



Elsevier : A Brief Overview



Who We Are

Global information analytics
business specializing in science
and technology

Why We Do It

To help solve your
challenges, for the
benefit of the scientific
community



What We Do

Help scientists and
researchers improve
performance and advance
science

A Unique Combination

Combine content with technology,
supported by operational efficiency, to turn
information into actionable knowledge.



Elsevier, because informed decisions lead to better outcomes



Trusted in research & health

- We are **trusted** for 2,700+ digitized journals, including The Lancet [^] and Cell [^] and 43,000+ eBooks.
- We organize the review, editing and dissemination ~**18%** of the world's scientific articles contributing to a more **scientifically literate** society.
- **99% of Nobel Prize winners** have published with Elsevier.
- **>1.6 billion articles downloaded** by researchers in 2020.
- **94% of the top 100 health systems** (ranked by bed count) use at least one of Elsevier's Clinical Solutions.



The future is open

- We give **authors and institutions choice** in how they publish and access research.
 - More “**transformative agreements**” than any other publisher.
 - **Nearly all our journals enable open access**, including over 600 fully open access journals.
- In 2021, Elsevier published **119,000** gold or pay-to-publish OA articles - a year on year growth rate of over 46%.



The innovation delta

- Our unique delta of **data, analytics and evidence** is enabling innovation.
- **We're transforming medical learning** immersive visualization, digital simulations and virtual reality.
- We combine advanced technology such as **ML and NLP with reliable information** to put users in control to focus on their goals and improve outcomes.



Partnering for a better world

- **Committed to UNSDGs** global health, inclusion and diversity, reducing inequalities, and climate action.
- **We are convening the experts and taking action** in gender equality, race and ethnicities, disability, sexual orientation, and generations.
- And we're committed to **doing our part in this global health crisis** for our people and all people.

Mission

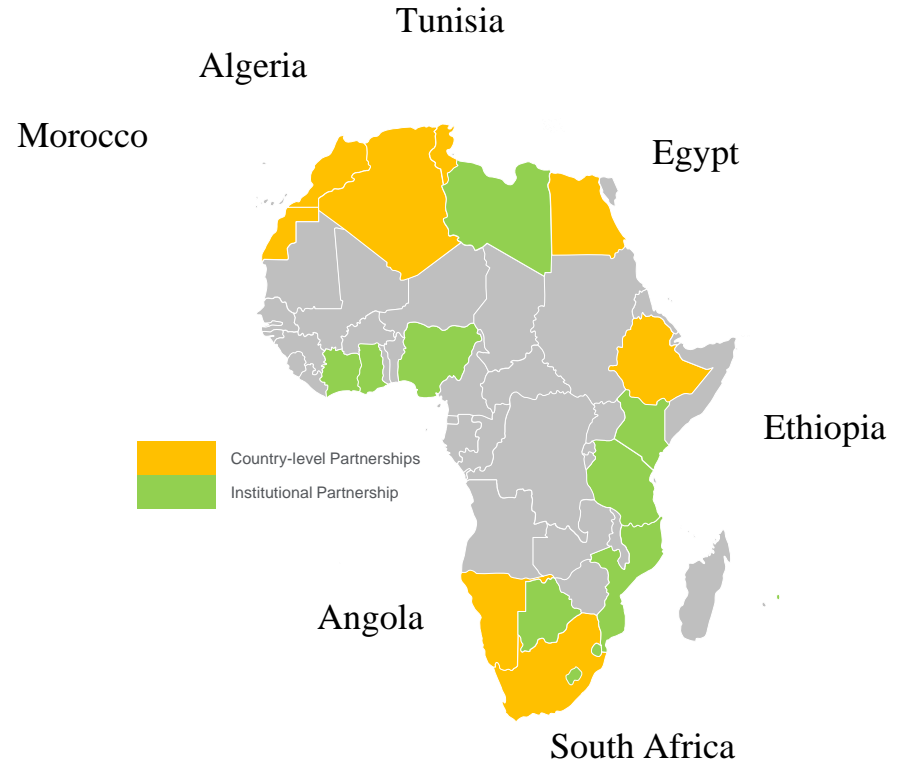
Elsevier helps researchers and healthcare professionals advance science and improve health outcomes for the benefit of society.



Elsevier employs 8,700 people, including 1,922 technologists in >180 countries. Many of us began our careers in research and healthcare. We share the community's belief in the power of science, research and medicine.

Partnership beyond Access: Building Value for All Research Community

- Capacity Building Programs
 - Training for Researchers
 - Author Workshops
 - Selecting Journals for Publishing & Avoiding Predatory Journals
 - Researcher Trainings
 - Get relevant Funding
- Support Digital transformation:
 - Educational Programmes
 - Undergraduates
 - Postgraduates
- Special Trainings
 - Editor Workshops
 - University Ranking Workshops
 - Research strategy workshops
- Consultation Services for Decision Makers





Thank you

For more information, visit

<https://www.elsevier.com/about/this-is-elsevier>





Elsevier Support for Rankings & Beyond

Amr Moneim, Regional Manager Research Intelligence
Lucia Schoombee, Senior Customer Consultant Research Intelligence

24 November 2022



Agenda

- How Elsevier supports Rankings
- About Scopus
- The significance of Citations in Rankings
- Insight into Scopus data in the THE Rankings
- Insight into Scopus data in the QS Ranking
- How we support Universities
- Driving excellence beyond Rankings
- Conclusion

Elsevier – Rankings Partnership



24.11.2022

Elsevier's position on rankings ... and metrics in general

All rankings have their strengths and potential disadvantages and we do not rank the rankings!

- We believe in working on fundamentals with a “*basket of indicators*”, always as a complement to peer opinion
- Informed decisions are better decisions
- Metrics should complement, not replace human judgment
- Well-selected metrics drive positive behaviors
- Metrics can help monitor and eliminate biases



Bibliometric data providers vs. Ranking agencies

Over the past decade, ranking organizations have increasingly turned to Scopus and SciVal for the research information and bibliometric data used to implement their ranking methodologies.

Unique to Scopus / SciVal

shared data provider



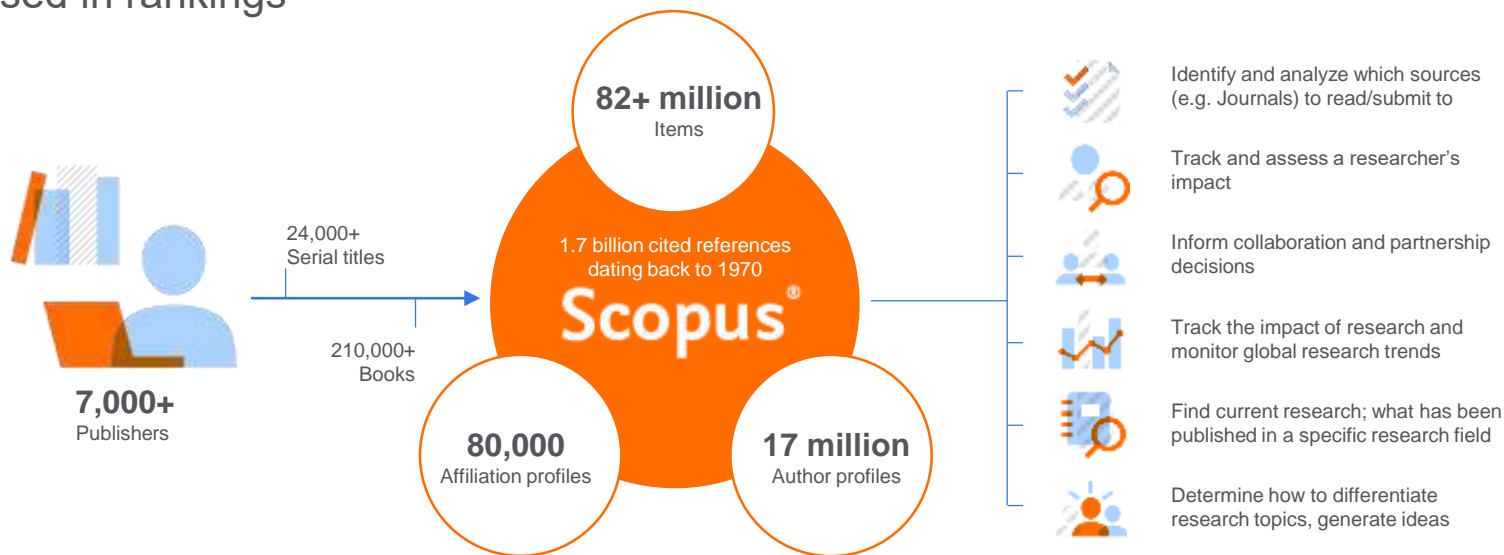


About Scopus

Providing the bibliometric datasets behind the Rankings

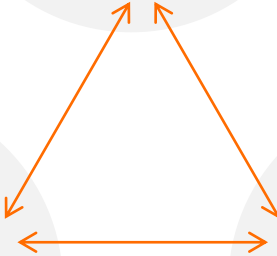
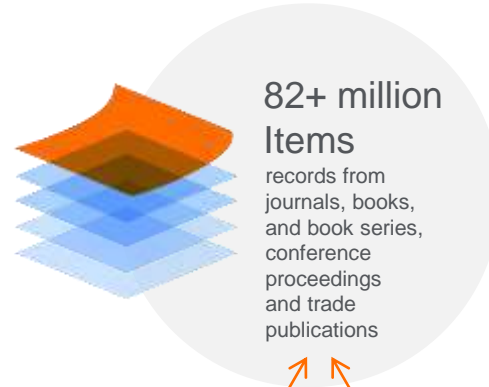
Scopus

Is a source-neutral abstract and citation database curated by independent subject matter experts. It is the underlying data source for SciVal and the bibliometric dataset used in rankings



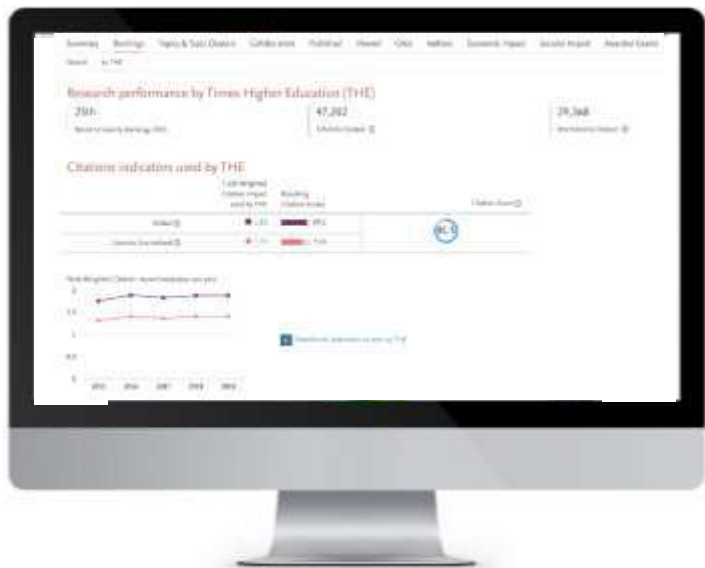
The Scopus data model

The Scopus data model is designed around the notion that **publications** are written by **authors** that are affiliated with **institutions**.



Significance of Citation data in Rankings

Citation share in prominent rankings



QS WORLD
UNIVERSITY
RANKINGS



THE WORLD
UNIVERSITY
RANKINGS



Note: Dataset draws upon the more than **23,400 titles** indexed in Scopus & analyzes over **77 million** citations to 12.8 million articles, reviews, conference proceedings, books and book chapters.

What is the Field-Weighted Citation Impact (FWCI)?

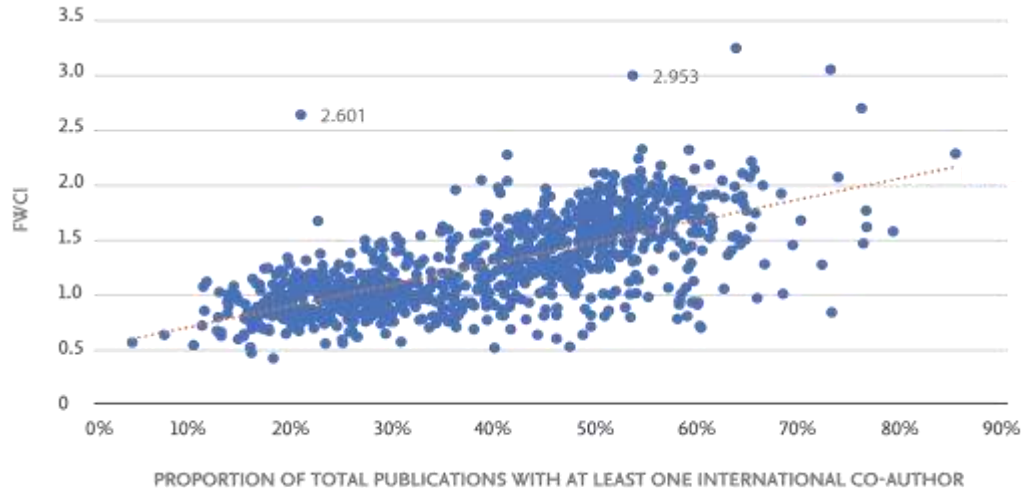
*FWCI is a normalized citation impact metric which is an **indicator of the citation impact of a publication**. It compares the actual number of citations received by an entity's publications with the number of citations expected for each publication based on the **subject field, publication type and publication year**.*

- FWCI counts citations in the calendar **year of publication and the following three years**
- It is calculated using the ratio of the citations received and the citations expected for a publication given the **publication year, publication type and subject area**.
- A FWCI of more than 1.00 indicates that the entity's publications have been cited **more than would be expected based on the global average** for similar publications. For example, a FWCI of 2.11 means 111% more than the global average.
- A FWCI of less than 1.00 indicates that the entity's publications have been cited **less than would be expected based on the global average** for similar publications; for example, 0.87 means 13% less than the global average.



Please see pages 46 and 47 of the [Research Metrics Guidebook](#) for further information on FWCI

Field-Weighted Citation Impact (FWCI) and International Collaboration*



There appears to be some positive correlation between **FWCI** and the proportion of an institutions publications which involve an **international co-author**, 2 metrics used as the basis for parts of the THE ranking methodology

- International collaboration expands your network which can provide access to larger audiences to discover and use your research findings
- Although the correlation doesn't appear very strong, more international collaboration seems to have a positive effect on citation impact as measured by the FWCI



*International collaboration as determined by co-authorships



Times Higher Education World University Rankings (WUR)

What makes up the THE World University Rankings?



World University Rankings 2021

The Times Higher Education World University Rankings 2021 includes more than 1,500 universities across 61 countries and regions, making them the largest and most diverse university rankings to date.

The table is based on 11 carefully selected performance indicators that measure an institution's performance across four areas: teaching, research, knowledge transfer and international outlook.

Read more... [How to get your own ranking](#)

RANKING		SCORES					
Rank	Name Country/Region	Overall	Teaching	Research	Citizens	Industry Income	International Outlook
1	University of Oxford United Kingdom	95.6	91.3	99.6	98.0	68.7	96.4

[Enquire](#)
[Admissions Support](#)

Ranking organization:

Times Higher Education (THE)

Ranking report:

[World University Rankings](#)

Report focus:

Global

Stated goal:

- Evaluate research-intensive universities across all their core missions: teaching, research, knowledge transfer and international outlook.
- Provide trusted performance data on universities for students and their families, university academics, university leaders, governments and industry

Scope:

1,500+ institutions

Data sources:

Academic Reputation Survey | Elsevier's Scopus database

Timing:

Annually (September)

Data snapshot:

Start May (profile changes should be complete by March)



Source: : <https://www.timeshighereducation.com/world-university-rankings/world-university-rankings-2021-methodology>
https://www.timeshighereducation.com/sites/default/files/breaking_news_files/the_2021_world_university_rankings_methodology_24082020final.pdf

Website accessed on: 9 June 2021

THE uses 13 indicators to position more than 1,500+ institutions worldwide. These performance indicators are grouped into five areas (as shown to the right).

30% Teaching (the learning environment):

- 15.0% Reputation survey
- 4.50% Staff-to-student ratio
- 2.25% Doctorate-to-bachelor's ratio
- 6.00% Doctorates-awarded-to-academic-staff ratio
- 2.25% Institutional income

30% Research (volume, income and reputation):

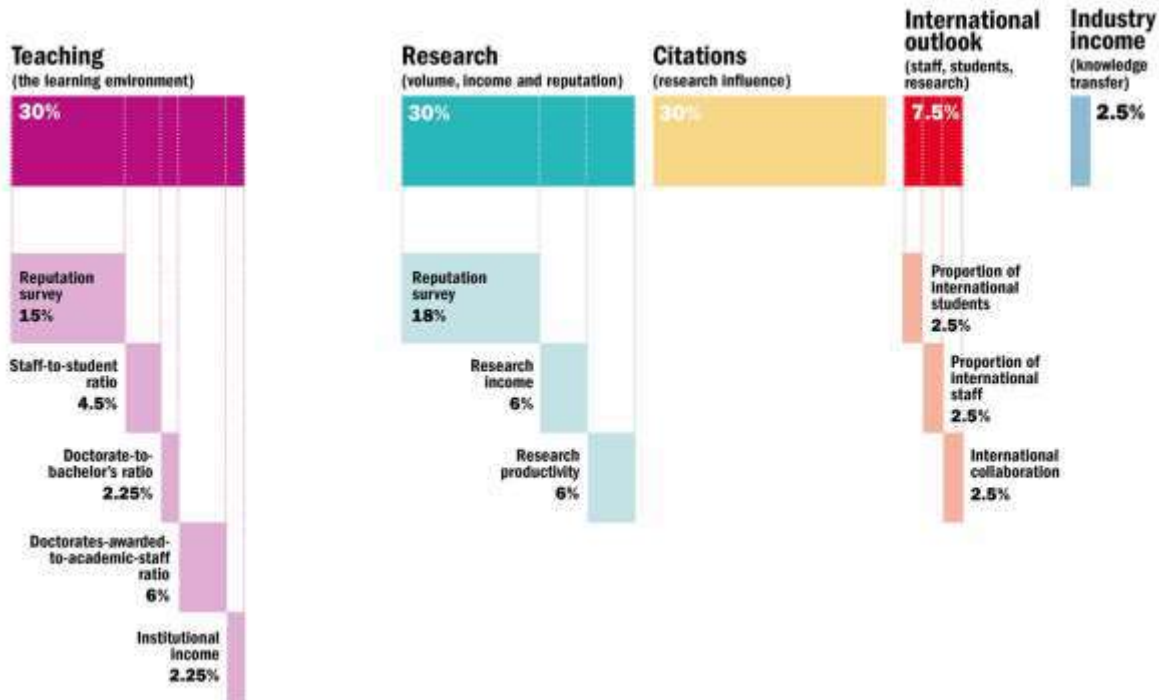
- 18.0% Reputation survey
- 6.0% Research income
- 6.0% Research productivity

30% Citations (research influence)

7.5% International outlook (staff, students and research)

- 2.5% Proportion of international students
- 2.5% Proportion of international staff
- 2.5% International collaboration

2.5% Industry income (knowledge transfer)



The bibliometric dataset from Elsevier

38.5% of the Overall ranking score

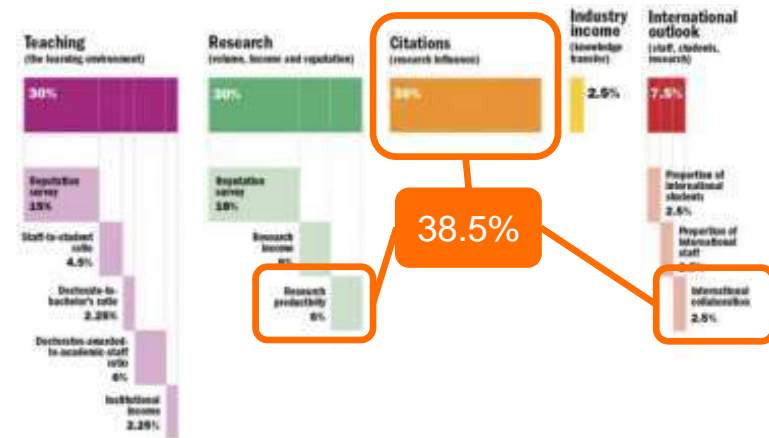


World University Rankings 2021

IN PARTNERSHIP WITH ELSEVIER


RANKING		SCORES					
Rank	Name Country/Region	Overall	Teaching	Research	Citations	Industry Income	International Outlook
1	University of Oxford United Kingdom	95.6	91.3	99.6	98.0	68.7	96.4
2	Stanford University United States	94.9	92.2	96.7	99.9	90.1	79.5
3	Harvard University United States	94.8	94.4	98.8	99.4	46.8	77.7
4	California Institute of Technology United States	94.5	92.5	96.9	97.0	92.7	83.6

RANKING		SCORES					
Rank	Name Country/Region	Overall	Teaching	Research	Citations	Industry Income	International Outlook



Criteria for institutions to be ranked in THE WUR?





Deep-dive into the Scopus data parameters

Metrics are calculated using a THE bibliometric dataset only

THE World University Rankings Methodology – where is the bibliometric dataset from Elsevier contributing



Citations (30% of overall Score)

Research influence. An indicator of the university's role in spreading new knowledge and ideas.



International Collaboration (1/3rd of International Outlook Score and 2.5% of the overall score)

Measures the proportion of a university's total publications involving co-authors from more than one country.



Research Productivity (1/5th of Research Score and 6% of the overall score)

The ability of a university's researchers to get published in peer-reviewed titles indexed in Scopus.

Research Productivity - Scholarly Output

1/5th of Research Score and 6% of the overall score



- Research productivity is based on the *Scholarly Output* (articles, reviews, conference proceedings, books and book chapters) published in sources indexed by Scopus® per institution. The indicator is scaled for institutional size and normalized for subject.
 - Publications with >1,000 authors are fractionally counted
 - Scaling for institutional size is based on the number of staff declared by universities in each of the 11 THE subject area as part of the Academic Reputation Survey
 - THE also devised a method to give credit for publications that are published in subjects where a university did not declare any staff



**Note: Dataset draws upon the more than 23,400 titles indexed in Scopus & analyzes over 77 million citations to 12.8 million articles, reviews, conference proceedings, books and book chapters.*

International Outlook - International collaboration

1/3rd of International Outlook Score and 2.5% of the overall score



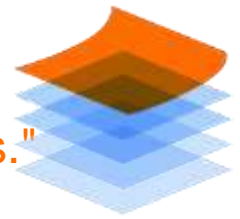
- The international collaboration indicator looks at all publications in the bibliometric dataset and counts the number of publications that are considered ‘international output’ based on international co-authorship
 - Publications with >1,000 authors are fractionally counted
 - Publications are considered and ‘international output’ when they have ‘more than 1 author, more than 1 institution and more than 1 country code’
 - The indicator is calculated as the proportion of the universities total publications that have at least one international co-author and is also subject normalized to account for differing subject profiles for universities



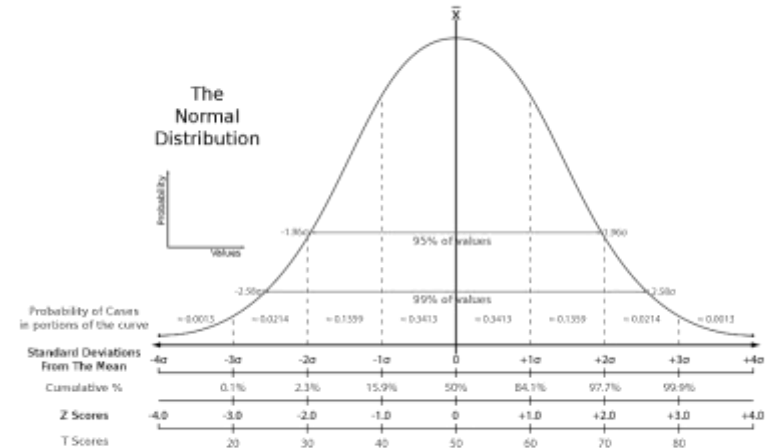
**Note: Dataset draws upon the more than 23,400 titles indexed in Scopus & analyzes over 77 million citations to 12.8 million articles, reviews, conference proceedings, books and book chapters.*

Citations (research influence) 30%

Indicator of a university's "role in spreading new knowledge and ideas."



- The final THE Citations Score is based on a *5-year FWCI*, calculated using only the THE bibliometric dataset
- This 5-year FWCI is used to calculate *two citation scores* which are then averaged to produce the final score for each institution
- Publications with >1,000 authors are fractionally counted
- The First is the *global citation score* (normalized Z-score)
 - Each FWCI is analyzed in terms of the number of standard deviations from the mean which is then transformed into a Citation Score that ranges from 0-100
- The second is the *country normalized citation score*
 - Adjusts the FWCI per university based on how they are placed relative to other universities in the same country
 - Each country normalized FWCI is then analyzed in terms of the number of standard deviations from the mean which is then transformed into a Citation Score that ranges from 0-100



Times Higher Education Impact Rankings

How universities are ranked

THE uses indicators to provide comparisons across three broad areas: **research, outreach, and stewardship**, across all of the SDGs.

Any university that provides data on SDG 17 and at least three other SDGs is included in the overall ranking.

Universities can submit data on as many of the SDGs as they are able. Each SDG has a series of metrics that are used to evaluate the performance of the university in that SDG.

Methodology

A university's final score in the overall table is calculated by combining its score in SDG 17 with its top three scores out of the remaining 16 SDGs. SDG 17 accounts for 22% of the overall score, while the other SDGs each carry a weight of 26%. This means that different universities are scored based on a different set of SDGs, depending on their focus.

The SDGs included:



UN SDGs in SciVal and THE Impact Rankings

- THE are using the new **SDG queries** as part of the **THE Impact Rankings methodology**
- **16 of the 17 SDGs** are available to analyze on SciVal as predefined Research Areas using newly updated queries.
- The queries were **created by our data science teams** working with experts to create representations of each SDG and enable detailed analysis of the research contributing to achieving the SDGs.
- We continue to **collaborate and gather feedback with customers and the community** to help improve the queries in the future





QS World University Rankings

What makes up the QS World University rankings?



Ranking organization:

QS

Ranking report:

[QS World University Rankings](https://www.topuniversities.com/qs-world-university-rankings)

Report focus:

Global

Stated goal:

For students seeking to understand how their prospective university choices are perceived by the global academic community, and by potential employers across the world.

Scope:

1,000 institutions

Data sources:

Elsevier's Scopus database

Timing:

Annually (Spring)

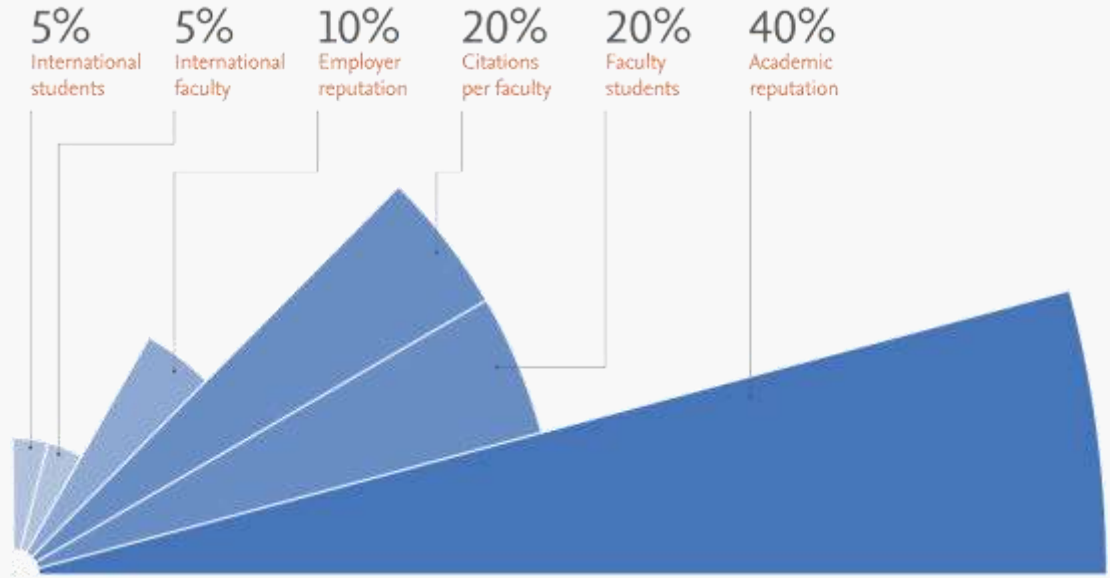


Source: <https://www.topuniversities.com/qs-world-university-rankings/methodology>

Website accessed on: 19 May 2021

QS uses a consistent methodological framework, compiled from **six simple metrics** to capture university performance. Faculty area normalization was introduced in 2015 to ensure that institutions specializing in Life Sciences and Natural Sciences were not unduly advantaged, QS World University Rankings evaluates universities according to six metrics:

- 5% International student ratio
- 5% International faculty ratio
- 10% Employer reputation
- 20% Citations per faculty, sourced from Scopus
- 20% Faculty/student ratio
- 40% Academic reputation



QS World University Rankings Methodology 2022

The bibliometric dataset from Elsevier



Publications indexed in Scopus in the 5-year period (2015-2019) and citations in the 6-year period (2015-2020).

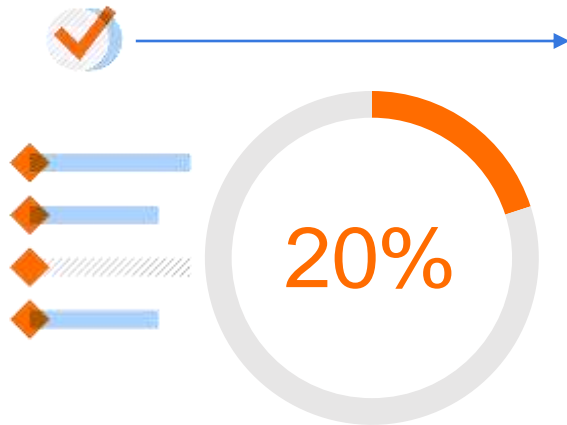


Scopus affiliation IDs which QS then map to their own institutions for use in the QS rankings methodology



Six publication types: articles, articles in press, reviews, conference proceedings, books, book chapters

QS World University Ranking & Elsevier

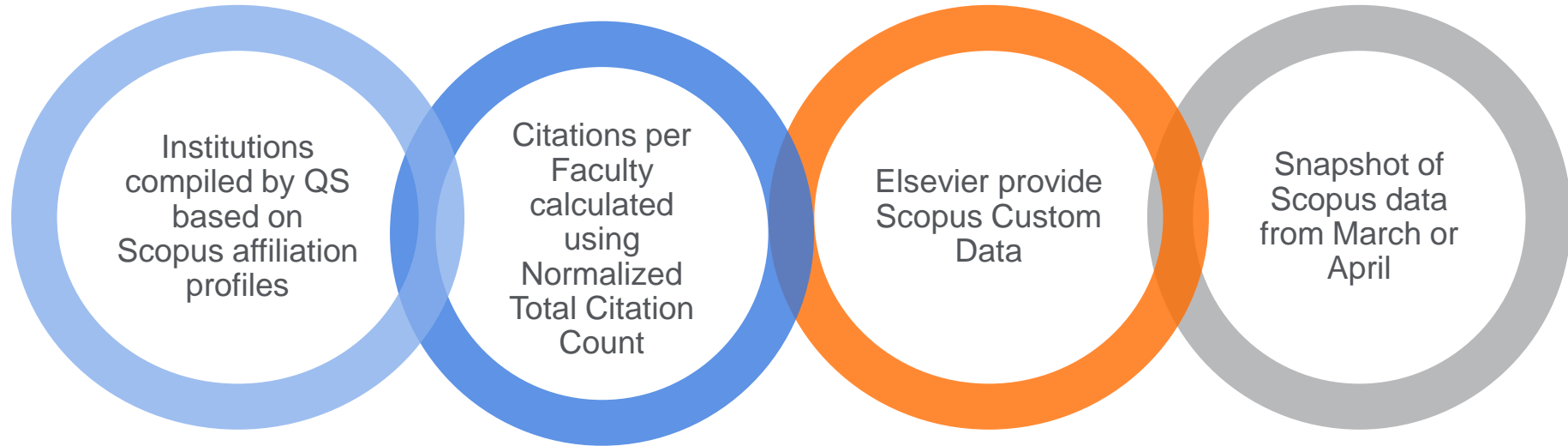


Citations per Faculty

Contributes to 20% of the QS World University Ranking

- The total number of **citations received by all papers** produced by a university across a five-year period divided by **the number of faculty members** at that institution
- All bibliometric data is sourced from the Scopus database, excludes self-citations and is provided as Scopus Custom Data
- Citations are normalized to factor in the varying citation behavior across different fields
- Publications in the 5-year period (2015-2019) and citations in the 6-year period (2015-2020)

Bibliometric parameters for QS





HOW WE SUPPORT UNIVERSITIES

SciVal Rankings analysis

Robust information and transparency around the
bibliometrics used in the THE World University Rankings
[other Rankings to follow]

Different use cases

The rankings analyses expand the support SciVal provides users



University Leaders

- Benchmark and understand the data used in the THE World University Rankings through deep-dive reports and analyses
- Analyze the trends in the bibliometric drivers to enrich your understanding and inform plans accordingly



Research Services

- Create management-level reports based on deep-dives into the data used in the THE World University Rankings
- Create benchmarking reports against peers across Research Output, International Collaboration and Citations Score on THE subject level



Deans and Heads of Department

- Benchmark and understand the data used in the THE World University Rankings through deep-dive reports
- Use analyses to inform development of faculty and department level strategic plans and publication strategies



Faculty and Researchers

- Benchmark and understand the data used in the THE World University Rankings, related to department, faculty and university strategy
- Use analyses to inform research and publication strategies

Examples from SciVal

Use case 1: Analyze the drivers behind the Citations Score

30% of the Overall ranking score

Analyze, understand and generate insights based on the **actual FWCI and Citations Score used in 30% of the THE WUR**, rather than proxies developed in-house

- **Analyze changes** in Citation Score across years
- **Global and Country Normalized FWCI**, calculated using the THE dataset are now displayed side by side
- FWCI (5 year) values are provided for each publication year considered in each Ranking year providing insights into **why ranking scores may have changed**
- Clicking on any FWCI value displays the **5-year trend** per THE subject area

Use case 1: Analyze the drivers behind the Citation Score 30% of the Overall ranking score

University of Sfax

Times Higher Education (THE) World University Rankings

Overall Rank and Publications considered in THE Rankings

2020-2021

10,785
UNESCO World Heritage Sites

5,879
International Doctorates

10,785
UNESCO World Heritage Sites

5,879
International Doctorates

Times Higher Education (THE) World University Rankings

Overall Rank and Publications considered in THE Rankings



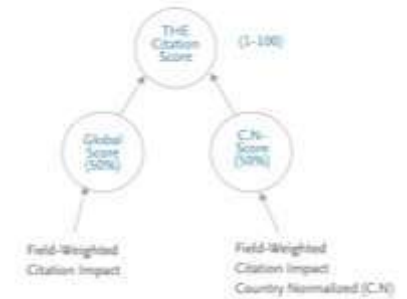
Citations Indicators



Field-Weighted Citation Impact (5 year)



Ranking Year Comparison



Citation Score with the underlying:

- Global FWCI scores &
- Country-normalised FWCI scores

FWCI 5
year
trends

Comparison
with previous
year - FWCI 5

Subject (5)	(2021)	2017	2018	2019	2020	2021
All categories	0.99	0.97	1.03	0.93	1.03	1.03
Arts and Humanities	0.18	0.26	0.09	0.63	0.75	0.23
Business and Economics	1.14	1.58	1.11	1.16	1.13	1.46
Clinical, pre-clinical and health	0.99	0.89	0.76	0.73	1.49	1.41
Computer Science	0.89	0.71	0.71	0.61	1.80	1.13
Education	0.79	0.42	0.40	1.04	0.23	0.72
Engineering and Technology	0.91	1.07	0.85	0.86	1.17	1.12
Law	1.99	1.69	1.59	2.11	1.29	1.62
Life Sciences	1.14	1.07	0.99	1.07	1.26	1.39
Physical Sciences	0.76	0.82	0.87	0.86	1.81	1.46
Psychology	0.86	0.66	0.80	0.82	1.29	1.09
Social Sciences	1.14	1.59	1.30	1.56	1.81	1.11

Use case 2: Benchmark with peers and analyze trends

Analyses and information to understand performance and inform plans

Benchmark with peers across all bibliometric drivers and THE subject level for the 2021 and 2022 Rankings without the need to generate proxies and manually curate the bibliometric datasets

- Analyze, benchmark and produce **peer comparison reports** across all bibliometric drivers directly in the Benchmarking module
- Benchmark at the THE subject level for deeper **understanding of your university's position** and to inform faculty and department level plans
- Analyze the **trends in the bibliometric drivers** to enrich your understanding and inform plans accordingly

Use case 2: Benchmark with peers and analyze trends

Analyses and information to understand performance and inform plans

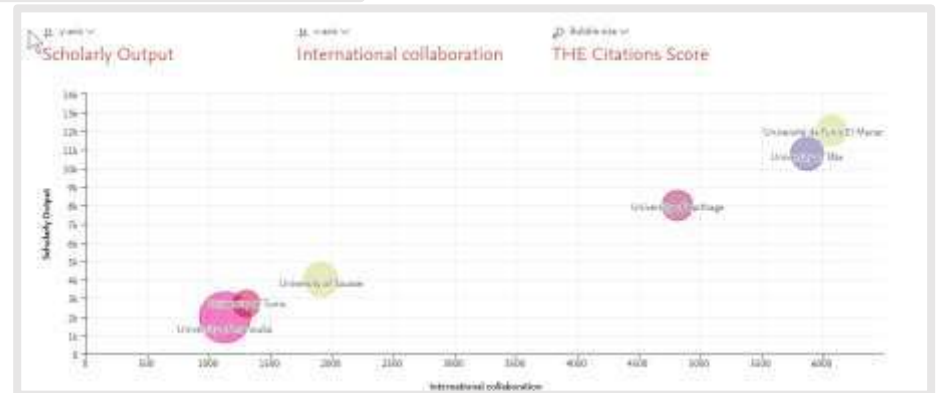
Institutions	Year	Rank	Scholarly Output	International Collaboration	Scopus Impact (5 year)	Research Citations Scores	THE Citations Score
University of Carthage	2023	1201-1500	8,003	4,811	0.89 0.92	17.1 20.9	19.0
University of Manouba	2023	1001-1200	1,973	1,124	1.21 1.25	43.8 61.7	52.7
University of Sfax	2023	1201-1500	10,783	5,870	0.97 0.96	19.9 25.3	22.6
University of Sousse	2023	1201-1500	3,991	1,998	0.95 0.98	21.1 27.2	24.1
University of Tunis	2023	1501+	2,716	1,301	0.83 0.86	13.7 15.2	14.7
Université de Tunis El Manar	2023	1201-1500	12,032	6,066	0.89 0.92	17.5 21.4	19.5

Benchmark with peers across all bibliometric drivers

Heatmap visualizing trends

Benchmark with peers across all bibliometric drivers using chart

Compare on THE subject level



Use case 3: Analyze other bibliometric drivers

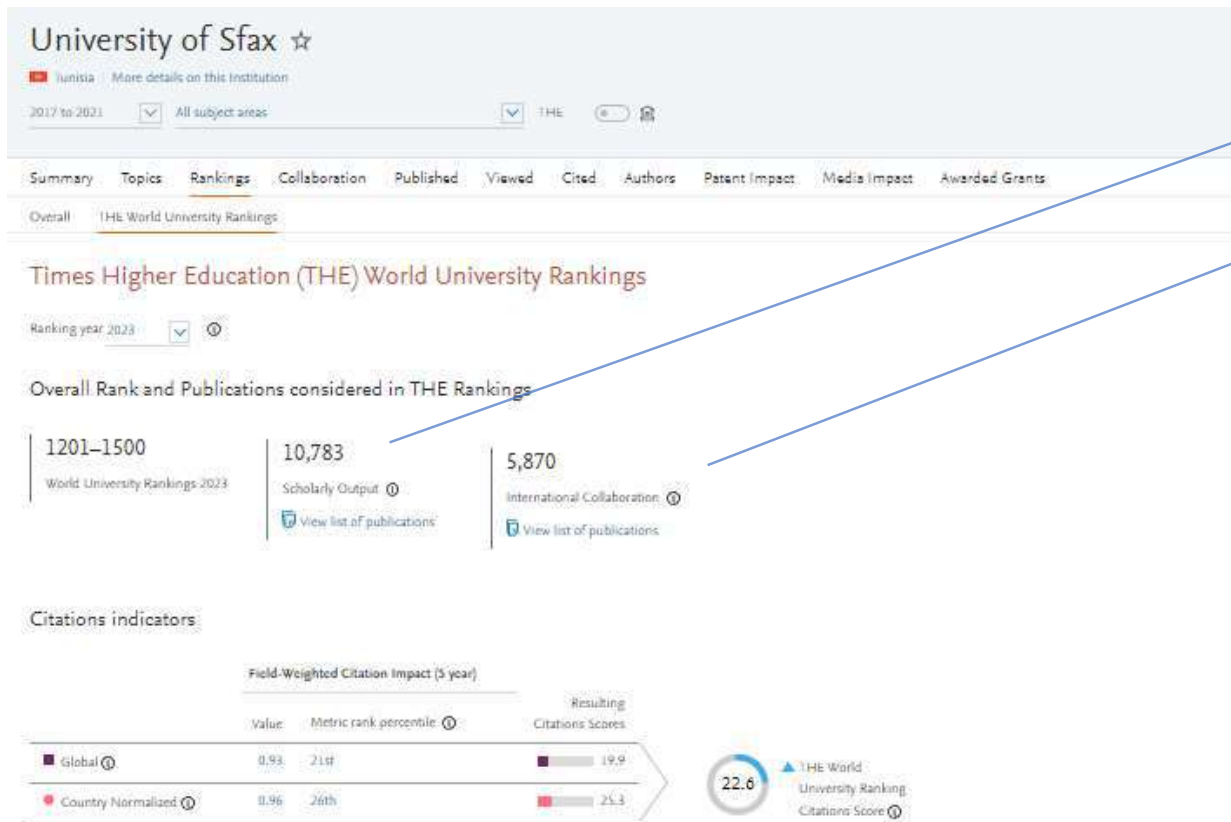
Research Productivity (6%) and International Collaboration (2.5%)

Analyze, understand and generate insights based on the actual Scholarly Outputs and International co-authorship data used in the THE WUR removing the need to export and generate the dataset manually

- View and analyze the publications considered in the THE WUR with a single click
 - No need to export the full Publication Set for the university and filter to only include eligible publication types and sources
- Analyze the publications further by creating a Publication Set to use across SciVal modules

Use case 3: Analyze other bibliometric drivers

Scholarly Output (6%) and International Collaboration (2.5%)



Scholarly Output used by THE
(1/5 of the THE WUR Research Indicator and 6% of the Overall Ranking Score)

International Output used by THE
(1/3 of the THE WUR International Outlook Indicator and 2.5% of Overall Ranking Score)

Analyze further
(in the publication modal or by exporting or creating a Publication Set)

Publications of the 26th University of Technology

THE Ranking 2023

Year	Title	Author	Year	Citations
2023
2022
2021
2020
2019
2018
2017



Research Excellence Beyond Rankings

Excellence requires addressing all research ecosystem challenges



Research Strategy

Develop and execute your research strategy to inform strategic planning and achieve research goals.



Expertise & Collaborations

Advance your research programs by identifying best-fit researchers and cross-sector partners



Research Funding

Maximize your funding potential with a holistic view of the funding landscape



Conducting Research

Enhance efficiency and productivity by enabling research discovery and boosting workflows



Research Management

Make decisions with confidence by optimizing the monitoring and administration of research



Impact & Engagement

Expand your reputation for excellence and advance open science

Institutional stakeholders



University Leaders



Senior Research Officers



Research Services



Faculty & Researchers



Deans & Heads of Department



Librarians





Strength vs weaknesses (Example: University of Sfax)

- High volume, low impact





Collaboration (Example: University of Sfax)

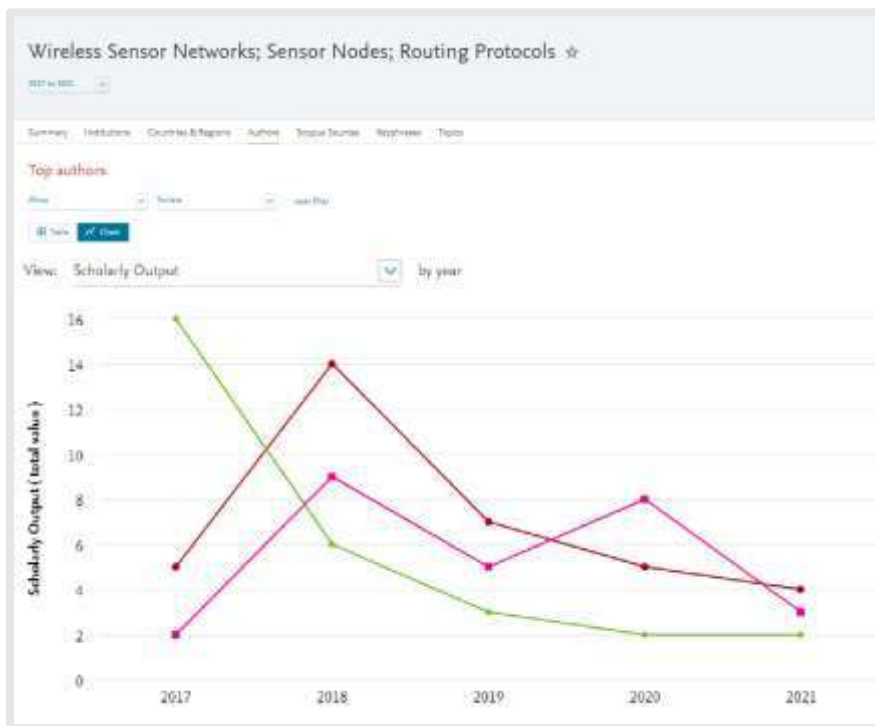


Institution ↑	Co-authored publications ↓	Field-Weighted Citation Impact ✓
🇫🇷 CNRS	1,559 ▼	1.03
🇹🇵 Centre de Biotechnologie de Sfax	560 ▼	1.09
🇹🇵 Université de Tunis El Manar	560 ▲	1.31
🇹🇵 University of Gabes	470 ▲	1.00
🇹🇵 University of Carthage	451 ▼	0.98
🇹🇵 University of Monastir	382 ▲	1.29
🇹🇵 University of Sousse	381 ▲	0.98
🇫🇷 Université Fédérale Toulouse Midi-Pyrénées	208 ▼	1.98
🇫🇷 Université Grenoble Alpes	187 ▼	0.92



Impact &
Engagement

Identify experts



Top 500 authors in this Topic Cluster

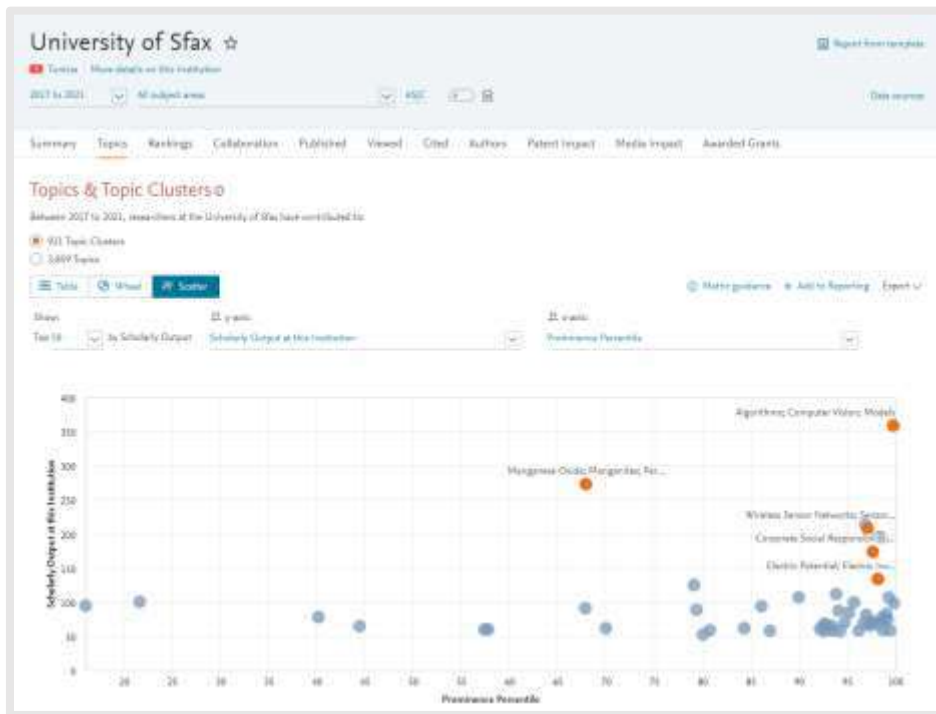
by Scholarly Output

- Ezzedine, Taher
- ◆ Saïdane, Leila Azouz
- Chaari Fourati, Lamia
- Boudriga, Noureddine
- Bouallégue, Ridha
- Kachouri, Abdennaceur
- Abassi, Ryma
- Abid, Mohamed
- Zouinkhi, Ahmed
- Hamdi, Mohamed

Optimise research strengths

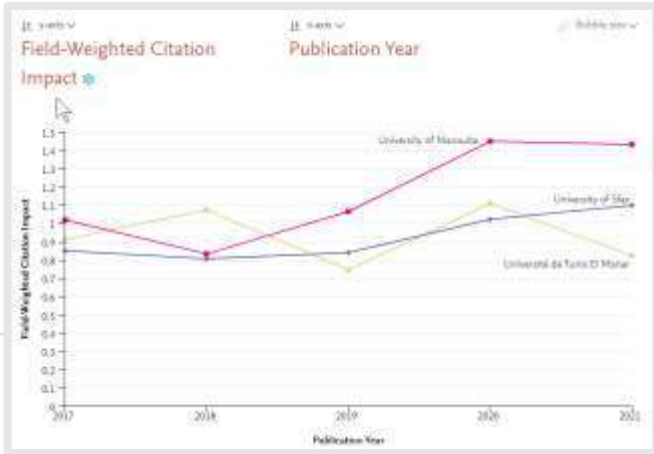
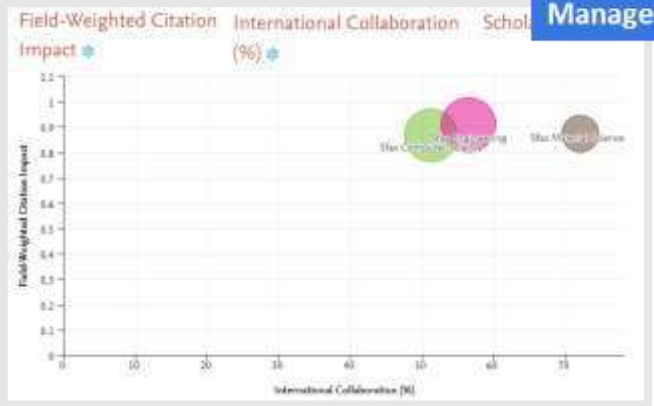
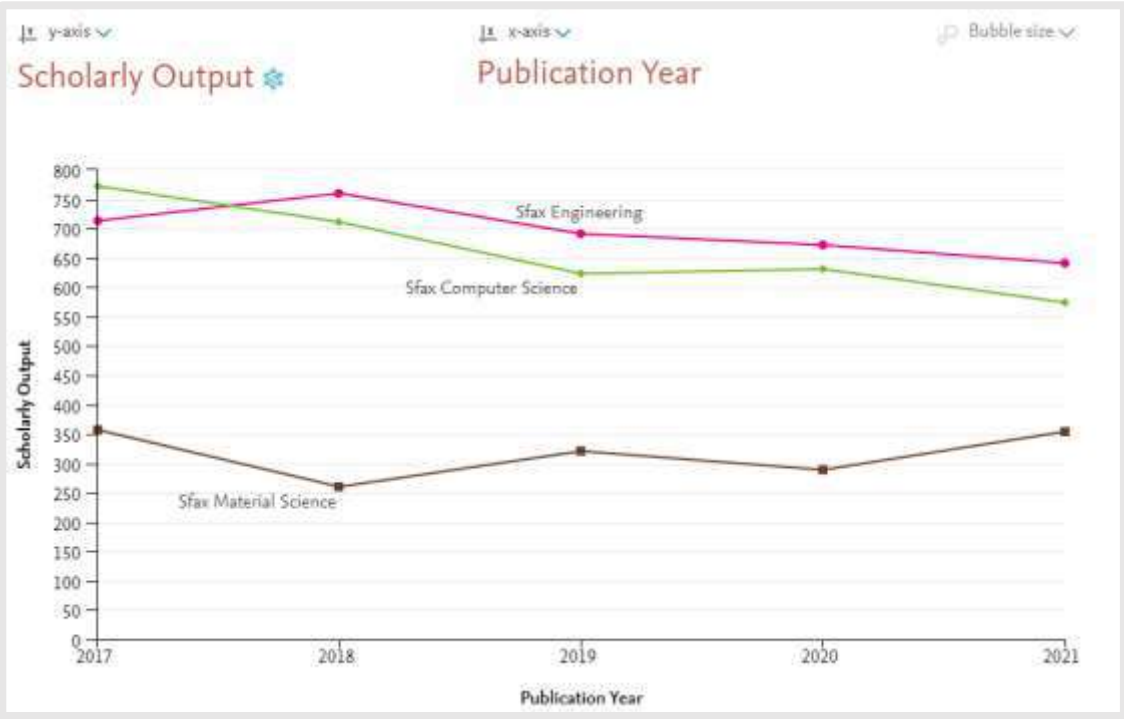


Conducting
Research



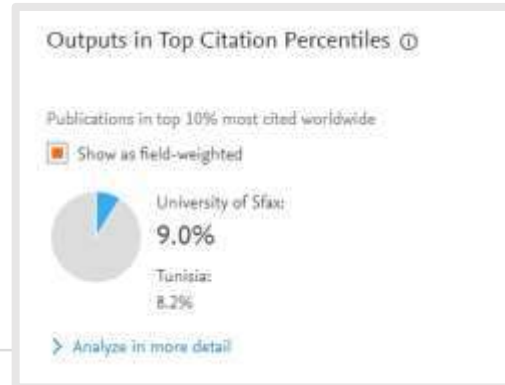
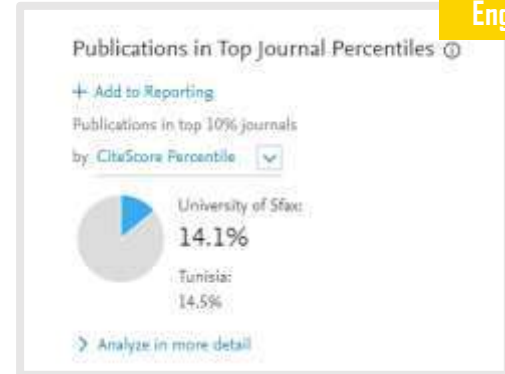
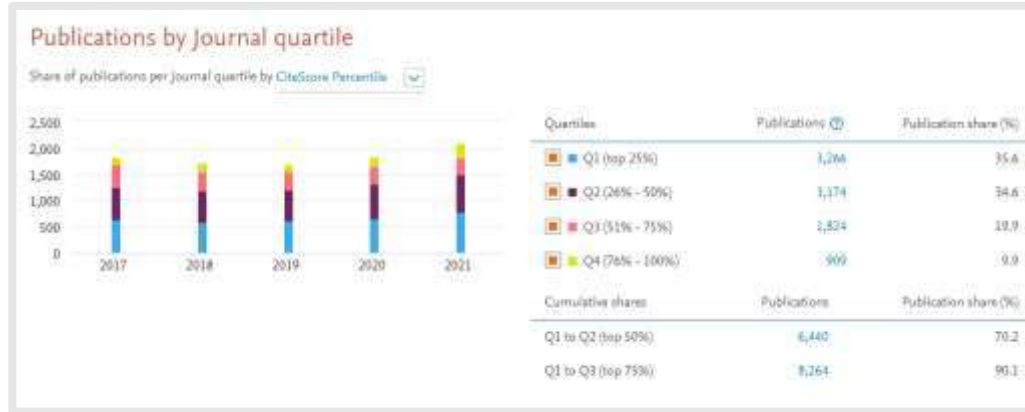


Benchmark and monitor progress





Attention to journal quality



Conclusion

- University rankings provide universities with a unique opportunity to advance their **visibility, strategic partnerships and recruitment of international talent**.
- To optimise this opportunity it is important to understand the **methodologies** of prominent Rankings and the **role of publication** and affiliation information from Scopus.
- Ultimately, however, it is good research that drives good performance in Rankings. To achieve this, an holistic approach is needed covering all the challenges the research performance landscape entails



Thank you

For further discussions
You may contact me on
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