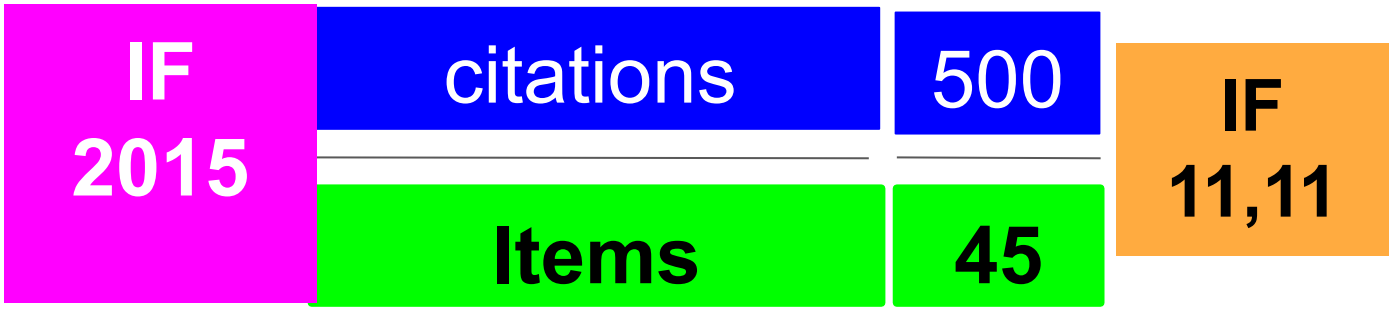


Impact Factor	Available
2.770	1979 - 2019
Volumes	Issues
120	368
Articles	Open Access
5,835	239 Articles

2018
IMPACT FACTOR 2.770

$$\frac{\text{Citations in 2018 to items published in 2016 + 2017}}{\text{Number of items 2016 + 2017}} = \frac{1997}{721} = 2.770$$

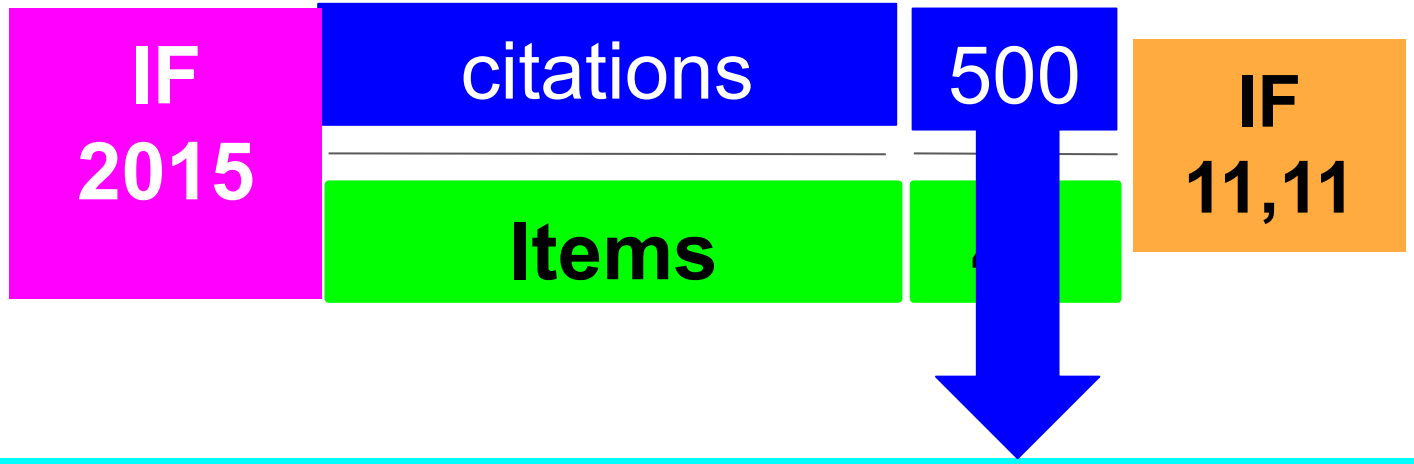
Numerator and denominator



NUMERATOR (CITATIONS): The JCR considers the citations received for all document types: **(Articles + Reviews)** + letters, editorials, meeting abstracts, ...

DENOMINATOR (ITEMS): Journals published different document types but for calculate the IF we just take into account: **Articles / Reviews / Proceedings**

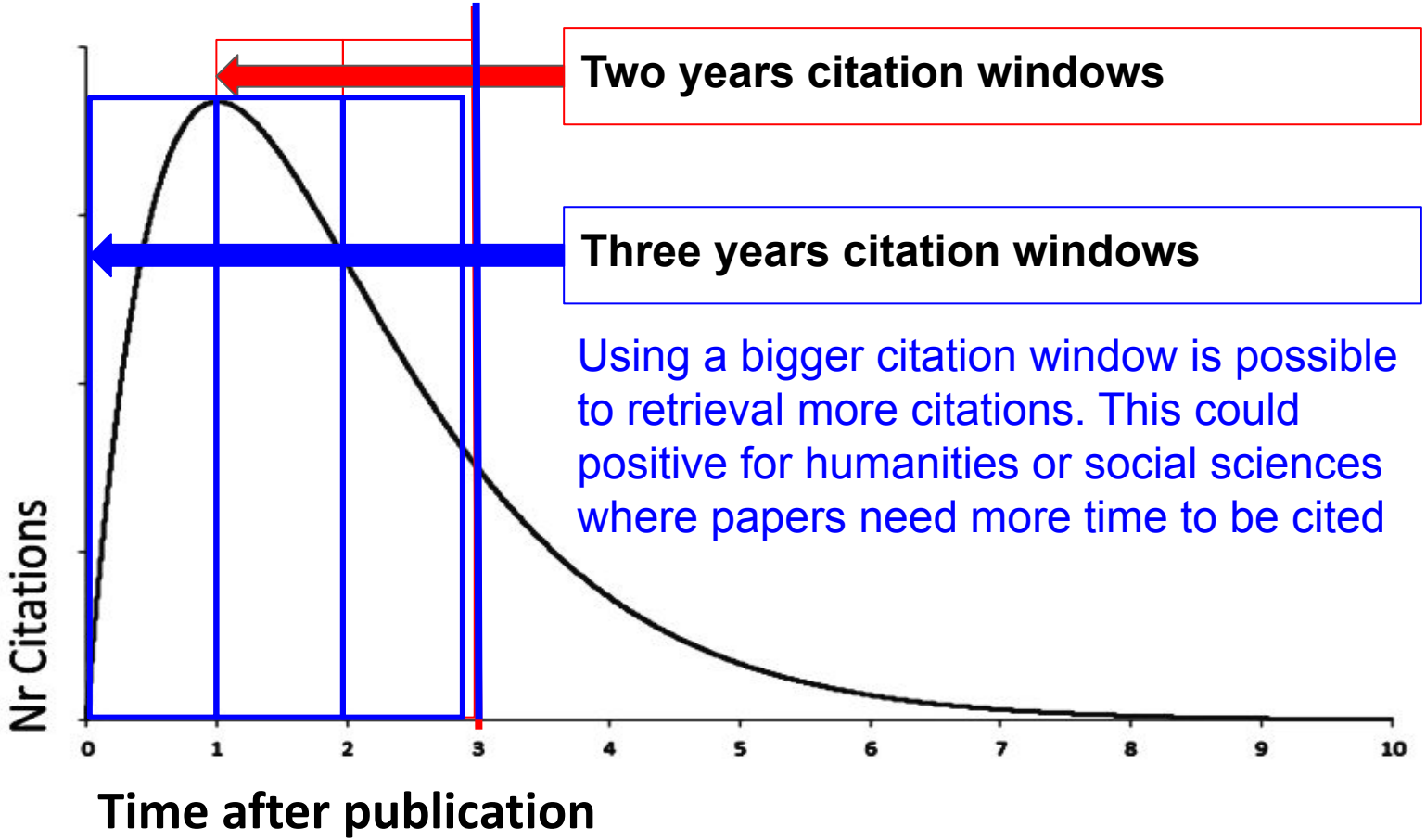
Numerator and denominator



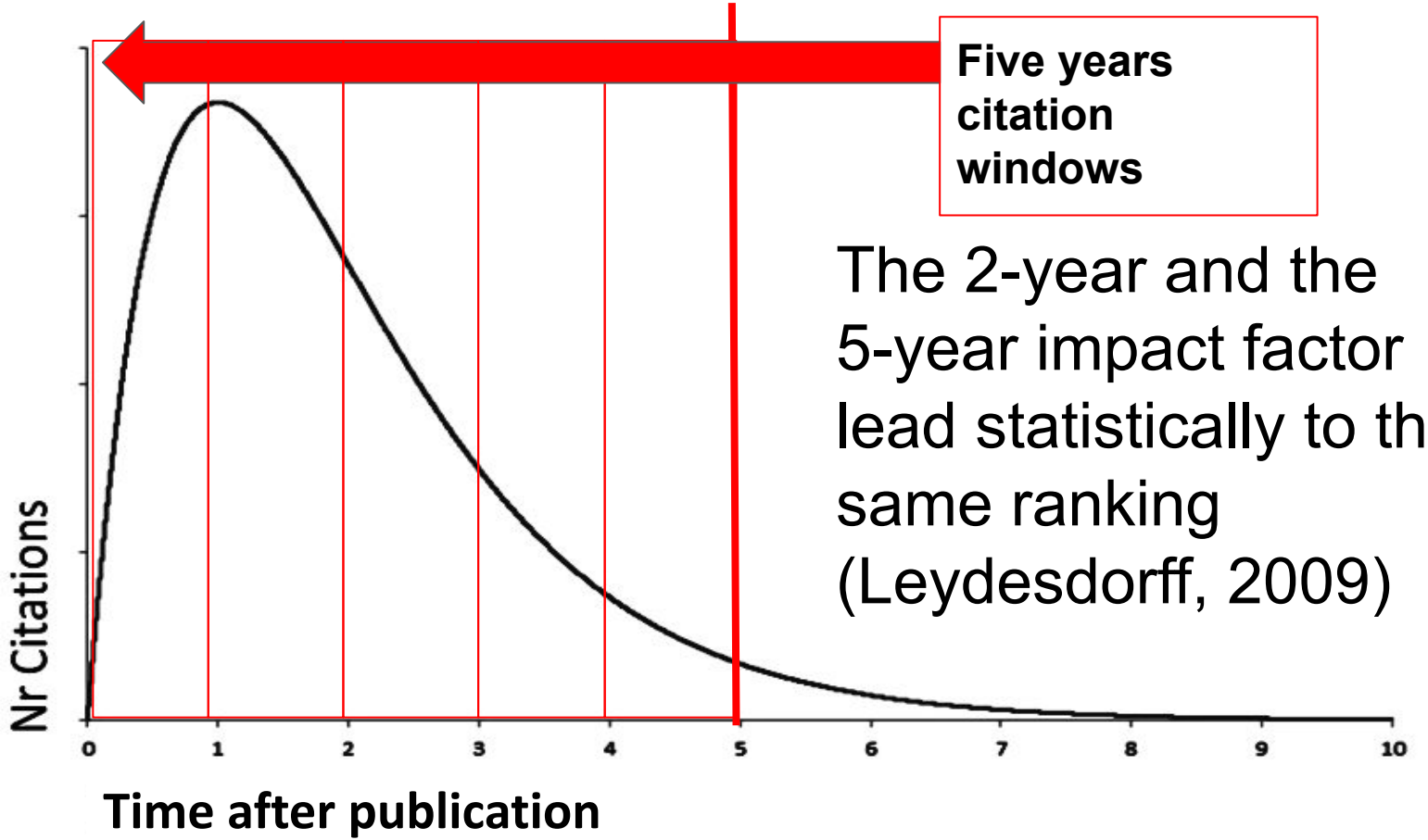
IF counts citations from different databases and document types:

- Journals: Citation Indexes
- Journals: Emerging Sources Citation Index
- Book: Book Citation Index
- Proceedings: Conference Proceedings Citation Index

Citation window



The JCR: 5 years impact factor



The 2-year and the 5-year impact factor lead statistically to the same ranking (Leydesdorff, 2009)

3
Problems & limitations

The main problem with the IF is its use for the evaluation at individual level

Impact factors are still widely used in academic evaluations

Survey finds that 40% of research-intensive universities mention the controversial metric in review documents — despite efforts to dampen its influence.

18 April 2019

Holly Else

nature

"... In more than 80% of research-heavy universities.. use of the impact factor in academic evaluations..."

"... many academics and review panels have turned to impact factors as a quick way of judging the quality of a paper…."

https://www.natureindex.com/news-blog/impact-factors-widely-used-academic-evaluations

“*In Spain publication in journals with a high impact factor has is an official part of the national system for evaluating researchers’ productivity. A money bonus is awarded only for articles published in top JCR Journals*”

“...Research groups have altered their research agendas. In Spain, research with practical applications, and research on topics that are local… has been replaced by basic research in topics more likely to be better received by the international research community”

https://www.bmj.com/rapid-response/2011/11/01/impact-impact-factor-spain (Ruiz and Delgado)

San Francisco Declaration on Research Assessment

DORA

The signatories of the San Francisco Declaration on Research Assessment support the adoption of the following practices in research assessment.

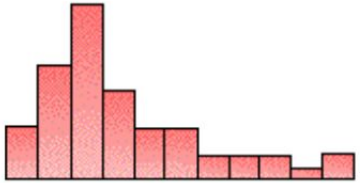
General Recommendation

1. Do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist's contributions, or in hiring, promotion, or funding decisions.

For funding agencies

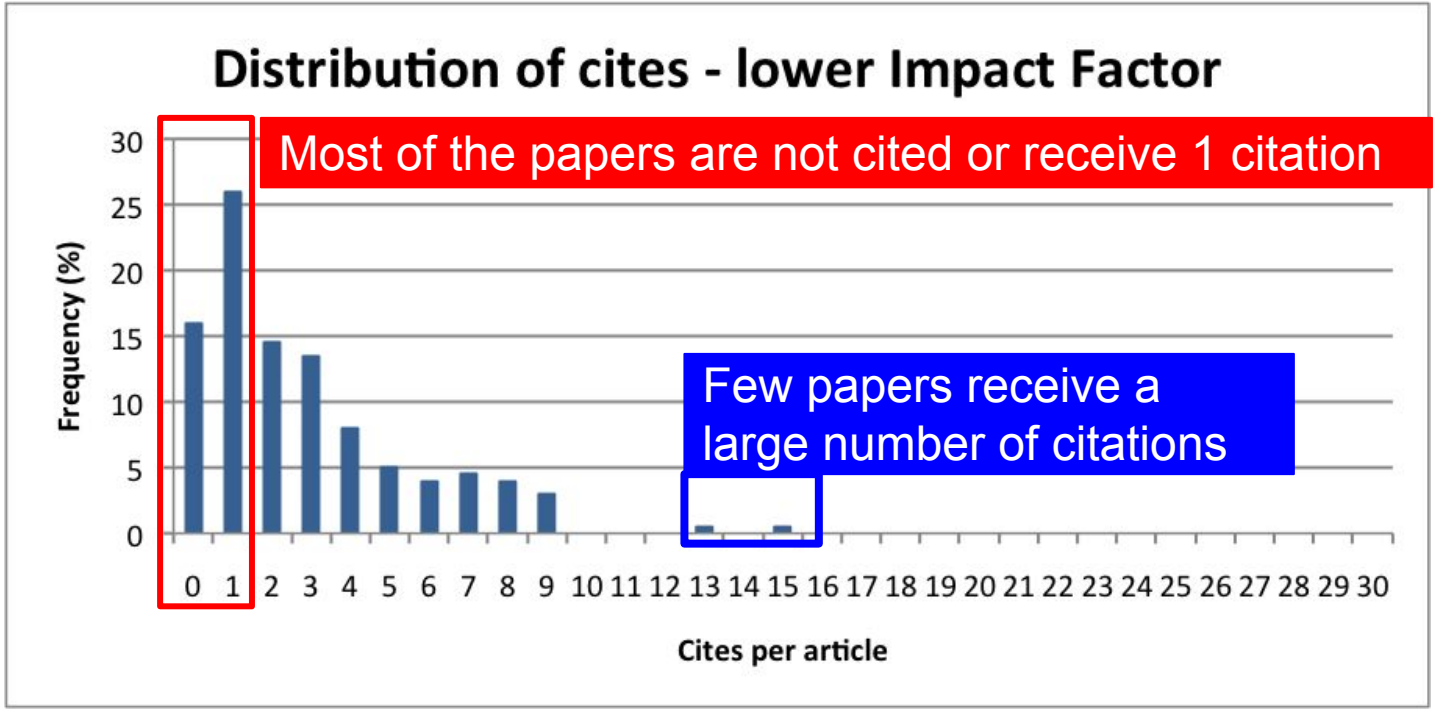
2. Be explicit about the criteria used in evaluating the scientific productivity of grant applicants and clearly highlight, especially for early-stage investigators, that the

Citation distributions within journals are skewed



Positively Skewed

(Right-skewed distribution: the mean is higher than the median)

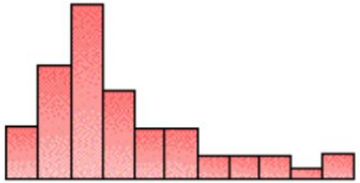


An average like the IF is not representative

Citation distributions within journals are skewed

Journal Impact Factor Calculation

2018 Journal Impact Factor = 206 / 131 = 1.573



Positively Skewed

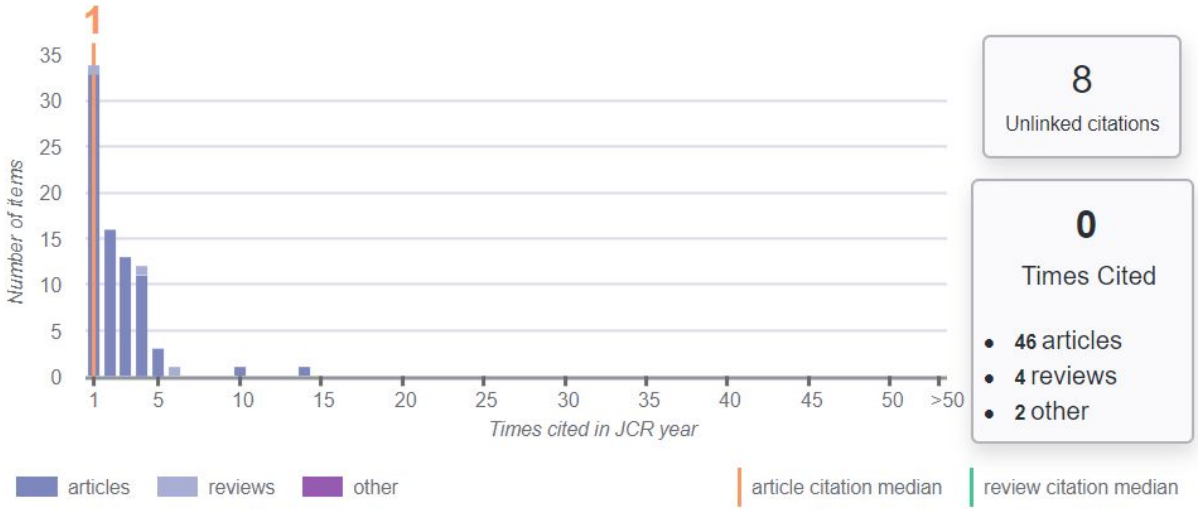
(Right-skewed distribution: the mean is higher than the median)

InCites Journal Citation Reports

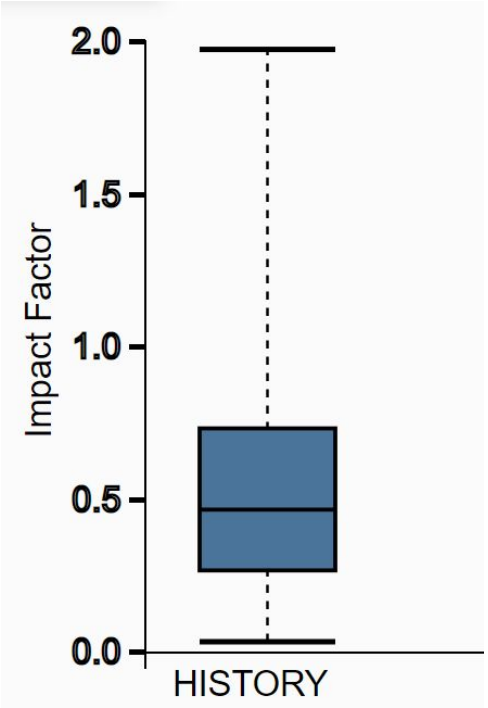
Page 1 of 1

Clarivate Analytics

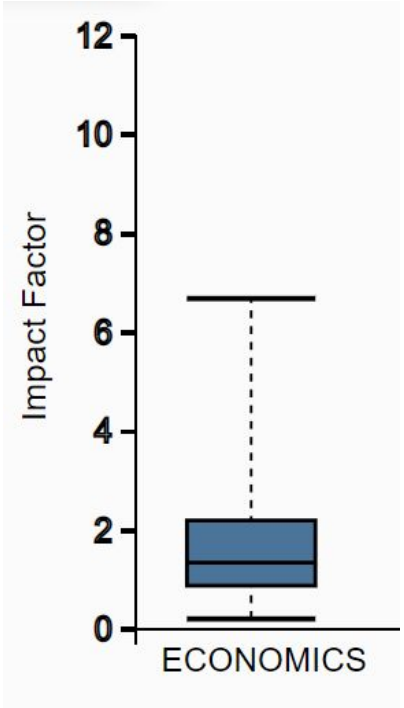
2018 JIF Citation Distribution for: JOURNAL OF DOCUMENTATION



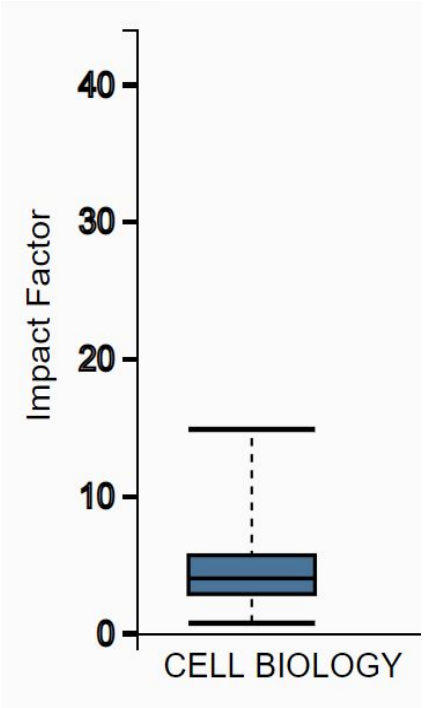
The properties of the IF are field-specific



Median IF 2018 = 0.5
Maximum 2018 = 1.94



Median IF 2018 = 1,21
Maximum 2018 = 11,775



Median IF 2018 = 3,485
Maximum 2018 = 43,351

4
The Journal Citation Reports

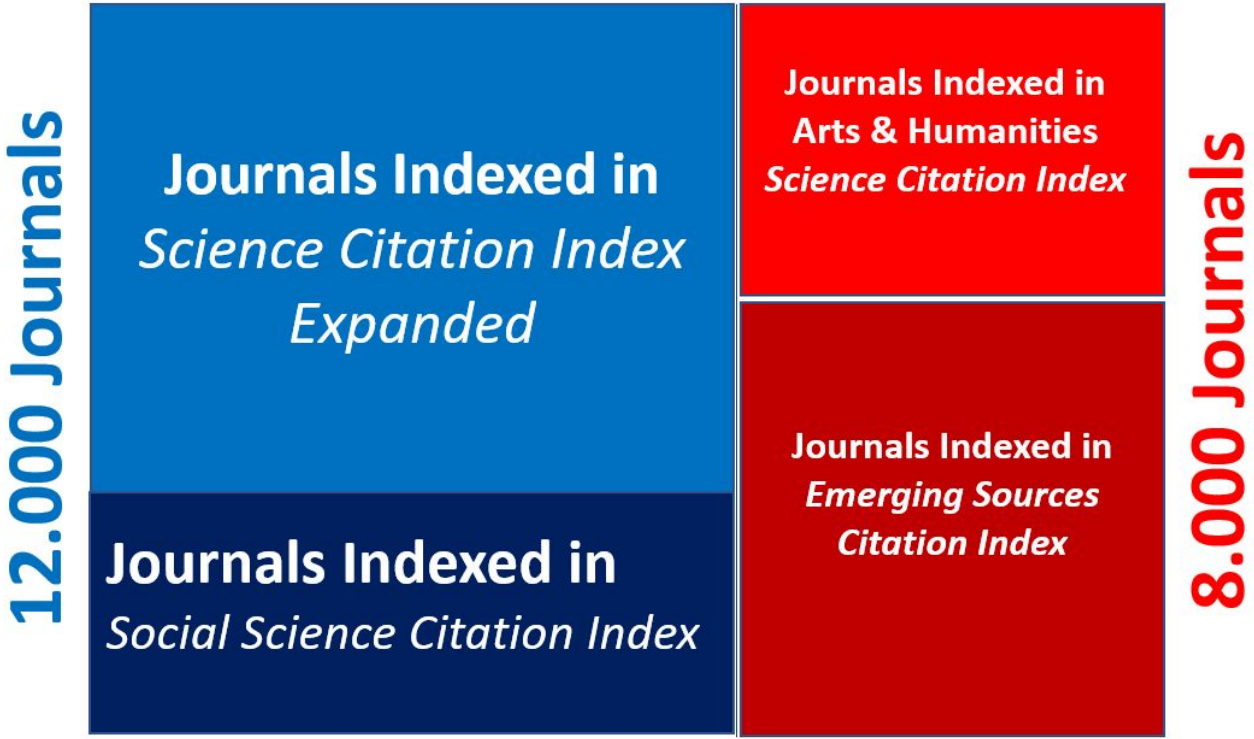
2021 Journal Citation Reports

2021 JCR's covered **all the journals in the Web of Science Core Collection™**. Although our JCR metrics already include citations recorded in journals covered in the Arts & Humanities Citation Index (AHCI)™ and the Emerging Sources Citation Index (ESCI)™, those two indexes and their journal content have not been fully covered in JCR – until now…

Journals from these indexes will not receive a Journal Impact Factor (JIF)™ in the JCR. But you can find for these journal the Journal Citation Indicator

The road to Journal Citation Reports 2021: New content and a new metric

2021 JCR. Macro Snapshot



CLICK HERE

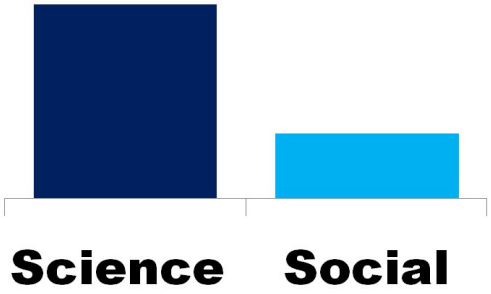
Blue Journals: classic JCR you can find the IF and the JIC

Red Journals: included in the new JCR; you can find just the JIC

Journal and disciplines coverage

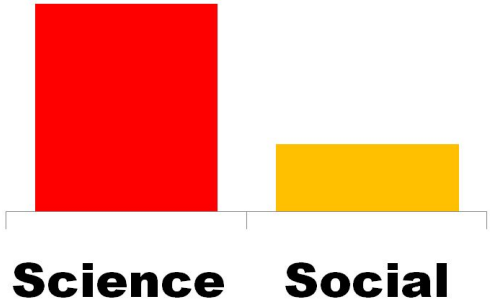
Nr of Journals with IF

- **13000 Journals**
- Science ed. 9200
- Social Science ed. 3400
- 20,932 + Not IF Journals

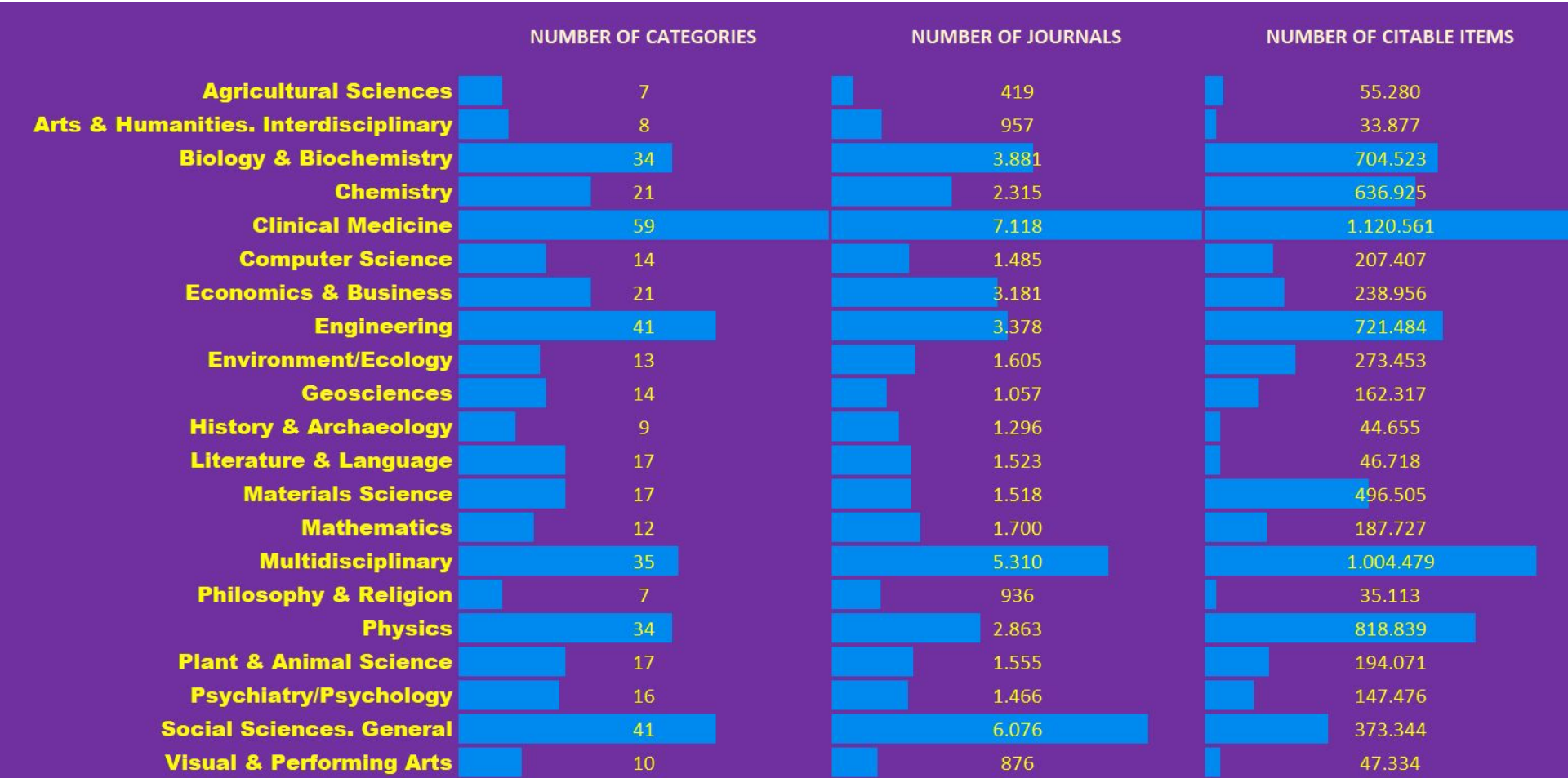


Nr of disciplines

- **236 Disciplines**
- Science ed. 178
- Social Science ed. 58



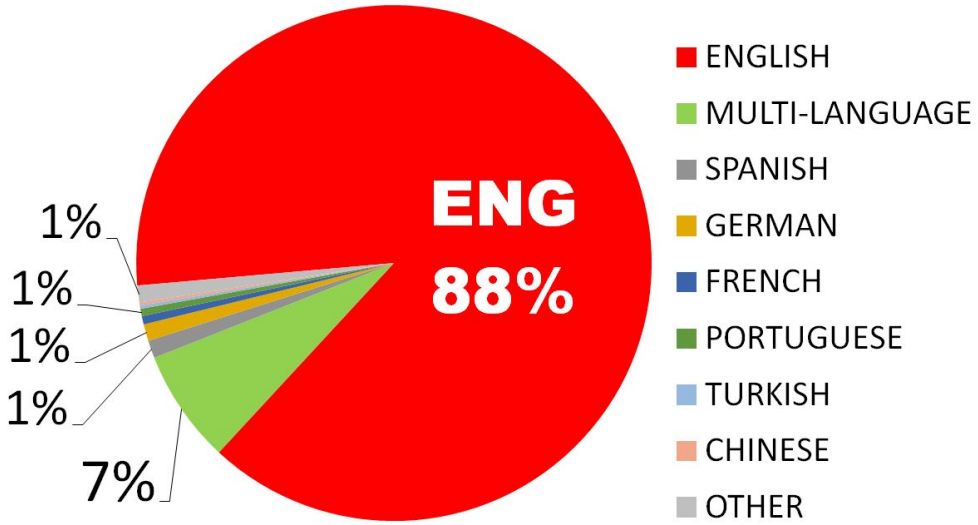
Journal and disciplines coverage



Countries and Languages coverage (IF Journals)

USA	**4245**
ENGLAND	**2821**
NETHERLANDS	908
GERMANY (FED REP GER)	671
JAPAN	247
SWITZERLAND	239
FRANCE	198
CHINA MAINLAND	181
AUSTRALIA	167
RUSSIA	151
POLAND	137
CANADA	126
SPAIN	126
ITALY	124
BRAZIL	119
SOUTH KOREA	117

7066 - 56%



Other indicators included in the JCR

Impact metrics

Metrics focused on the citation impact of the journals.

- [x] Total Citations
- [x] 2020 JIF
- [ ] 5 Year JIF
- [ ] JIF Without Self Cites
- [ ] Immediacy Index
- [x] JIF Quartile

Normalized metrics

Metrics that have been adjusted mathematically to a particular context.

- [x] 2020 JCI
- [ ] Eigenfactor
- [ ] Normalized Eigenfactor
- [ ] Article Influence Score
- [ ] JIF Percentile

Source metrics

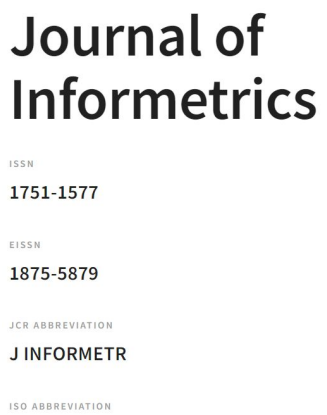
Metrics based on the content of the journals.

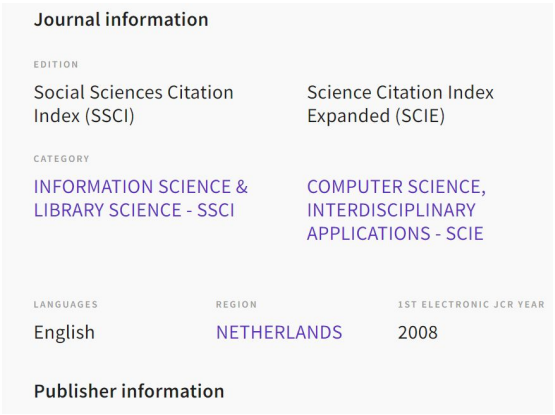
- [ ] Citable Items
- [ ] % of Articles in Citable items
- [ ] Cited Half-Life
- [ ] Citing Half-Life
- [ ] Total Articles
- [x] % of OA Gold

What can be known about a Journal in the JCR

Information included in the JCR for journals

Journal's performance
Citation distribution
Open Access (OA)
Rank by Journal
Impact Factor
Citation network
Content metrics
Additional metrics





Fake metrics

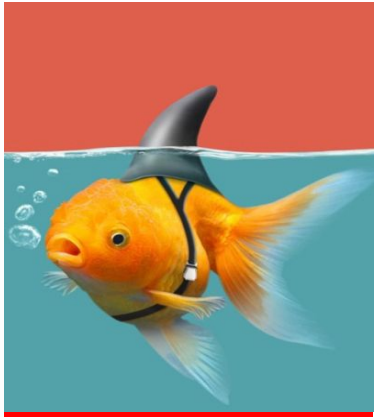
Stop Predatory Journals

List of Misleading and Fake Metrics

This is a list of possibly misleading metrics.

Metrics are judged to be misleading if they meet the following criteria:

1. The website for the metric is nontransparent and provides little information about itself such as location, management team and its experience, other company information, and the like
2. The company charges journals for inclusion in the list.
3. The values (scores) for most or all of the journals on the list increase each year.
4. The company uses Google Scholar as its database for calculating metrics (Google Scholar does not screen for quality and indexes predatory journals)
5. The metric uses the term "impact factor" in its name.
6. The methodology for calculating the value is contrived, unscientific, or unoriginal.
7. The company exists solely for the purpose of earning money from questionable journals that use the gold open-access model. The company charges the journals and assigns them a value, and then



More than 50 fake journal metrics

Global Impact Factor: http://globalimpactfactor.com

GIF®
GLOBAL IMPACT FACTOR

Search

Institute for Information Resources

News Updates Annual membership fee is of just 40 Dollars for existing members and they can renew their membership for year 2016

Journal Impact Factor (JIF): http://www.jifactor.com

Cite Factor: https://www.citefactor.org

CiteFactor Academic Scientific Journals

Home | About Us | Impact Factor | Publishers | Suggest | Contact | Login

Categories

Articles 151059

Journals 20483

News

Journal Impact Factor Report 2018

Date: 24th November, 2018

Impact Factor 2017-2018 (Latest)

Date: 22nd July, 2018

Journal Impact Factor List 2015 (Now Available)

Date: 15th January, 2016

Search

Keywords

Journals Articles

Advance Search

The CiteFactor server provides indexing of major international journals and proceedings. Author can get information about international journal **impact factor**, proceedings (research papers) and information on upcoming events. All the journal pages have pointers to Web pages of the publishers which are integrated into the CiteFactor stream pages.

The purpose is to increase the visibility and ease of use of open access scientific and scholarly journals. If your journal is indexed & got validated stamp from Citefactor, you can request for the calculation of impact factor for your journal.

"In addition, CiteFactor is working on next major task to link

EOI Electronic Object Identifier

Note: Get EOI for Journal/Conference/ Thesis paper.
(contact: eoi@citefactor.org).

Latest Updates

What is EOI ?

Date: 29th December, 2018

Universal Impact Factor: http://uifactor.org

Bonus1
Practical applications

Sometimes we need to calculate impact factor for a set of documents, for examples the output a institution or author. In this tutorial:

- How can we download data from JCR?
- How can we import this JCR data in a local database?
- How can we connect data from web of science with data from JCR?
- How can we can calculate impact factors for a set of WoS records?

Example:
Calculating impact factor and quartile for the scientific output of the university of Granada in Library And Information Science


ESSS2021
torressalinas