

LEXICON

- ESI: Essential Science Indicators
- JCR: Journal Citation Reports
- JIF: Journal Impact Factor
- WoS: Web of Science

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Before we start

About your trainer

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How to access InCites Next Generation?


- Journal Citation Reports
jcr.incites.thomsonreuters.com
- Benchmarking & Analytics
incites.thomsonreuters.com
- Essential Science Indicators
esi.incites.thomsonreuters.com



Web of Science InCites® Journal Citation Reports Essential Science Indicators™

Getting more help

Training videos on InCites:
http://wokinfo.com/training_support/training/incites/
InCites Indicators Handbook:
<http://researchanalytics.thomsonreuters.com/m/pdfs/indicators-handbook.pdf>



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The existing version of InCites can be accessed from <http://incites.isiknowledge.com>

Getting more help

- Training videos on InCites:
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<http://researchanalytics.thomsonreuters.com/m/pdfs/indicators-handbook.pdf>

Course plan (IC2BA02)

1. Prerequisite

1. InCites quick tour: <http://youtu.be/Q2ldsqrT4g> (5' videos)
2. Download training material: <http://bit.ly/1gz4JfDh>
 - InCites Quick reference guide
 - InCites metrics handbook

2. InCites: Benchmarking & Analytics

1. Thomson Reuters' Research Analytics
2. InCites data and metrics
3. Using InCites for evaluation and benchmarking

3. Work toward an example (*optional*)

4. Give us some feedback about today's session

bit.ly/TrainingWoS



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Summary

This Course is designed to give you an overview of the Journal and Highly Cited Data on Thomson Reuters' InCites platform. We will cover the data and the key features available in InCites Benchmarking & Analytics (B&A).

Prior to attending this session, we ask you to watch the quick tour videos that will give you a general overview on these services.

- InCites B&A quick tour: <http://youtu.be/Q2ldsqrT4g>
- Training material is available from: <http://bit.ly/1gz4JfDh>
- ESI quick tour: http://youtu.be/ZxxKI30I_QI
- JCR quick tour: <http://youtu.be/mgUeK0rRlqM>

This session will be divided in 3 parts:

- Thomson Reuters' Research Analytics
- InCites data and metrics
- Using InCites for evaluation and benchmarking

2.1.1 The basics of Research Analytics

- No data for the sake of it, what is your question?
- What do you want to know?
- What success looks like?



No data for the sake of it, what is your question?

Data is used as evidence to support a policy or a strategy, from development to implementation and review.

Data must have a set of features to be acted upon:

- Trusted source of data and calculation methods,
- Robustness to slight changes in environment and outliers,
- Reflect observed notable changes.

What do you want to know?

Prior to any evaluation or analysis, the key problem should be explicit and formulated in one or more questions:

- *What are my most relevant publications for the last 5 years?*
- *Is University X an important partner?*

What success looks like?

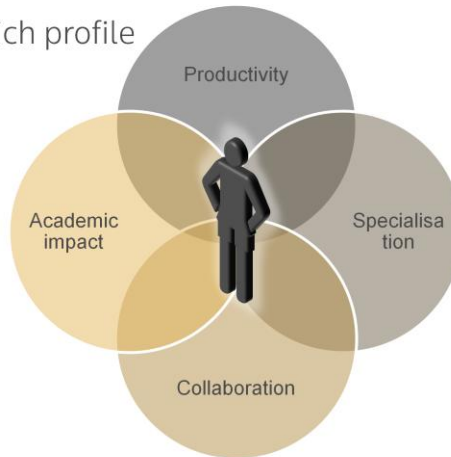
Indicators are used to measure how an entity or a groups of entities perform.

Measuring success is linked to initial hypothesis about the measured process, hence determining selected indicators:

- *Relevant publications are highly cited by peers in the discipline, high normalised citation score.*
- *Important partner universities collaborate internationally notably with China, organisations with high % on international collaborations co-authoring with China.*

2.1.2 Thomson Reuters' Research Analytics

- No magic number
- Rich research = rich profile

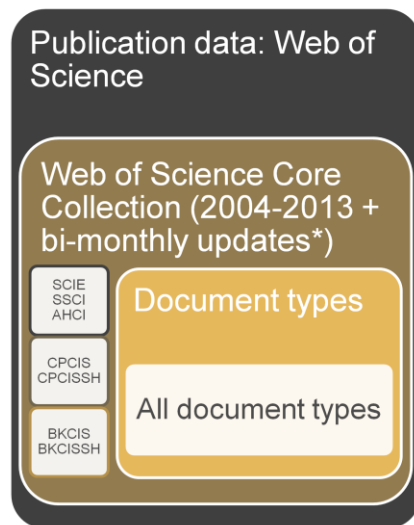


Indicators are necessarily limited in the scope they cover. Despite the flurry of new research performance metrics published every week, they rarely measure more than limited aspects of research. Including metrics such as the H index.

To cover all aspects of the evaluated activity needed to answer the initial question. Generally, that means all or part of the followings aspects:

- Productivity – how many papers
- Academic impact – absolute of relative citation counts,
- Collaborations – with who, where are they working,
- Specialisation – what disciplines.

2.2.1 InCites publication data



- A single data source for publications: Web of Science
- Publication window = citation window,
- Baselines calculated for all documents and the same documents,

* late 2014



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InCites publication and citation data (included records)

- All journals, proceedings and books indexes from the Web of Science Core collection.
- Selected records: initially published in the last 10 years (eg 2004-2013), but this timeframe is not a constant window. Later version of InCites will include earlier publications and bi-monthly updates of the latest publications.
- Citations are calculated from the same selected source records (included indexes and timeframe).
- Baselines are calculated from the same publication and citation window.

InCites vs. Web of Science

Publication and citation data are extracted from the Web of Science a few weeks before an InCites update is released. There is not "live" stream of data between the two platforms. When comparing number of publications and citations between the platforms, some differences can be observed:

- publication and citation indexes and time windows need to be similar,
- records in Web of Science can change between the InCites extract and the latest Web of Science update (made weekly),
- fields such as the "Organisation Enhanced" in Web of Science are updated at a different interval.

2.2.2 InCites other data

Recorded Future

- Scan public web sources, including news publications, “high-caliber” blogs, social media platforms, financial databases, government websites, and much more.
- Sources are analysed through text search, data visualization, natural language processing, and entity extraction.

Beyond publication data

- patents
- grant data (mainly US and UK information),
- Planned for late 2014.



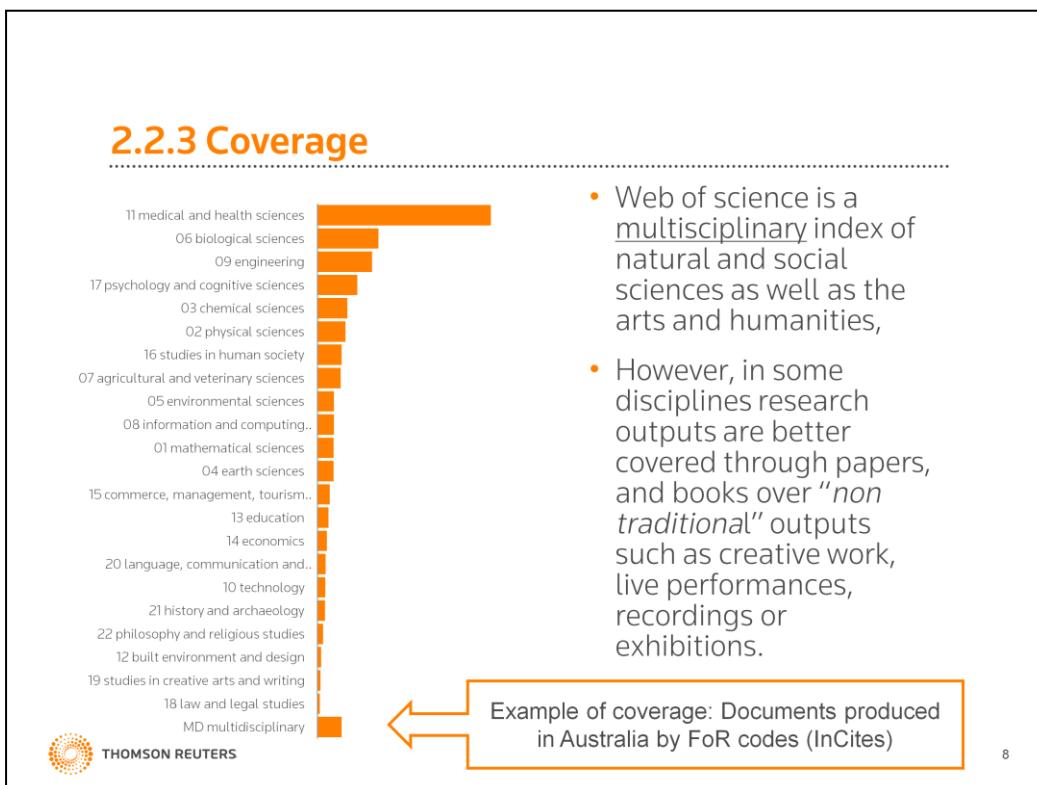
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Data currently available

- Recorded Future is a start up company created in 2009 (<https://www.recordedfuture.com/about/>).

Data included later

- Patent data will come from Thomson Reuters Derwent Innovation Index.
- Grant data are sourced from Thomson Reuters information systems.



Example of coverage: Documents produced in Australia by FoR codes (source: InCites) and the type of outputs for some of them (source: ERA 2010 data).

FoR	Documents	Documents
MD multidisciplinary	20,785	
18 law and legal studies		2,020
19 studies in creative arts and writing	2,671	72% non traditional outputs, 13% papers
12 built environment and design	3,062	
22 philosophy and religious studies	4,792	
21 history and archaeology		6,407
10 technology		6,566
20 language, communication and culture	6,849	33% books, 46% papers
14 economics		7,980
13 education		9,332
15 commerce, management, tourism and services	10,662	
04 earth sciences	13,902	
01 mathematical sciences		13,993
08 information and computing sciences	14,028	75% conference papers, 18% papers
05 environmental sciences		14,150
papers		44% conference papers, 52%
07 agricultural and veterinary sciences	20,066	
16 studies in human society		20,693
02 physical sciences	24,166	
03 chemical sciences	25,746	
17 psychology and cognitive sciences	34,418	
09 engineering	47,014	
06 biological sciences	52,579	
11 medical and health sciences	149,493	96% papers

2.2.4 What is a publication in Web of Science?

A screenshot of a Web of Science document page for the article "Spontaneous fluctuations in brain activity observed with functional magnetic resonance imaging". The page is annotated with three orange arrows pointing to the "Bibliographic information", "Metadata", and "Citation network" sections. To the right of the screenshot, a text box defines a Web of Science document as a publication defined by these three elements. Below this, a diagram shows a central "Source document" (a green bar) connected to a network of "Cited references (back)" and "Citing documents (forward)". The network is represented as a large, colorful, fan-shaped structure of lines connecting various document icons.

A web of Science document = a publication defined by

- Bibliographic information,
- Metadata,
- Citation network of cited references and citing documents.

Citing documents (forward)

Source document

Cited references (back)

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The basic element of InCites data is a Web of Science document or publication. These documents are defined by three types of information:

Bibliographic information

- Author names,
- Publication year (cover date),
- Publication outlet (journal, conference, book).

Metadata

- Author affiliation: organisation, country,
- Author identification such as ResearcherID codes,
- Research Areas: the research category of a publication can be attributed through different mechanisms. For instance, the web of science areas are attributed to the outlets such as journals,
- Document type: each publication can be given one or more type. Documents classified as articles or reviews are generally called "paper",
- Open Access status.

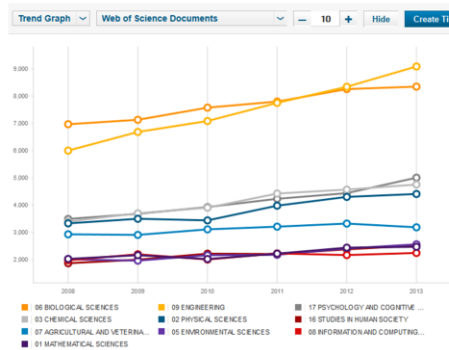
Citation network

- References cited in each document,
- Documents citing the source document.

2.2.5 Productivity metrics: measuring outputs

Number of documents

- In InCites Dataset > In the Research Areas scheme > Selected filtering,
- All documents of specific types can be selected: e.g. papers (articles, reviews, proceedings papers and book chapters),
- Period analysis or trend analysis (annual evolution).



Number of documents

All records from the Web of Science core collection are part of the InCites data but the total number of documents given in InCites will vary upon the selected filtering notably:

- The Research Areas scheme: under each scheme, the total “pool” of documents can vary (e.g. The Essential Science Indicator scheme only includes papers published in journal with a ESI category),
- The document type: all documents types across the WoS Core collection are available and the specific types can be selected. Typically, are called papers documents classified as articles, reviews, proceedings papers and book chapters. Documents in the Web of Science can have more than one type, but in InCites each document will be attributed a single type (e.g. A book chapter published as an article in a journal, might have an article + book chapter type, but will be considered as an article in InCites). The Web of Science schme will include all the documents available.

Trends

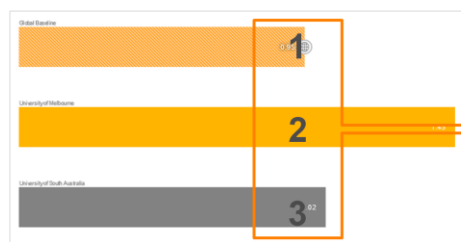
The evolution of the number of documents can be analysed over a period (time frame) or through the annual variation (trend graph) within this time frame.

2.2.6 Impact metrics: influence and comparison

Citation Impact

Measure influence.

- Times cites,
- Citation Impact,
- % documents cited.



Citation benchmarks

Measure impact relative to peers.

- Normalized Citation Impact,
- Average percentile,
- Percentage of top papers,
- Percentage of highly cites papers.

- 1: Global baseline = 1*
- 2: NCI=1.45 > 1, above peers
- 3: NCI=1.02 = 1, average

* Calculated value not exactly at 1.00

Citation impact

The number of citations accrued by publications is an indicator of their overall influence. The higher the value and rate of citation the higher the influence is.

Total cites: raw number of citations, it measures influence of papers, authors, institutions,

Citation impact: average number of citations per document (often referred as CPP),

Percentage of cited documents: can also be seen as the percentage of uncited documents.

Citation benchmark

A given publication will attract a variable level of cites depending on a series of factors. The observed cites will therefore be a function of the age of the publication and these factors as summarised below:

$$\text{Cites to publication} = f(\text{influence of the publication, age, document type, field, other})$$

“other” residual factors can notably include the number of authors and affiliations, the geographic origin of the publication.

To take into account the effect of “age, document type, field” InCites provides a series of normalised indicators that enable the comparison of a pair of publications or a pair of document sets.

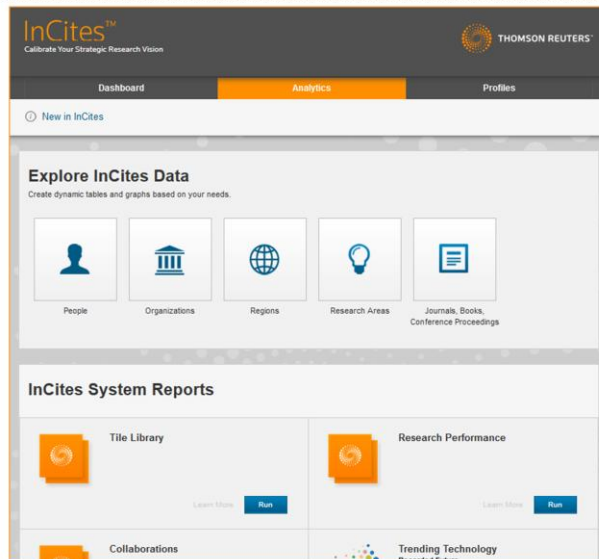
Normalized Citation Impact: the average number of citation to the selected publications normalised for the publication year, the category and the document type.

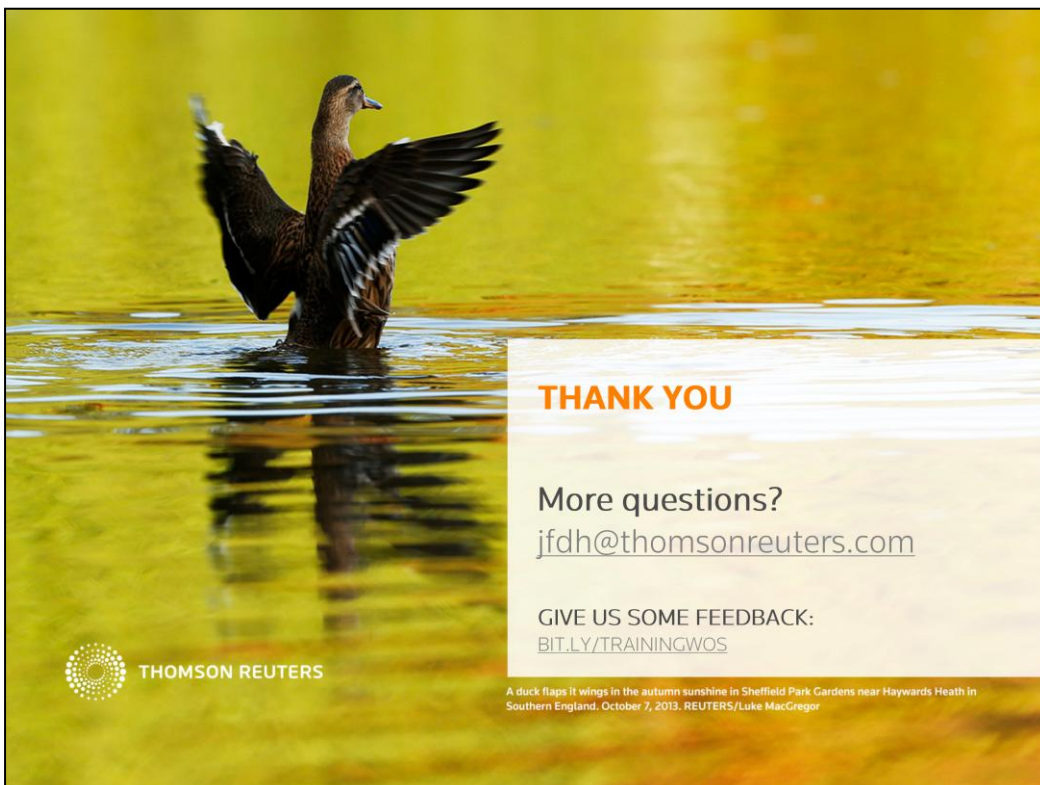
Average percentile: the average rank of papers in the selected publications that are ranked by number of Cites each year and in individual field. Papers in the top 3% will have be ranked in the 97th percentile.

Percentage of top papers: The percentage of papers in the selected publications that are ranked in the top 1% or 10% by number of Cites each year and in individual field.

Percentage of highly cites papers: as above but it identify the top 1% papers in individual ESI categories over the latest ESI period (last 10 years).

2.3 Demonstration






THANK YOU

More questions?
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GIVE US SOME FEEDBACK:
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A duck flaps its wings in the autumn sunshine in Sheffield Park Gardens near Haywards Heath in Southern England. October 7, 2013. REUTERS/Luke MacGregor