Towards Better Research Performance

Basic Report Prepared for
University of Monastir

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Elsevier Research Intelligence

1. Introduction

Elsevier is proud to present a brief report analysing the research productivity and impact trends of the University of Monastir using the Elsevier analytical tool, SciVal. This report focuses on research output, impact, excellence, collaboration, and knowledge transfer with the aim of providing a credible evidence base to understand the recent developments of the University - the current status of its research base, and to develop strategies and policies that address the strengths and weaknesses of research activities.

2. About SciVal

SciVal provides quick, easy access to the research performance of 8,500 research institutions and 220 countries worldwide. The solution uses an integrated modular platform that brings together the 4 key elements which underpins any evidence-based research tool: data, technology, metrics and visualizations.

Using Scopus as its data source, the largest abstract and citation database of peer reviewed literature, the new generation of SciVal enables users to configure, visualize and export information according to their personal needs and preferences.

Users can combine any set of metrics to benchmark an institution's or a country's productivity, citation impact, collaboration and more with rationale and accuracy, and understand their position relative to that of their peers, as well as relative to global and domestic standards. SciVal can be used to:

Gain immediate access to the world's research.

View a ready-made, at-a-glance snapshot of your research performance at all levels.

Benchmark your performance against any set of peers.

Model-test "what if " scenarios by creating virtual teams and newly emerging research areas.

Create publication sets for grant applications and reporting.

Establish collaborative partnerships locally or globally.

Track and monitor data on a weekly basis to stay up-to-date with market changes.

Analyze the research trends of any research area to help inform strategic decisions at a subject level.

3. Key Analytics

> *"Scholarly communication is key to academic endeavour and research outputs are a traditional indicator of research intensity. [...] Taken over time, bibliometrics based on journal articles and citations offer a rich indicator of changes in research intensity and behaviour."*
>
> *International Comparative Performance of the UK Research Base – 2011: Elsevier report prepared for the Department of Business, Innovation and Skills.*

THE NUMBER OF PUBLICATIONS

4,060

University of Monastir produced 4,060 publications in 2013-2017, mostly within the subject area of Engineering.

FIELD-WEIGHTED CITATION IMPACT (see definitions p.10)

0.77

The publications of University of Monastir are 23% cited less often than the world average in 2013- 2017 (see definitions p.10)

INTERNATIONAL COLLABORATION

52%

of University of Monastir publications in 2013-2017 are internationally collaborated

ACADEMIC-CORPORATE COLLABORATION

0.3%

of University of Monastir publications in 2013-2017 are published with an industry or corporate partner

OUTPUTS IN TOP CITATION PERCENTILES

10%

of University of Monastir publications in 2013-2017 are among the top 10% cited worldwide

PUBLICATIONS IN TOP JOURNAL PERCENTILES

18.8%

of University of Monastir publications in 2013-2017 are published in the top 10% journals by CiteScore* (* see definitions p.10)

4. Benchmarking University of Monastir Research Performance to Peers (all subject areas)

To measure an institution's scholarly output, we use the indicator 'publications'. This indicator is defined as the number of papers with at least one author affiliated with the institution in question. A paper may be counted as a publication of multiple institutions if it is a joint work of authors from multiple institutions. If a paper is written by an author with multiple affiliations, the paper is counted towards the totals of all institutions with which the author is affiliated.
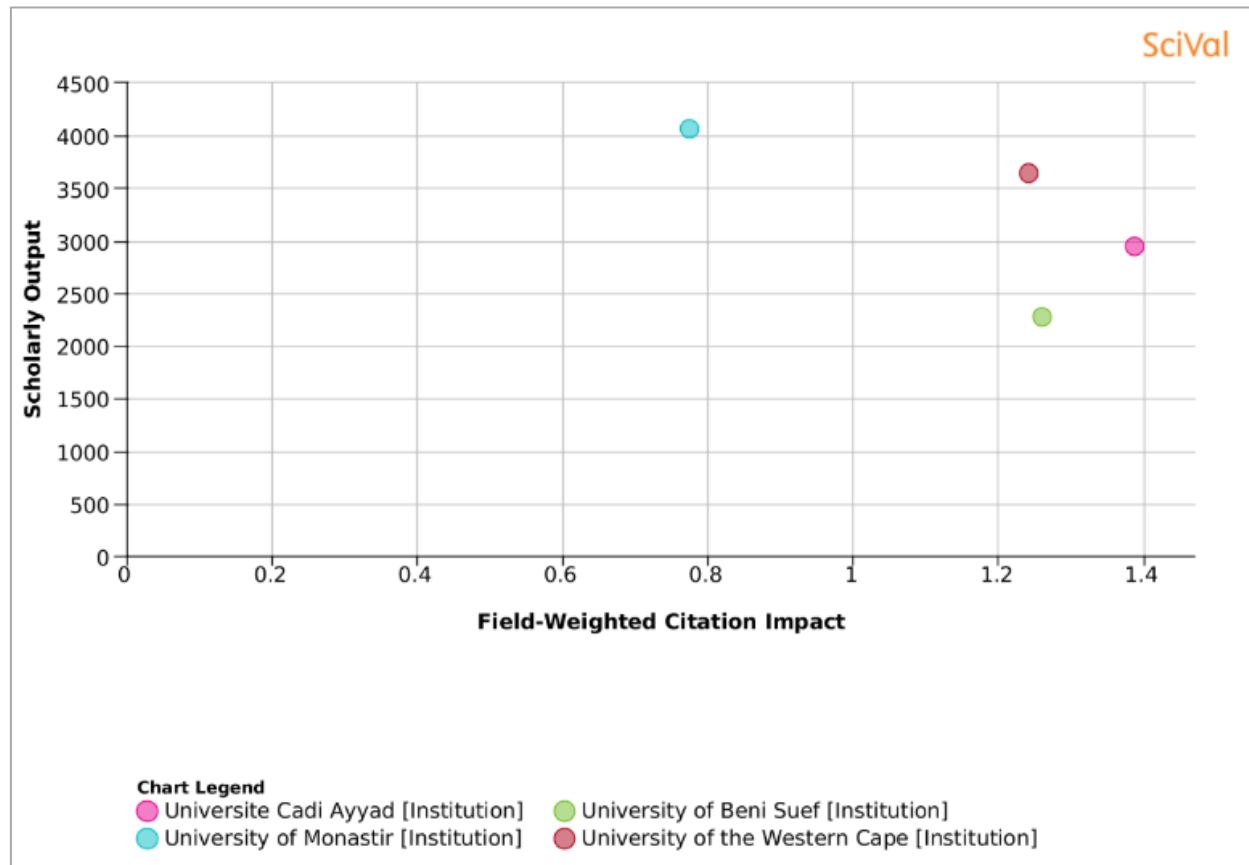
4.1. Chart
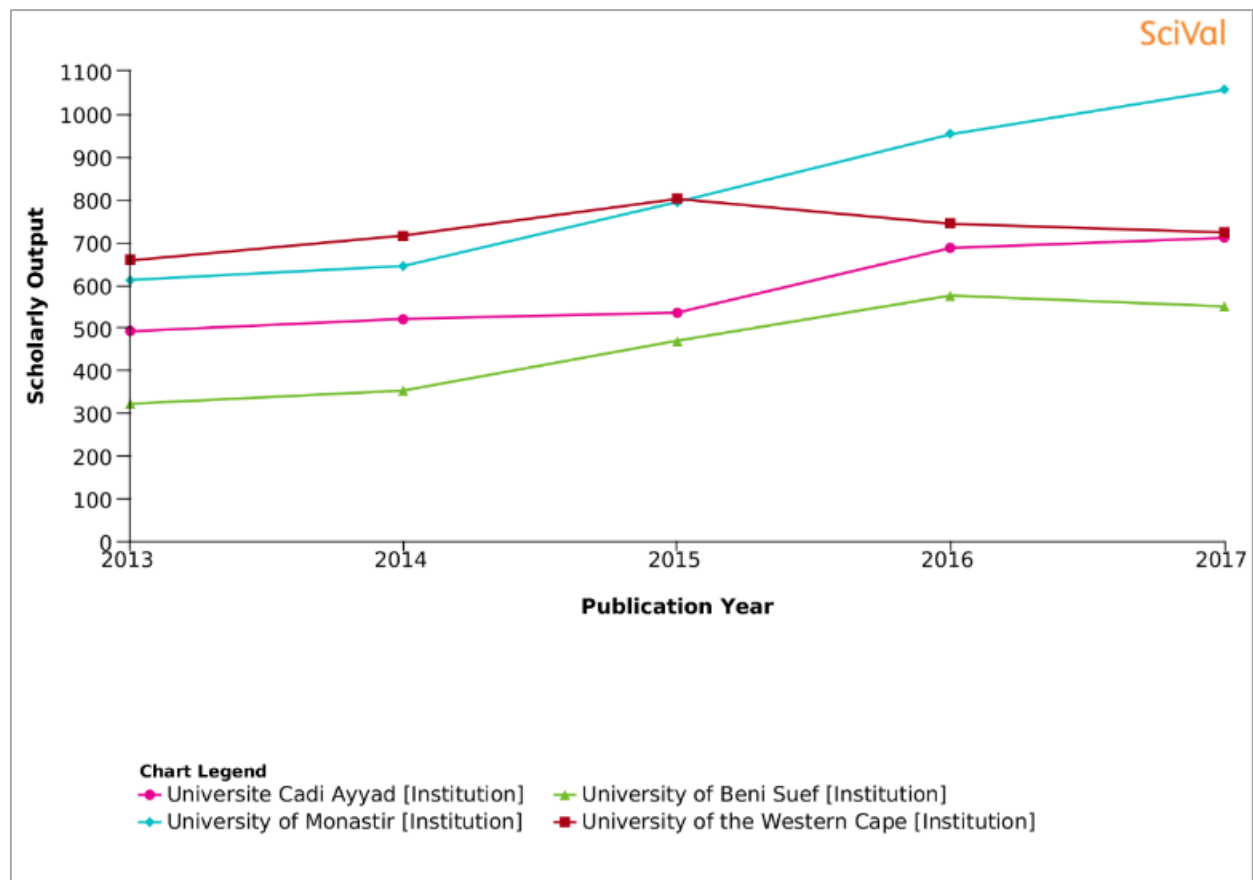
5. Benchmarking Field-Weighted Citation Impact to Peers – All Subject Areas

To measure impact objectively, a normalized citation measure named 'field-weighted citation impact' (FWCI) is used. The FWCI normalizes the number of citations received by an article by the average number of citations received by articles in the same field, of the same type, and published in the same year.

5.1. Chart

SciVal

Chart Legend
- Universite Cadi Ayyad [Institution]
- University of Beni Suef [Institution]
- University of Monastir [Institution]
- University of the Western Cape [Institution]

6. Papers Published by Subject Area, 2013 – 2017

Analysis of subject areas are done using 27 top level and 334 lower level subject areas based on Scopus All Subject Journal Classification (ASJC). This facilitates the identification of research strengths and weaknesses. University of Monastir research output for 2013-2017 shows Engineering is the largest subject area, with 13.6% of its publication output in the period 2013-2017. This is followed by Medicine (13.1%) and Materials Science (11.2%).

6.1. Chart – Publications per Subject Area
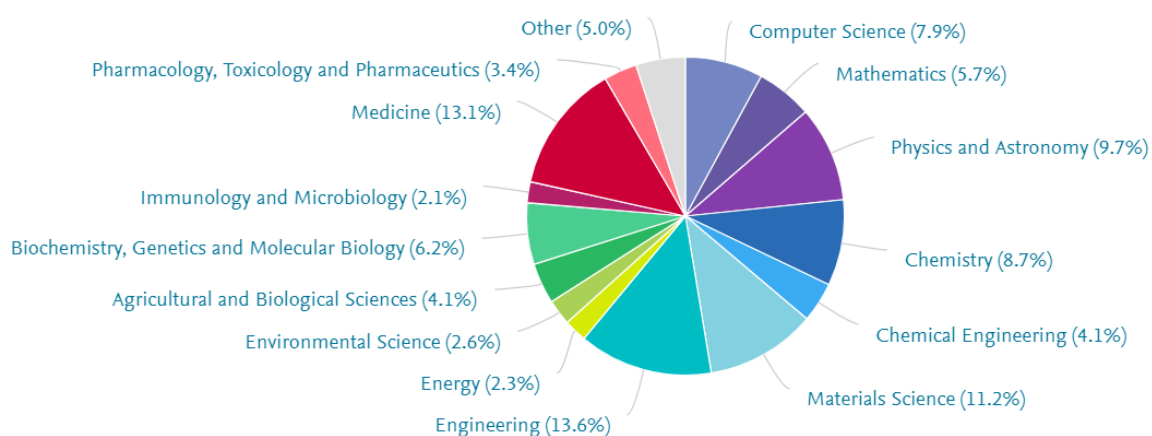
6.2. Chart – Publication counts relative to Impact (Field-weighted Citation Impact)

Further analyses based on publication volume relative to FWCI shows University of Monastir subject areas with the highest impact by FWCI between 2013-2017 are Agriculture and Biological Sciences (19% above global average), Engineering (9% below global average) and Materials Science (16% below global average).
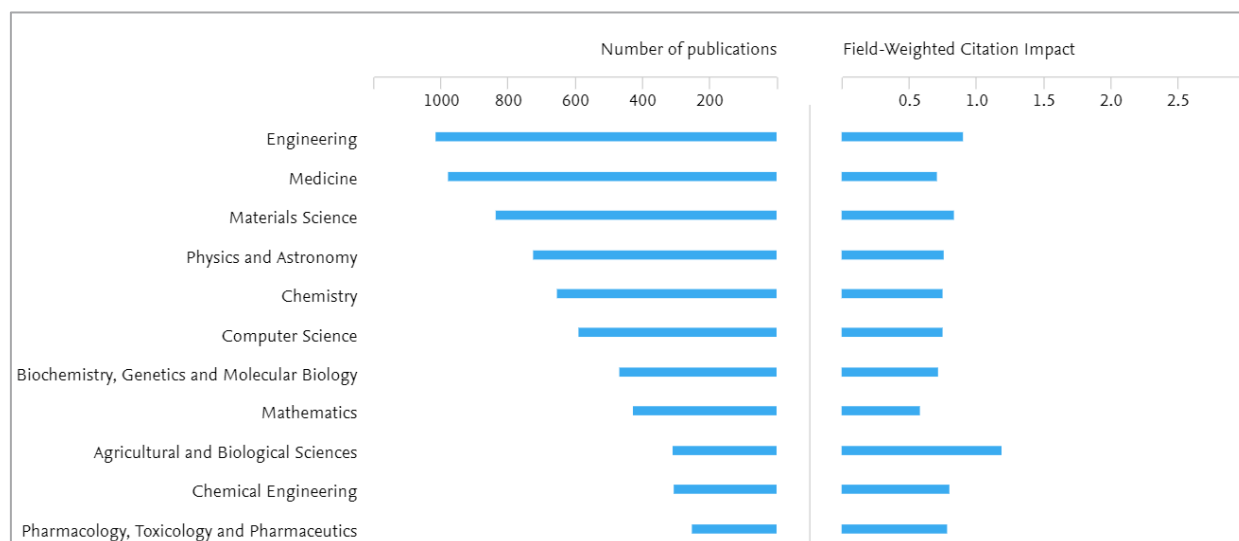
Subject Area	Publications ↓	Citations	Authors	Field-Weighted Citation Impact
🏛 University of Monastir	4,060 ▲	14,268	3,310 ▲	0.77
› Engineering	1,015 ▲	2,795	952 ▲	0.91
› Medicine	976 ▲	3,620	1,359 ▲	0.71
› Materials Science	835 ▲	3,270	691 ▲	0.84
› Physics and Astronomy	722 ▲	2,507	626 ▲	0.76
› Chemistry	651 ▲	2,878	695 ▲	0.75
› Computer Science	589 ▲	1,102	529 ▲	0.75
› Biochemistry, Genetics and Molecular Biology	465 ▼	2,147	708 ▲	0.72
› Mathematics	427 ▲	583	436 ▲	0.58
› Agricultural and Biological Sciences	308 ▼	1,658	432 ▼	1.19
› Chemical Engineering	303 ▲	1,273	471 ▲	0.81
› Pharmacology, Toxicology and Pharmaceutics	251 ▲	1,069	376 ▲	0.78

7. Top authors

The top 500 authors per institution are presented in SciVal by publication count, citations, citations per publications, Field-weighted Citation Impact and H-index. Lists are sortable according to preference. An abbreviated list below shows the top ten prolific authors whose publications were affiliated to University of Monastir in 2013-2017.

	Name	Publications ↓	Most recent publication	Citations ⌄	h-index
1.	Aouni, Mahjoub H.El	94	2017	431	24
2.	Mtibaa, Abdelatif	80	2017	171	10
3.	Mâaref, Hassen	72	2017	271	20
4.	Hammami, M.	69	2017	363	31
5.	Ghédira, Kamel	67	2017	192	25
6.	Sakly, Anis	65	2017	201	8
7.	Besbes, Kamel	61	2017	82	10
8.	Dhahri, Jamila	61	2017	310	14
9.	Khairallah, Moncef	60	2017	190	20
10.	Messaoud, Hassani	48	2017	77	10

7.1. Research groups

Research groups are compiled by selecting authors in SciVal one-by-one or by uploading lists of authors (up to 1000 at a time). Once created, research groups can be used to examine the group's performance across all metrics; for benchmarking; or to model scenarios.

7.2. Top source publications

In SciVal you can have abbreviated list of the source journals which represent the top journals in which University of Monastir authors published their research in 2013-2017.

The ranking is based upon the journal with the highest number of articles by University of Monastir authors. However, information is sortable by citations, authors and journal metrics such as SNIP (Source-Normalized Impact per Paper) and SJR (SCImago Journal Rank) (see definitions p. 10).
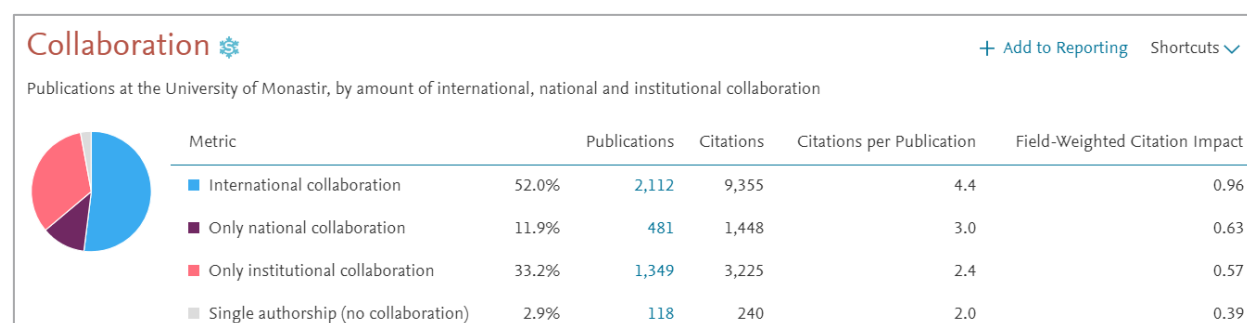
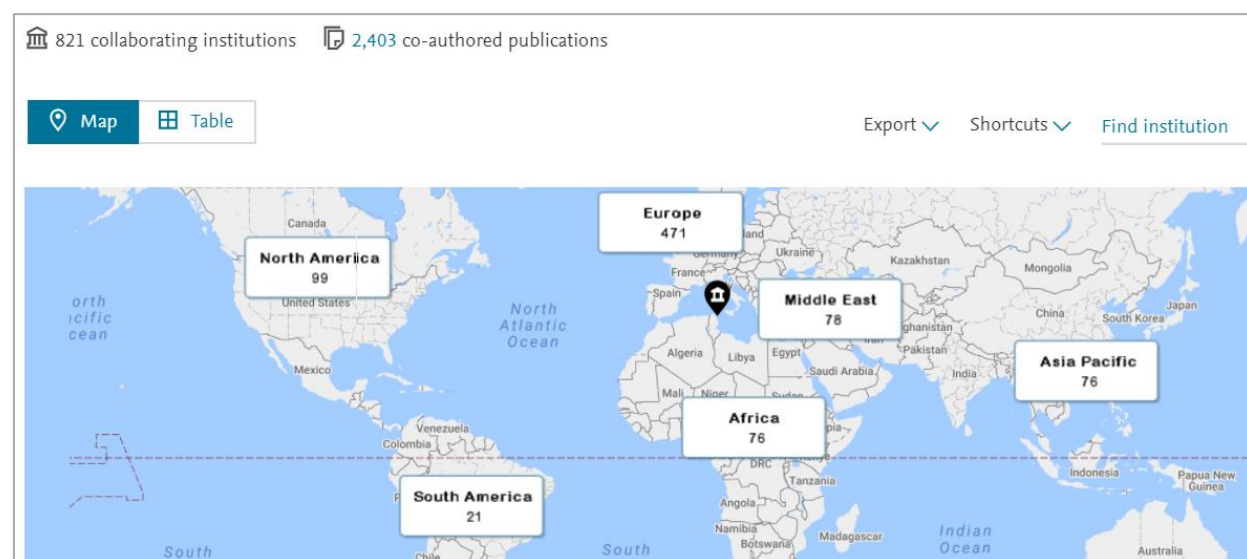## 8. University of Monastir's Collaboration (2013 – 2017)

University of Monastir collaborates with 821 institutions globally and have co-authored 2,403 publications. CNRS is the top collaborating institution.

Four general types of collaborated articles, based on the information provided in the authorship by-line of the Scopus data, are used to analyse current and potential collaborators and to evaluate their "success" based on publication and citation counts as well as performance relative to global average.

8.1. Summary view

Collaboration ✿   + Add to Reporting   Shortcuts ⌄

Publications at the University of Monastir, by amount of international, national and institutional collaboration

Metric		Publications	Citations	Citations per Publication	Field-Weighted Citation Impact
■ International collaboration	52.0%	2,112	9,355	4.4	0.96
■ Only national collaboration	11.9%	481	1,448	3.0	0.63
■ Only institutional collaboration	33.2%	1,349	3,225	2.4	0.57
■ Single authorship (no collaboration)	2.9%	118	240	2.0	0.39

8.2. Map view

🏛 821 collaborating institutions   📄 2,403 co-authored publications

⊙ Map   ⊞ Table   Export ⌄   Shortcuts ⌄   Find institution

Europe 471
North America 99
Middle East 78
Asia Pacific 76
Africa 76
South America 21

8.3. Table view

Note that Field-weighted Citation Impact (FWCI) of some publications co-authored with top collaborators are not higher than University of Monastir's overall FWCI.

Institution	Co-authored publications ↓	Co-authors at the University of Monastir	Co-authors at the other institution	Field-Weigh... ∨
🇫🇷 CNRS	509 ▲	551 ▲	590 ▲	0.89
🇹🇳 University of Sousse	392 ▲	516 ▲	424 ▲	0.69
🇹🇳 Tunis-El Manar University	238 ▲	323 ▲	417 ▲	0.82
🇹🇳 University of Sfax	178 ▲	225 ▲	220 ▲	0.99
🇫🇷 Universite Paris Saclay	162 ▼	225 ▲	178 ▲	0.79
🇫🇷 INSERM	124 ▲	170 ▲	276 ▲	1.26
🇫🇷 Universite Grenoble Alpes	123 ▲	100 ▲	72 ▲	1.05
🇫🇷 Universite Claude Bernard Lyon 1	116 ▲	152 ▲	102 ▲	0.65
🇫🇷 Aix Marseille Universite	95 ▲	88 ▲	80 ▲	0.84
🇫🇷 Universite de Bourgogne	73 ▲	92 ▲	82 ▲	0.93
🇹🇳 CHU Sahloul	70 ▲	150 ▲	124 ▼	0.64

9. Definitions

Article, paper or publication

Article, paper or publication (used interchangeably throughout this report) is the term used for all items of research output produced by an institution and captured in Elsevier's SciVal. For the bibliometric analyses in this report, all document types are considered as publications.

Citation

Citation is a formal reference to an earlier publication made in an article or patent. A citation is used to credit the originator of an idea or finding and is usually used to indicate that the earlier work supports the claims of the work citing it. Properly contextualised, the number of citations received by an article from subsequently-published articles is a proxy of the quality or importance of the reported research.

Collaboration

Collaboration is defined as the set of publications with at least two co-authors (opposed to single-authored publications). There are three main collaboration types: international collaboration, national collaboration, and institutional collaboration.

- International collaboration occurs if an article has at least two different countries listed in the authorship byline. If an article has only one author affiliated with institutions in two different countries, though, this article is not counted as an internationally collaborated article but as a single-authored article.

- National collaboration occurs if an article has at least two different institutions listed in the authorship byline, all of which are from the same country. In this report institutional collaborations are not counted as national collaborations.

- Institutional collaboration occurs if an article has at least two authors listed in the authorship byline, all of which are affiliated with the same institution. In this report institutional collaborations are not counted as national collaborations.

FWCI

FWCI (field-weighted citation impact) is an indicator of the mean citation impact. It compares the actual number of citations received by an article with the expected number of citations for articles of the same document type, publication year, and subject area. Where the article is classified in two or more subject fields, the harmonic mean of the actual and expected citation rates is used. The indicator is always defined with reference to a global baseline of 1.0.

Highly Cited Article

Highly cited articles are, in this report, defined as those publications falling in the top-cited 10% of all articles published and cited in a given period.

H-Index

H-index (Hirsch-index) is an indicator of the cumulative citation impact of a researcher throughout their career. A researcher has an H-index of n if n of their publications have each received at least n citations.

Publication Output or Research Output

Publication output or research output (used interchangeably in this report) is the number of publications per institution, which have at least one author affiliated to that institution. A publication written by authors from different institutions counts towards the publication output of each institution. This report makes use of whole rather than fractional counting: co-authorships count as a whole publication for every institution listed in the article byline.

Publication Share

Publication share is the percentage of a set of publications of some specific type within the total set of publications of some institution. This can, for example, involve in institution's publication share per subject area (e.g., an institution's publications in Medicine over its total publication output), collaboration type (e.g., an institutions international collaborations over its total publication output), or cross-sector collaboration (e.g., an institution's corporate collaborations over its total publication output).

Subject area or field

Subject areas or fields (used interchangeably in this report) are the categories for journals used in Scopus. Titles are classified under four broad subject clusters (Life Sciences, Physical Sciences, Health Sciences, Social Sciences and Humanities), which are further divided into a variety of major and minor

subject areas. Journals may belong to more than one subject area. The major subject areas that are used as focus points in this report are Medicine and Social Sciences.

CiteScore

CiteScore is a simple way of measuring the citation impact of serial titles such as journals. Serial titles are defined as titles which publish on a regular basis (i.e. one or more volumes per year).

CiteScore calculates the average number of citations received in a calendar year by all items published in that journal in the preceding three years. The calendar year to which a serial title's issues are assigned is determined by their cover dates, and not the dates that the serial issues were made available online.

SNIP (Source-Normalized Impact per Paper)
This measures the citation impact of a journal. SNIP is normalized for the journal's subject field, weighting citations based on the number of expected citations in that field.

SJR (SCImago Journal Rank)
This measures the prestige of citations received by a journal. The subject field, quality and reputation of the citing journal have a direct effect on the value of a citation. See www.journalmetrics.com for more details on SNIP and SJR.

10. More about SciVal

10.1. Benefits by user type

SciVal provides an easy-to-interpret management dashboard view and advanced analytical capabilities to support the needs of different user types.

Senior leadership - to inform strategic planning; analyze and track research performance; understand the institution's research strengths; benchmark; and increase funding application and success rates.

Research administrators, research development professionals and data analysts - to create management-level reports; accelerate institutional and cross-institutional collaboration; support and win large grants; find the right opportunities and assemble the right teams; demonstrate researchers' expertise and connect them with one another.

Department heads and research managers - to retain and recruit researchers; test scenarios, gain an objective view of team performance; benchmark; highlight success and accomplishments; win large grants; and maintain accountability.

Researchers - to raise visibility and highlight achievements; expand networking; locate collaborators and mentors.

Librarians - to deepen their understanding of research topics and sources, enabling them to better support faculty and students.

Communication offices - to stay current on core research activities; publicize researchers and teams, their work and accomplishments; and channel media requests to appropriate subject experts.

Technology transfer offices - to promote research excellence to industry partners; identify faculty who can support corporate initiatives; and match research expertise with industry needs.

Students - to find mentors and study their expertise; and identify new journals and authors to follow.

10.2. Metrics

SciVal offers a broad spectrum of industry-accepted and easy-to-interpret metrics including Snowball metrics 🌀 which is a sector endorsed metrics defined and agreed by higher education institutions for institutional strategic decision making through benchmarking. http://www.snowballmetrics.com/

Productivity metrics

Scholarly Output 🌀
h-indices (h, g, m) 🌀

Citation Impact metrics

Citation Count 🌀
Citations per Publication 🌀
Cited Publications
h-indices (h, g, m) 🌀
Field-Weighted Citation Impact 🌀
Publications in Top Percentiles 🌀
Publications in Top Journal Percentiles
Collaboration Impact (geographical)
Academic-Corporate Collaboration Impact
Citing-Patent Count
Patent-Cited Scholarly Output
Patent-Citations Count
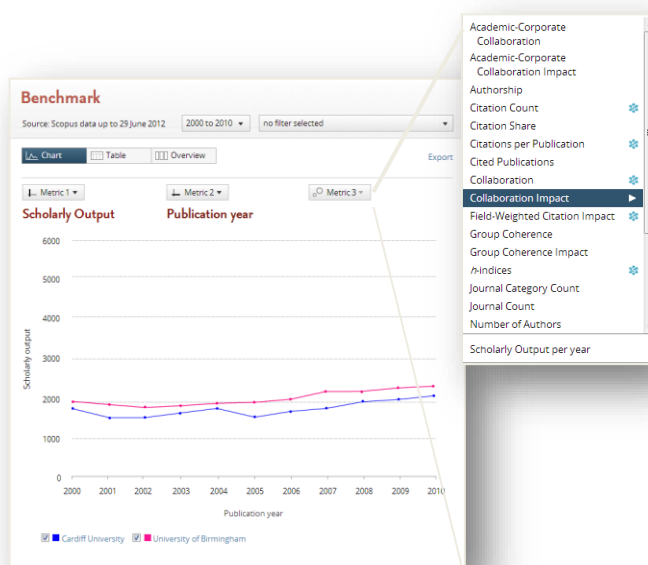Patent-Citations per Scholarly Output

Collaboration metrics

Authorship Count
Number of Citing Countries
Collaboration (geographical) 🌀
Academic-Corporate Collaboration

Disciplinarity metrics

Journal count
Journal category count

Usage Metrics

Views Count
Views per Publication
Field-Weighted Views Impact

10.3. Identify unique research strengths

Based on co-citation analysis and an innovative visualization technique, SciVal creates maps of science which identifies unique research strengths and vulnerabilities at institutional and national levels, which could not always be detected using the traditional evaluation methods. Rather than showing journal-based subject classifications, SciVal use a bottom-up approach looking into actual citation patterns to identify highly specific research topics across scientific fields and provides insights into newly emerging interdisciplinary areas.

10.4. Pre-defined and self-defined entities

SciVal is a ready-to-use solution with access to pre-defined 4600+ institutions, 220 countries and groups.
- Besides the countries and institutions in SciVal, you can also define your own institution based on Scopus affiliation information, groups of institutions and groups of countries.
- Several groups of institutions and countries are made available such as US states, EU28, German Bundesländer, Russell group and more.
- Self-defined entities can be created to replicate your faculty structure, research teams and groups; by grouping publications and researchers across the world.

10.5. Research Areas

SciVal offers flexibility for users to create their own research areas representing a field of research defined by you. It can represent a strategic priority, an emerging area of science, or any other topic of interest using below as the building blocks:
- Search terms
- Institutions and groups of institutions
- Countries and groups of countries
- Journals and journal categories
- Competencies of any desired institution or country

Research Areas will be made available across the platform to monitor and track performance, benchmark and analyse relative strengths and weaknesses, and to explore new and potential collaboration opportunities and can be fully analyzed in the SciVal Trends module.

10.6. Data
10.6.1. Data source

Information provided by SciVal is drawn from the Scopus dataset. Scopus is the largest abstract and citation database of peer reviewed literature which includes over 21,915 titles from 5,000 publishers.
- 21,915 titles from more than 5,000 international publishers
  - 21,568 peer-reviewed journals (including 3,715 open access journals)
  - 361 trade publications
  - 531 book series
- 120,000 books and growing
- 7.3 million conference papers

- "Articles-in-Press" from more than 3,750 journals and publishers such as Cambridge University Press, Elsevier, Springer, Wiley-Blackwell, Nature Publishing Group and the IEEE (Institute of Electrical and Electronics Engineers)

Scopus' records in SciVal include:

- 39,625,716 million records, including references going back to 1995

Scopus delivers the most comprehensive overview of the world's research output in the fields of science, technology, medicine, social sciences and arts & humanities. As research becomes increasingly global, interdisciplinary and collaborative, the broad coverage of Scopus allows you to make sure that critical research from around the world is not missed. For more information including a complete list of titles, please visit http://www.elsevier.com/scopus

10.6.2. **Update frequency**

Publication and metrics are updated approximately every **two weeks** to keep the data consistent with Scopus, and to provide up-to date information to track and monitor progress. Usage data from Scopus and ScienceDirect are updated monthly.