

# Understanding Scopus & SciVal & the QS World University Rank

A closer look for research leaders

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Web version: <https://www.elsevier.com/research-intelligence/university-rankings-data-part-2>



## What data do University Rankings use?

There are at least 20 global university rankings organizations. These can range from traditional magazines and newspaper publishers to other websites and even governments. Some do a wide range of different rankings, and others specialize in a country or region.

To get a look into seven major rankings organizations, [download the quick guide](#).

What all these ranking organizations have in common is their reliance on data inputs from a range of sources. The required data includes university and researcher data, relevant data on human resources, student administration, finances, and reputation surveys.

For a broader understanding of University Rankings, please visit [Guide to University Rankings](#).

### Chapters

- What data do University Rankings use?
- What data does QS use to determine the rankings?
- How can I be included in the QS rankings?
- Why does QS use Scopus data?
- What is Scopus data?
- How can SciVal help you?
- Glossary

### Research publication data

One element most rankers use is research publication data. This data is associated with the items (see Glossary) that researchers publish to share their findings.

You can glean several data points from publication data:

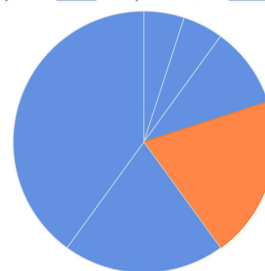
- Number of citations of an article
- Amount of articles a research institution has published
- Research collaboration of the authors, particularly international
- Authors affiliated to an institution

By using publication data, rankers get a quantitative look at each university's research to make it easier to compare them.

## How are the QS World University Rankings calculated?

*Quacquarelli Symonds* – more commonly referred to as *QS* – ranking methodology evaluates universities with six metrics:

International students 5%    International faculty 5%    Employer reputation 10%  
Citation per faculty 20% \*    Faculty students 20%    Academic reputation 40%



\* Scopus contributes here

The weight distribution is applied across the six metrics QS uses in its WUR methodology. Adapted from QS website on September 2, 2021.

## More detail on Citations per faculty (20%)

Scopus contributes the data for this part of the QS ranking.

To calculate the Citations per Faculty metric, QS takes the total number of citations received by all papers produced by an institution across five years by the number of faculty members at that institution. QS uses a five-year publication window for papers and a six-year citation window, reflecting that it takes time for research to be effectively disseminated.

To account for the fact that different fields have very different publishing cultures, QS normalizes citations. A citation received for a paper in Philosophy is measured differently to a paper on Anatomy and Physiology. Ensuring that, in evaluating an institution's true research impact, both citations are given equal weight.

## How can I be included in the QS World University rankings?



To be considered for the rankings, a university must teach at undergraduate and postgraduate levels and conduct work in at least two of five possible faculty areas:

- Arts and Humanities
- Engineering and Technology
- Social Sciences and Management
- Natural Sciences
- Life Sciences and Medicine

If you think your university meets these requirements, [contact a QS representative](#) for consideration. The representative may direct you to the [Rankings Entry Evaluation](#). This data-rich tool allows institutions to understand how they're currently performing in each of the six key areas.

## Why does QS use Scopus data?

Scopus is a source of research publication data that several rankers rely on.

In 2015, after renewing their agreement with Elsevier, Ben Sowter, Senior VP at QS, said,

QS was the first of the global rankings compilers to identify Scopus as an excellent source of data to assess research activity and excellence of universities globally. Since 2007, Elsevier have been an accommodating and cooperative partner; this renewal of our collaboration represents a deepening of our working relationship and we are looking forward to exploring some of the new opportunities that it brings.

## QS uses Scopus data in several rankings:

- World University Ranking.
- 51 Subject Rankings
- 5 Regional Rankings + BRICS (Brazil, Russia, India, China, and South Africa)
- The “QS Top 50 under 50 Ranking” ranking universities that have been established for under 50 years.



## What is Scopus Data?

Scopus is a source-neutral abstract and citation database curated by independent subject matter experts.

There are three things you need to know about Scopus:

- What is in the database, and which parts does QS use?
- What is an institution or organization profile, and how can I maintain mine?
- What are author profiles?

## The Scopus Database

Scopus is a structured source of publications items (see Glossary). The structure includes organizing the data generated in relationships, e.g., authors, citations, institutions, etc.

This video describes the elements about Scopus data you need to know to understand the background for QS university rankings.



The video showed that Scopus contains millions of data points across publishers, platforms, and sources. In addition to all this data, Scopus uses artificial intelligence to connect the data to the correct authors and institutions.

Scopus is organized in a structured way so you (and QS) can use it to find insights about your research.

## Institution Profiles and Affiliation Hierarchy

QS uses the Scopus institution profiles to define what they institutions, research centers, labs, etc. to group together.

### Scopus data & Rankings: An example

You can see an example of how Scopus Data, Institutional profiles and Rankings work together by looking at Li. Li works in the office of research and needs to meet a challenge posed by his Vice-chancellor:

- Determine the contributing factors to university rankings
- Develop a plan to show the university in its best light



Scopus contains artificial intelligence to develop affiliation hierarchies correctly. It is always good to periodically check to make sure it is accurate. In this way, QS has the precise picture of your publication data. You can use the Institution Profile Wizard (IPW) to make changes.

## How can SciVal help you understand your University's research & ranking?

SciVal helps you visualize your research performance, benchmark relative to peers, develop strategic partnerships, identify, and analyze new, emerging research trends, and create customized reports.

## Glossary Items

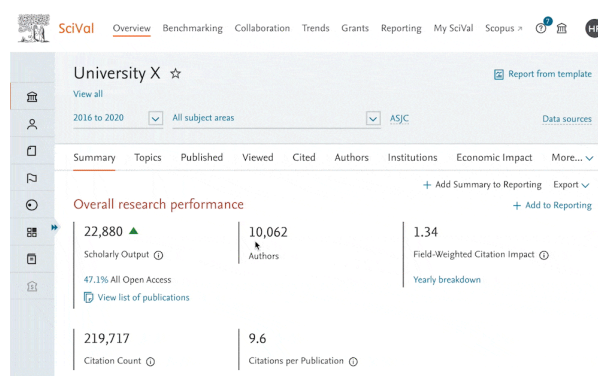
In Scopus, items are also called documents. There are many document types:

Document Type	Definition	More Detail
Article	Original research or opinion	Articles in peer-reviewed journals are usually several pages in length, most often subdivided into sections: abstract, introduction, materials & methods, results, conclusions, discussion, and references. However, case reports, technical and research notes and short communications are also considered articles and may be as short as one page in length. Articles in trade journals are typically shorter than in peer-reviewed journals and may also be as brief as one page in length.
Article-in-Press (AiP)	Accepted article made available online before the official publication	
Book	A whole monograph or an entire book	Book type is assigned to the whole. Additionally, for books with individual chapters, each chapter, along with a general item summarizing the book, is also indexed with the source type Book.

Here are the things SciVal can do.

- Identify and analyze your research strengths
- Benchmark against any research institution
- Recognize partners for increased collaborations
- Discover key researchers and rising stars
- Analyze your portfolio for hot research topics
- Report on all the data with customizable report templates

SciVal is based upon Scopus Data. Therefore, SciVal can help you interpret the same data that QS uses for 20% of their rank.



The image above is a view of the SciVal Institution Overview page. There are many other ways to look at your research output, e.g., Collaboration, Benchmarking, Trends, and more.

Chapter	A book chapter	A complete chapter in a book or book series volume where it is identified as a chapter by a heading or section indicator.
Conference paper	Original article reporting data presented at a conference or symposium	Conference papers are of any length reporting data from a conference, except for conference abstracts. Conference papers may range in length and content from full papers and published conference summaries to short items as short as one page in length.
Data paper	Searchable metadata documents describing an online accessible dataset, or group of datasets.	A data paper intends to offer descriptive information on the related dataset(s), focusing on data collection, distinguishing features, access, and potential reuse rather than report on data processing and analysis.
Editorial	Summary of several articles, or provides editorial opinions or news	Editorials are typically identified as editorial, introduction, leading article, preface or foreword, and are usually listed at the beginning of the table of contents.
Erratum	Report of an error, correction, or retraction of a previously published article	are short items citing errors in, corrections to, or retractions of a previously published article in the same journal to which a citation Errata is provided.

Time Higher Education uses five publication types when calculation rankings:

- Articles
- Reviews
- Conference Proceedings
- Books
- Book Chapters

## FWCI

Field-Weighted Citation Impact is a metric that considers different citation practices in other fields you can compare them.

FWCI is calculated by the total citations received by the denominator's output and the total citations that would be expected based on the average of the subject field.

A Field-Weighted Citation Impact of:

- \*Exactly 1\* means that the output performs just as expected for the global average.
- More \*than 1\* means that the output is more cited than expected according to the global average. For example, 1.48 means 48% more cited than expected.
- Less than 1 means that the output is cited less than expected according to the global average.

Field-Weighted Citation Impact considers the differences in research behavior across disciplines. It is beneficial for a denominator that combines several fields, although you can apply it to any denominator.

- Researchers working in medicine and biochemistry typically produce more output with more co-authors and longer reference lists than researchers working in fields such as mathematics and education; this is a reflection of research culture, not performance.
- In a denominator comprising multiple disciplines, the effects of outputs in medicine and biochemistry dominate those in mathematics and education.
- Using non-weighted metrics, an institution focused on medicine will appear to perform better than an institution that specializes in social sciences.
- The methodology of Field-Weighted Citation Impact accounts for these disciplinary differences.

