UNIVERSITY RANKINGS AND THE ROLE OF SCOPUS

Prepared for Zarqa University

Presented by Ozge Sertdemir

o.sertdemir@elsevier.com

AGENDA

o Why do rankings matter?

o Bibliometric data providers vs Ranking Agencies

o How are Scopus and SciVal involved?

o Which rankings? THE and QS Rankings

o Which factors affect institutional rankings?

o Why collaboration matters?

o Your affiliation's Research trends

o Recommendations

Importance of International Rankings

Students and parents

Evaluating universities globally

University Management

Want to see how Institutions compare research performance locally an internationally

Policy Makers & Corporations

Evaluating universities globally

85% of students *find university rankings important in their selection of institute to study*

33% of students *find university rankings the* **_most_** *important factor (number 1 factor, followed by 21% employer recognition, etc.)*

Source: University selection by students (IDP Research)

International Rankings Organizations

Students primarily use a small number of powerhouse rankings systems, although there are significant variations by nationality

Source: University selection by students (IDP Research)
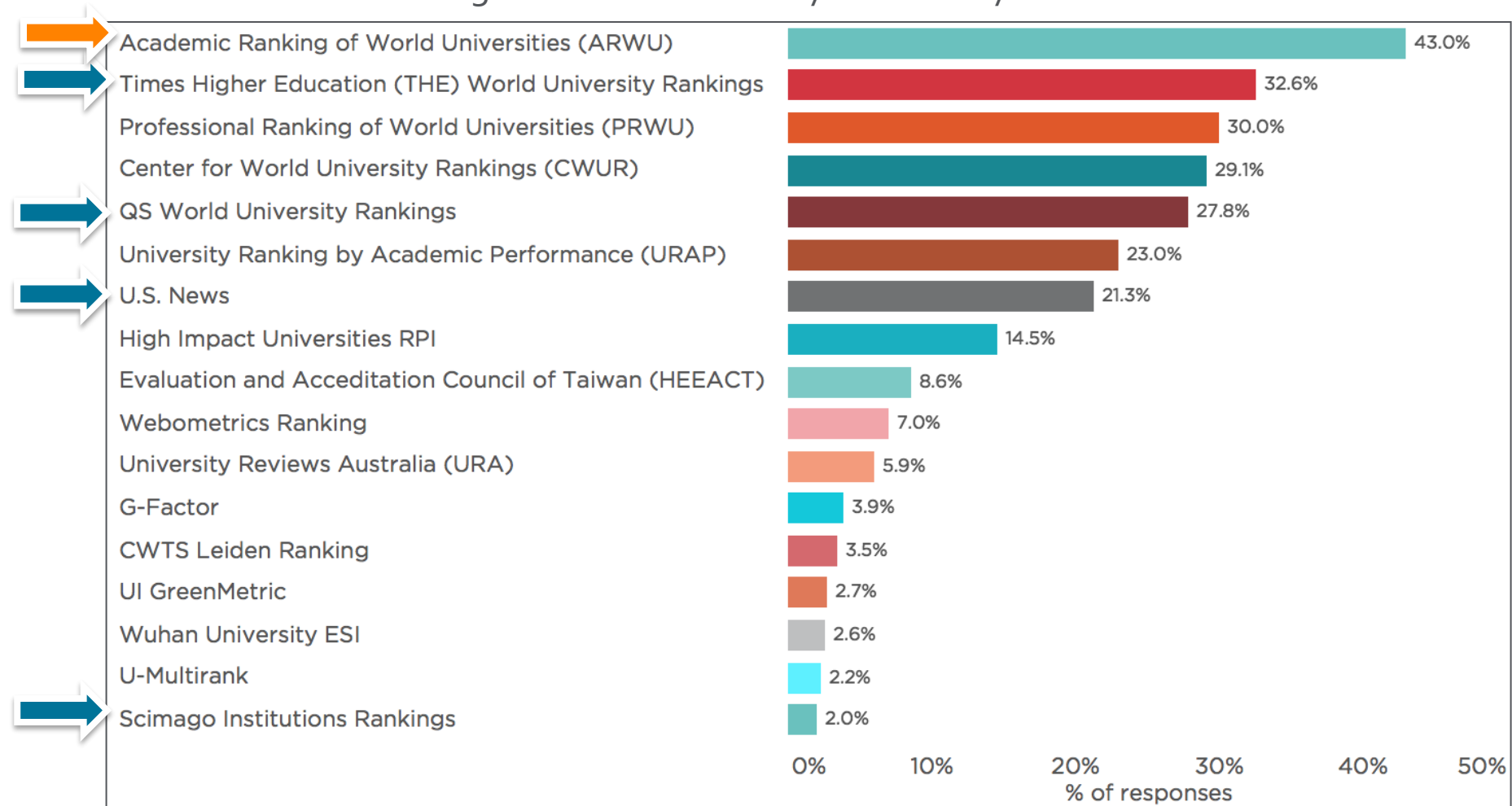
Bibliometric data providers vs. ranking agencies

unique to Scopus / SciVal	shared with Clarivate

Leading research institutes and research organizations use Scopus and Scopus data

Trend:

✓ The most influential ranking body (**THE**), as well as the most prestigious national research assessments world-wide (**REF and ERA**) chose Scopus as their sole citation data provider

✓ **Scopus** has become the **authorative database of choice** for them

Brief Introduction to Scopus

ELSEVIER

Empowering Knowledge

Facts and Figures - Scopus®

The **largest abstract and citation database** of **peer-reviewed** literature, and features **smart tools** that allow you **track, analyse and visualize** scholarly research

+70 Million Multiple regional content types from more than **5.000 publishers** and **105** countries

*Records back to **1788**
*Over 8.000 'article in press'
*Over 4.000 active Gold Open Access journals are indexed
*Additional **enhanced metadata**, i.e. 100% Medline coverage

*Database is updated **daily**
***40 different languages** are covered
*Automatically generated researcher and affiliation profiles

Physical Sciences	JOURNALS	CONFERENCES	BOOKS	PATENTS*
	23,578 peer-reviewed journals **308** trade journals	**106K** conference events **9M** conference papers	**742** book series **38K** volumes **193K** stand-alone books **1.62M** items	**27M** patents
Health Sciences	• Full metadata, abstracts and cited references (refs post-1970 only)			From 5 major patent offices - WIPO - EPO - USPTO - JPO - UK IPO
Social Sciences	• Funding data from acknowledgements	Mainly Engineering and Computer Sciences		
Life Sciences	• Citations back to 1970			

Publishers Coverage - Scopus®
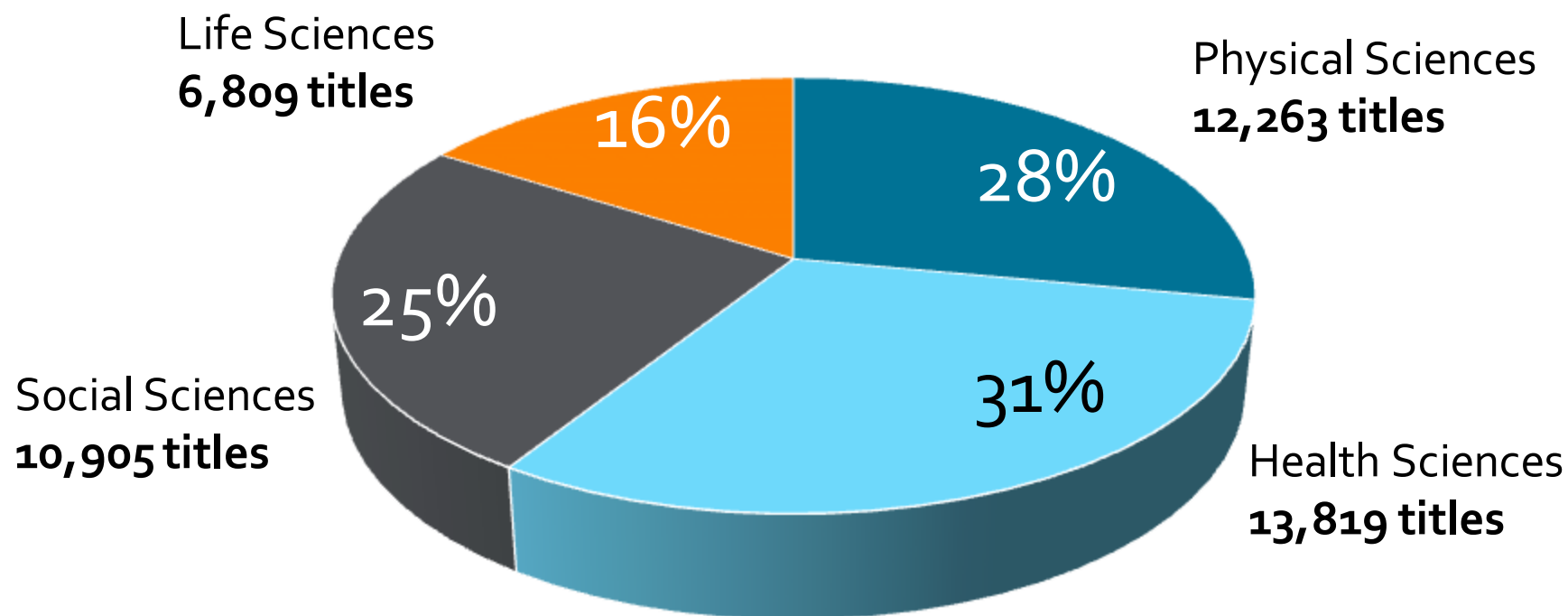
Scopus covers more than 5.000 publishers worldwide to support your research needs
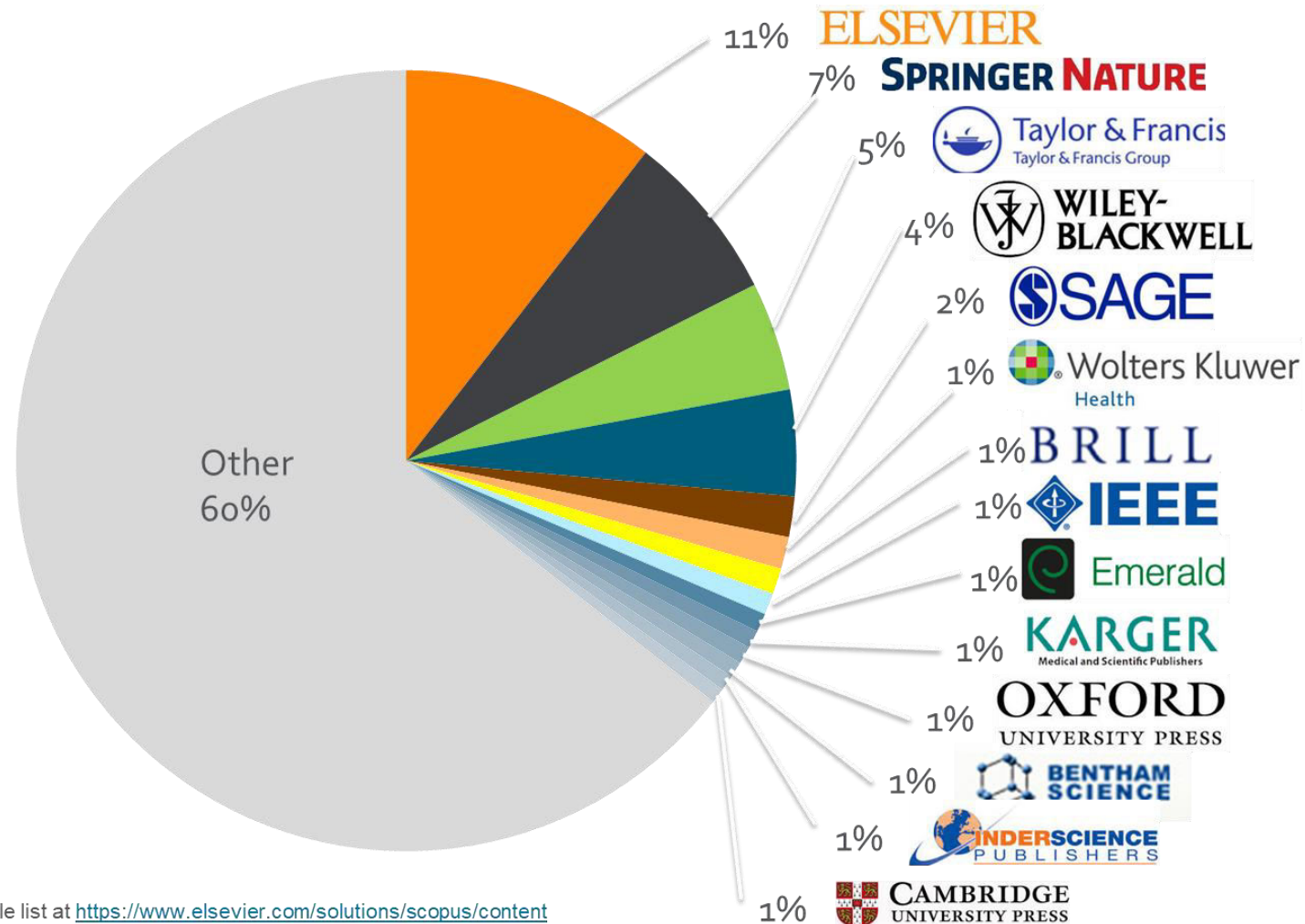
Source: May 2016 title list at https://www.elsevier.com/solutions/scopus/content

Subject Coverage - Scopus®

Titles on Scopus are classified under 4 subject clusters and indexed into **27** main subject areas:

Life Sciences
6,809 titles

Physical Sciences
12,263 titles

16%

28%

25%

31%

Social Sciences
10,905 titles

Health Sciences
13,819 titles

Number of journals in Scopus by subject area by Jan,2018
* Includes active titles. Titles may fall into more than one subject area

Scopus®   **A wold of data to mine**

3.7 TB
Data stored in content repository

Scopus delivers all metadata as provided by publishers, including: author(s), affiliation(s), document title, year, electric identification (EID), source title, volume/issue/pages, citation count(s), source, document type and digital object identifier (DOI)

1.4 billion
Cited references

70,000
Institutional profiles

12 million
author profiles

Scopus®

And analyzed in SciVal

SciVal offers quick, easy access to the research performance of 9,000 research institutions and 220 nations worldwide.
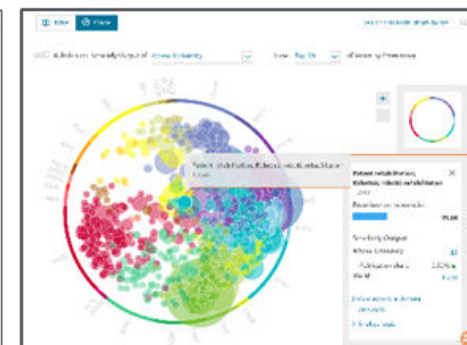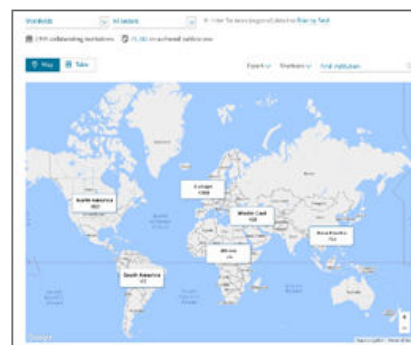
THE Rankings

THE WUR

- Founded in 2004
- Provides the definitive list of the world's best universities
- Evaluated across teaching, research, international outlook, reputation and more
- Several different rankings offered:
  - World University Rankings (their flagship)
 - Latin American Rankings
  - Young University Rankings (the top 150 under 50 Rankings)
  - Japan Rankings
  - Asia University Rankings
  - US College Rankings (very new)

How Scopus/Scival data supports THE WUR:

Affiliation data

Facilitate with Reputation data

Affiliation handling and corrections

THE's data are trusted by governments and universities and are a vital resource for students, helping them choose where to study

THE WUR
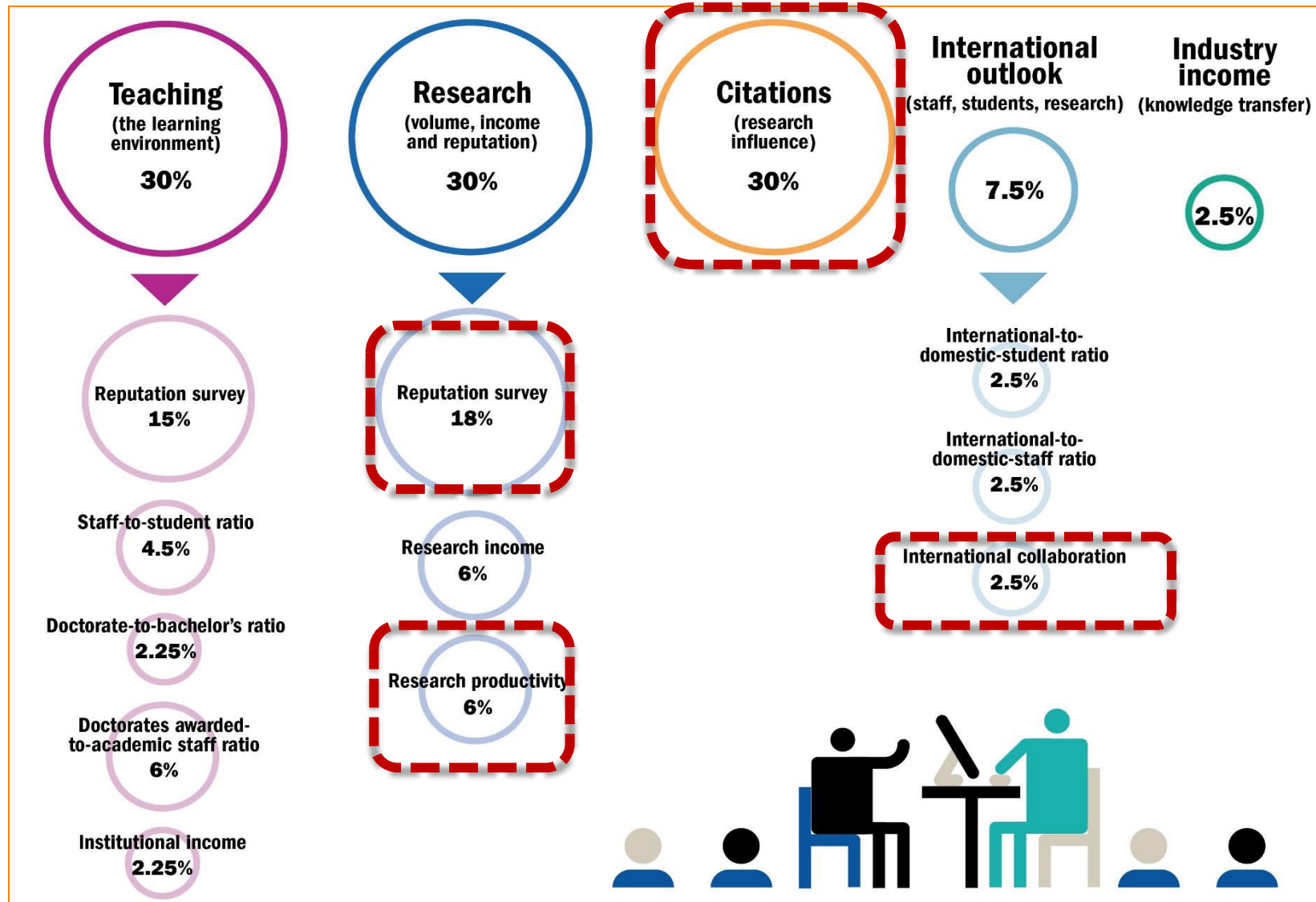
THE Rankings are calculated using 13 metrics which are sectioned into 5 categories

Elsevier fits in 4 very important metrics: Citations, Reputation survey, research productivity and international collaboration

Source: THE

THE WUR – Minimum Requirements to be ranked

Institutional Data uploaded through the THE data portal

1,000 papers for the 5 years window (rolling)

At least 150 papers per year

Variable* threshold per subject area

(*): Varying from 250 papers for smaller disciplines to 500 for large disciplines

Since 2015, Times Higher Education uses data and metrics from Scopus and SciVal for their World University Ranking and all subsequent rankings

81% of the top 100 universities* subscribe to Scopus

Source: Scopus analysis using internal data and THE 2014 World University ranking list
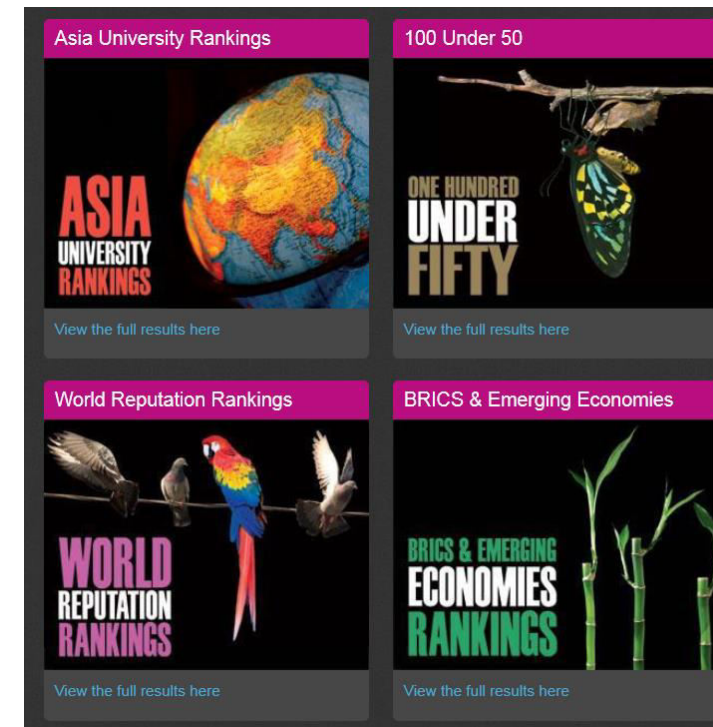
THE WUR 2017-18 Scopus Citation dataset

ALL SCOPUS

2012-2016

Articles, Reviews, Conf. papers, Books and Book chapters

Suspended titles carved out

67,775,649

14,061,956

12,737,678

12,431,514
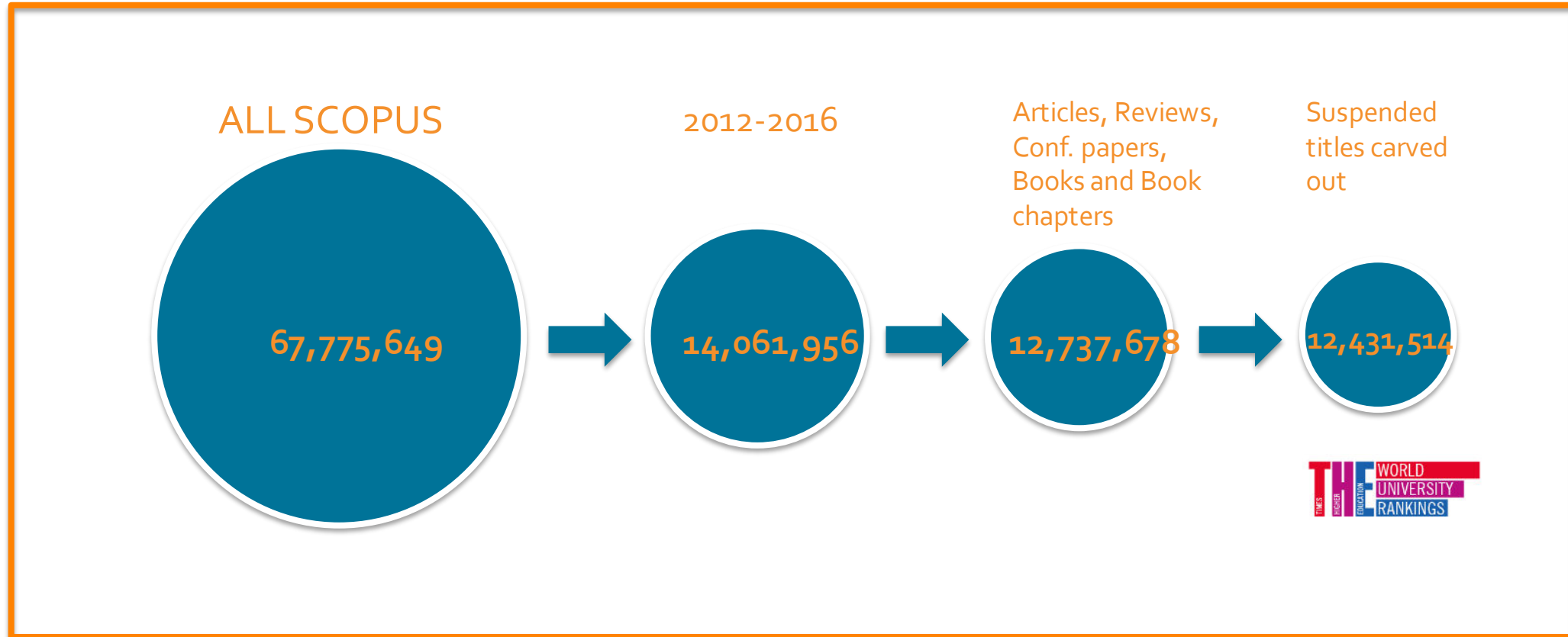
Citation Score as calculated for THE

- Based on **Field-Weighted Citation Impact = FWCI**

  - ✓ normalizes # citations based on (a) subject area, (b) publication age and (c) document type of the cited publications

- World average FWCI = 1.0

- Citation Score considers the normal distribution of FWCIs across institutions: assigns a normalized Citation Score between 0-100

- **International collaboration** (2.5% weighting in THE ranking) = based on % of an institution's publications that have at least 1 international co-author

QS Rankings

QS Rankings

- Founded in 2010 (2004 in collaboration with THE)
- Provides global overall and subject rankings which name which name the world's top universities for the study of 48 different subjects and 5 composite faculty areas as Arts & Humanities, Engineering & Technology, Life Sciences & Medicine, Natural Sciences, Social Sciences.
- Evaluated across academic reputation, citations per faculty, international student ratio etc
- Offers 5 independent regional tables:
  - Asia
  - Latin America
  - Emerging Europe and Central Asia
  - Arab Regioin
  - BRICS

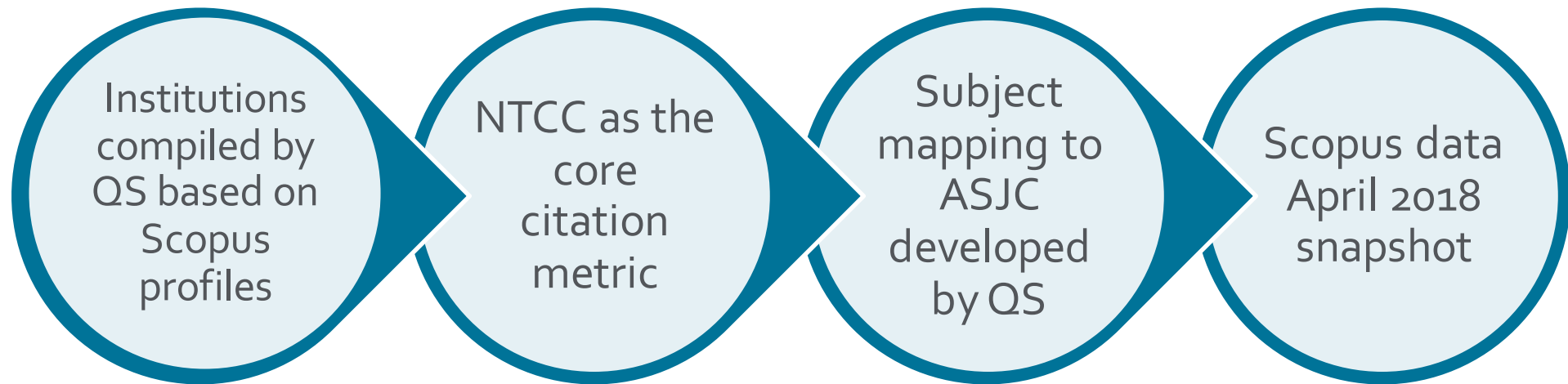**How Scopus/Scival data supports QS:**

Affiliation data

Self-citation exclusion

Affiliation handling and corrections

QS's data are trusted by governments and universities and are a vital resource for students, helping them choose where to study

QS Rankings - Methodology

Indicator	Weighting	Elaboration
Academic peer review	40%	Based on an internal global academic survey that asks active academicians across the world about the top universities in their specialist fields
Faculty/Student ratio	20%	A measurement of teaching commitment
Citations per faculty	20%	A measurement of research impact
Employer reputation	10%	Based on a survey on graduate employers
International student ratio	5%	A measurement of the diversity of the student community
International staff ratio	5%	A measurement of the diversity of the academic staff

Bibliometric parameters for QS

Institutions compiled by QS based on Scopus profiles

NTCC as the core citation metric

Subject mapping to ASJC developed by QS

Scopus data April 2018 snapshot

Some information on how Scopus helps out and what data QS provide themselves:

- Unlike THE, QS compile their own institutions - they decide what to group together and what not to group together but still based on Scopus data (affiliation profile)

- NTCC score is compiled by them = Normalized Total Citation Count, which is what they use instead of FWCI

- They develop their own subject mapping but map it to our ASJC categories

Research Metrics as Indicators of Performance

Empowering Knowledge

Research Metrics as Indicators for Performance

Metrics can play a valuable (but not exclusive) role in the process of identifying, setting and monitoring research performance

✓ Some metrics you can check:

- Citation Impact
- International collaboration: Academic and Corporate
- Research quality
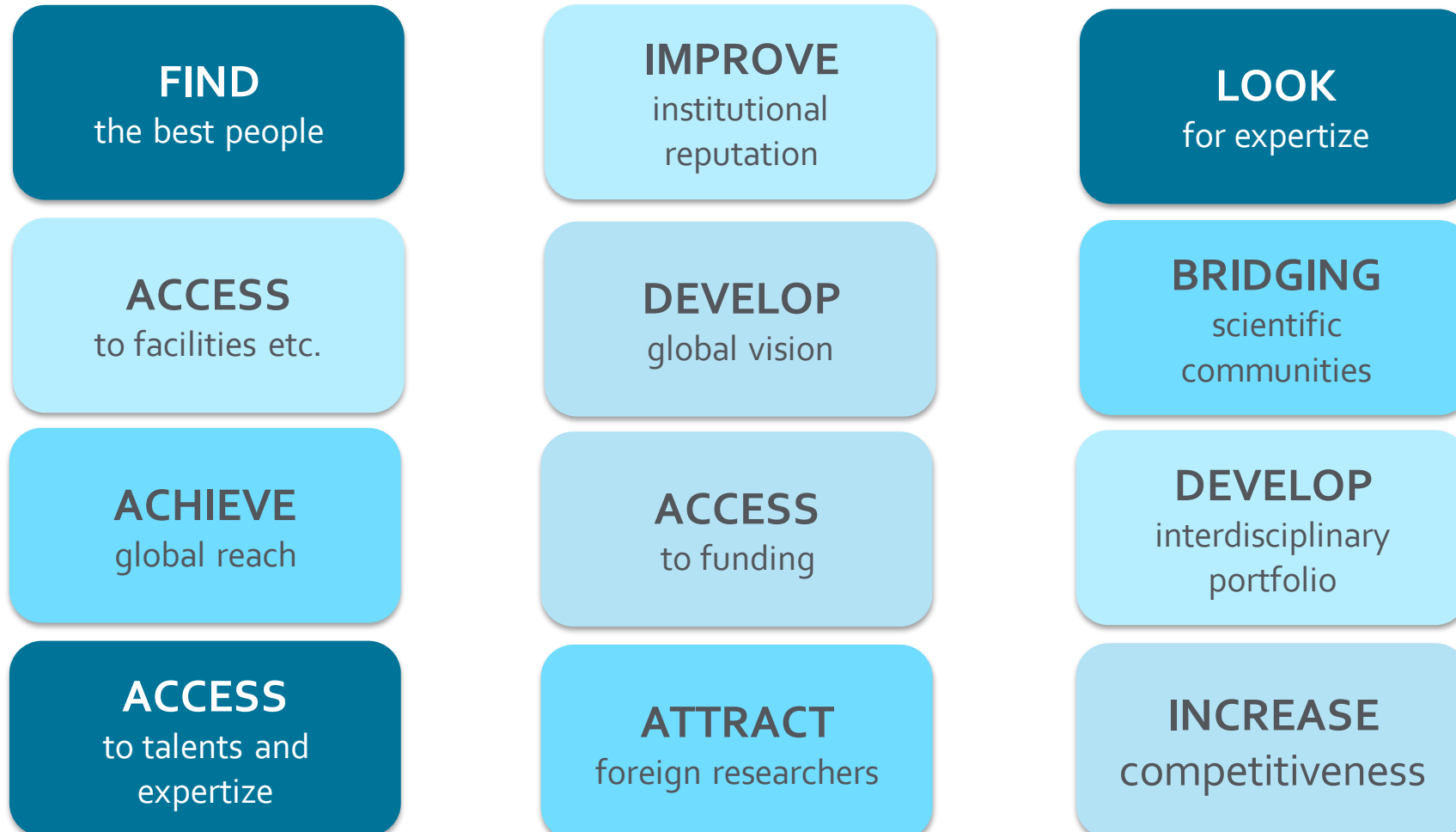- Funding
- Outputs
- Student numbers

✓ Many universities choose and align metrics with their long term institutional strategy. Typical KPI's we see are:

- % of outputs in top 10% most cited worldwide
- Number of publications per year
- % of outputs via international collaboration
- % of outputs in Journal metric top quartiles

Why Collaborate Internationally?

Collaboration gives leverage to researchers own inputs, and thereby helps them maximize outputs and outcomes and visibility

FIND
the best people

IMPROVE
institutional
reputation

LOOK
for expertize

ACCESS
to facilities etc.

DEVELOP
global vision

BRIDGING
scientific
communities

ACHIEVE
global reach

ACCESS
to funding

DEVELOP
interdisciplinary
portfolio

ACCESS
to talents and
expertize

ATTRACT
foreign researchers

INCREASE
competitiveness

Internationally collaborative articles are increasing
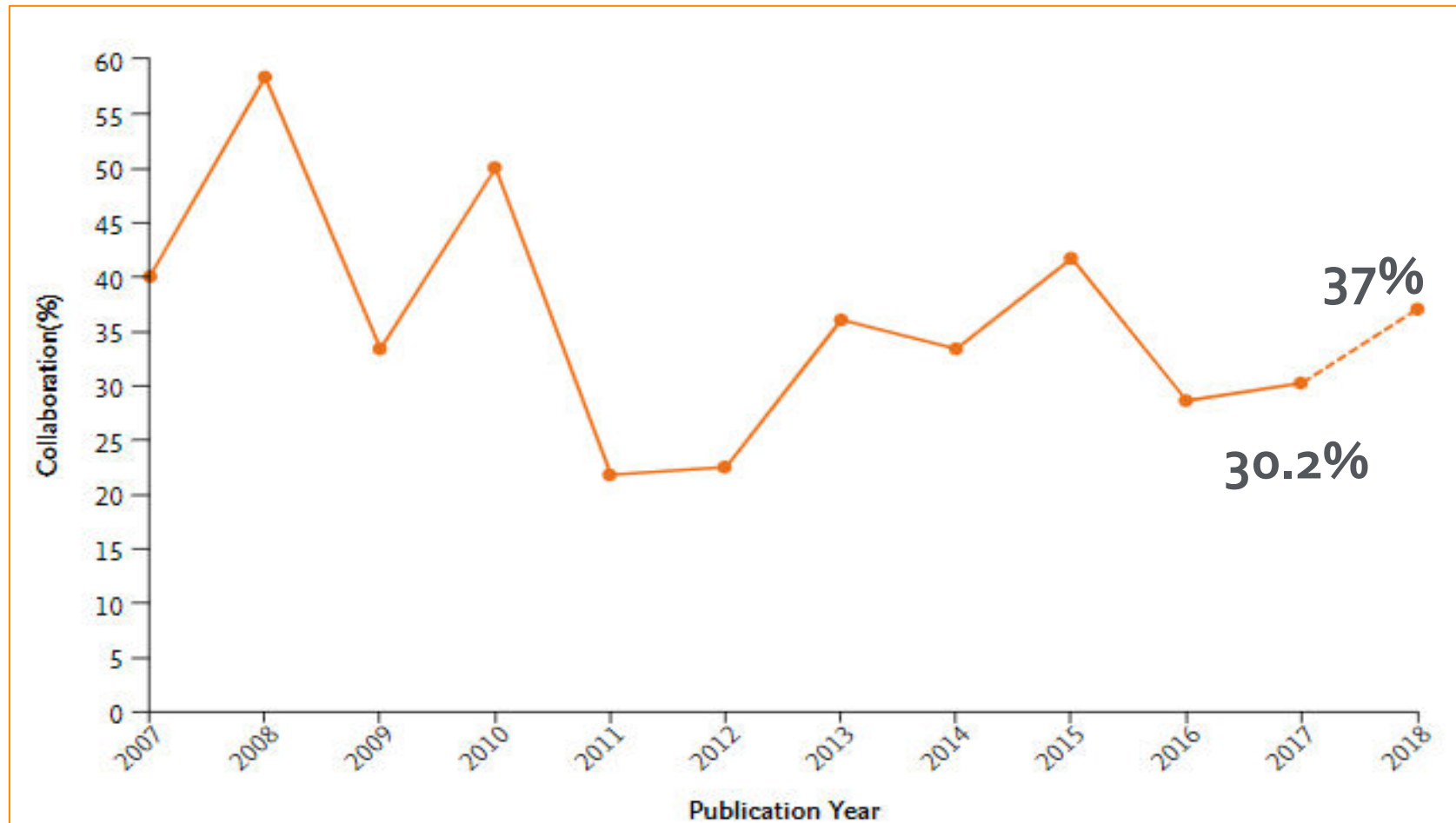
21.1% of all articles were internationally collaborative in 2017, up from 14.1% in 2004

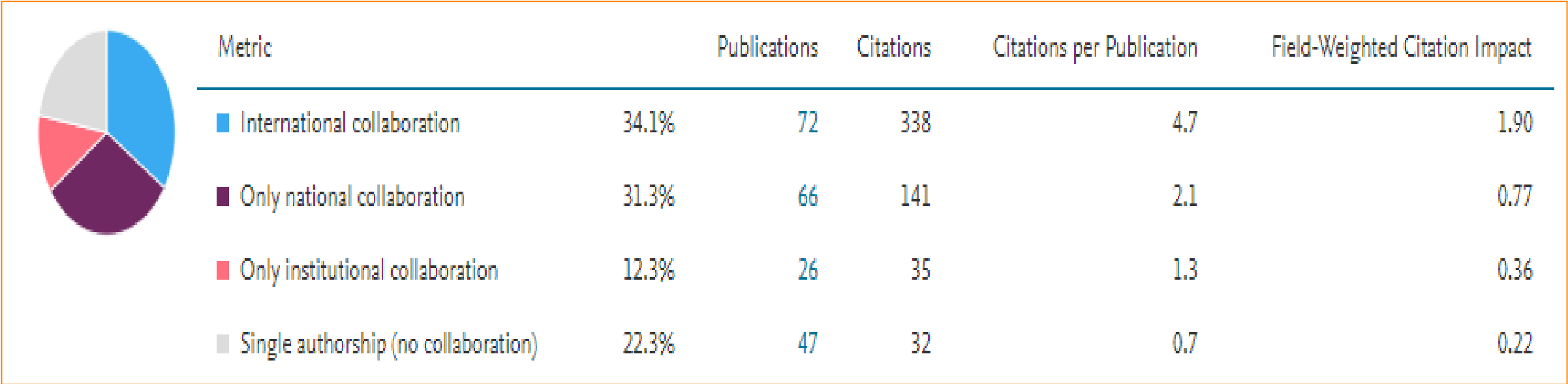

Source: SciVal analysis of Scopus data, April 2018
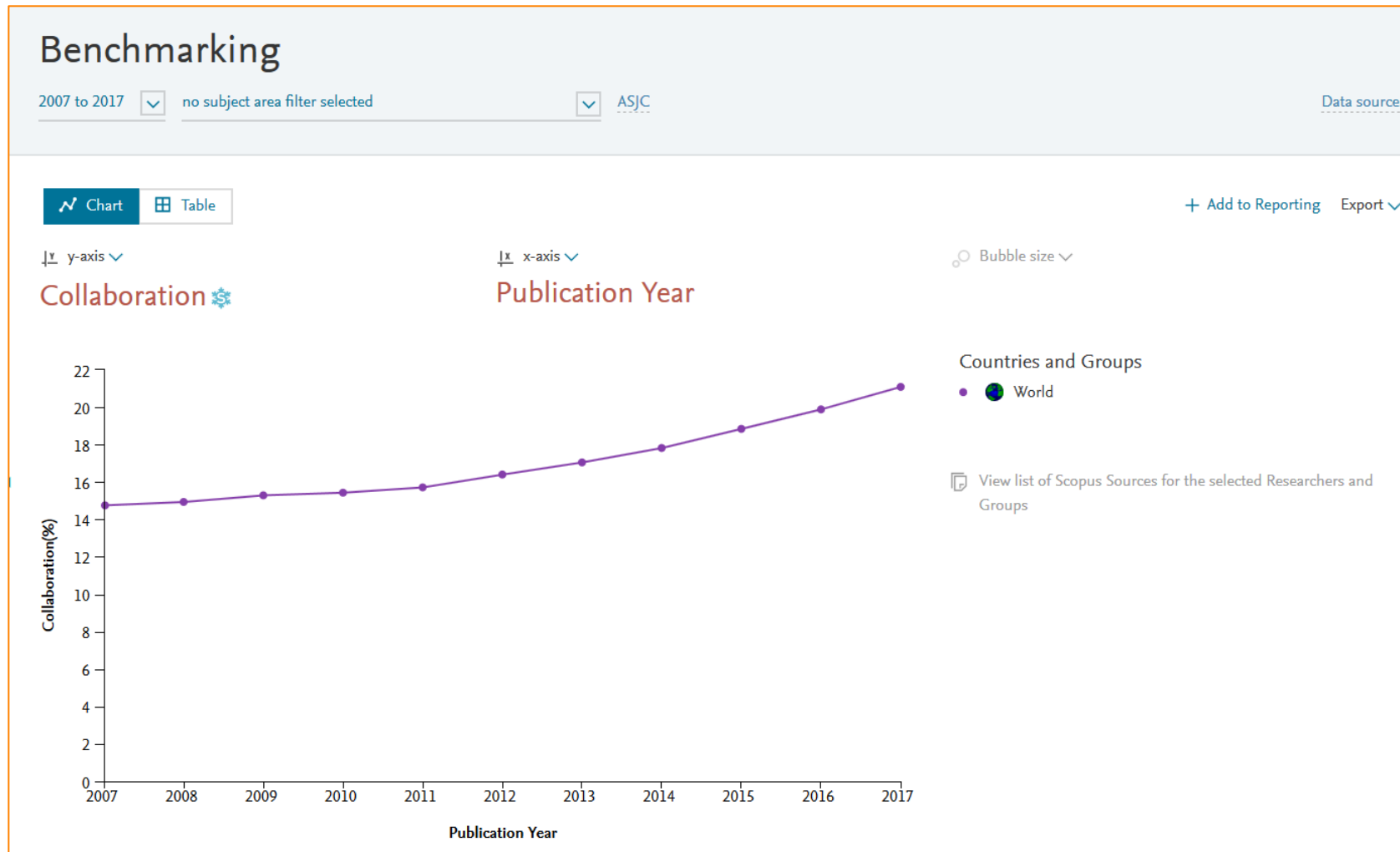
What about Zarqa University?

30% of all articles were internationally collaborative in 2017, which is higher than world average!

What about Zarqa University?

34% of all articles were written with an international collaboration in 2015 - 2018, its metrics are significantly higher; 4.7 citations per publication (while world average is 4.2) and 1.90 FWCI (while world average is 1.00)

Metric	Publications	Citations	Citations per Publication	Field-Weighted Citation Impact
International collaboration	34.1%	72	338	4.7	1.90
Only national collaboration	31.3%	66	141	2.1	0.77
Only institutional collaboration	12.3%	26	35	1.3	0.36
Single authorship (no collaboration)	22.3%	47	32	0.7	0.22

Source: SciVal analysis of Scopus data, April 2019, 2015-2018

What does FWCI represent?

FWCI indicates how the number of citations received by an entity's publications compares with the average number of citations received by all other similar publications in the data universe

A FWCI of 1.00 indicates that the entity's publications have been cited exactly as would be expected based on the global average for similar publications

Zarqa University has a **FWCI of 0.98** between 2015-2018

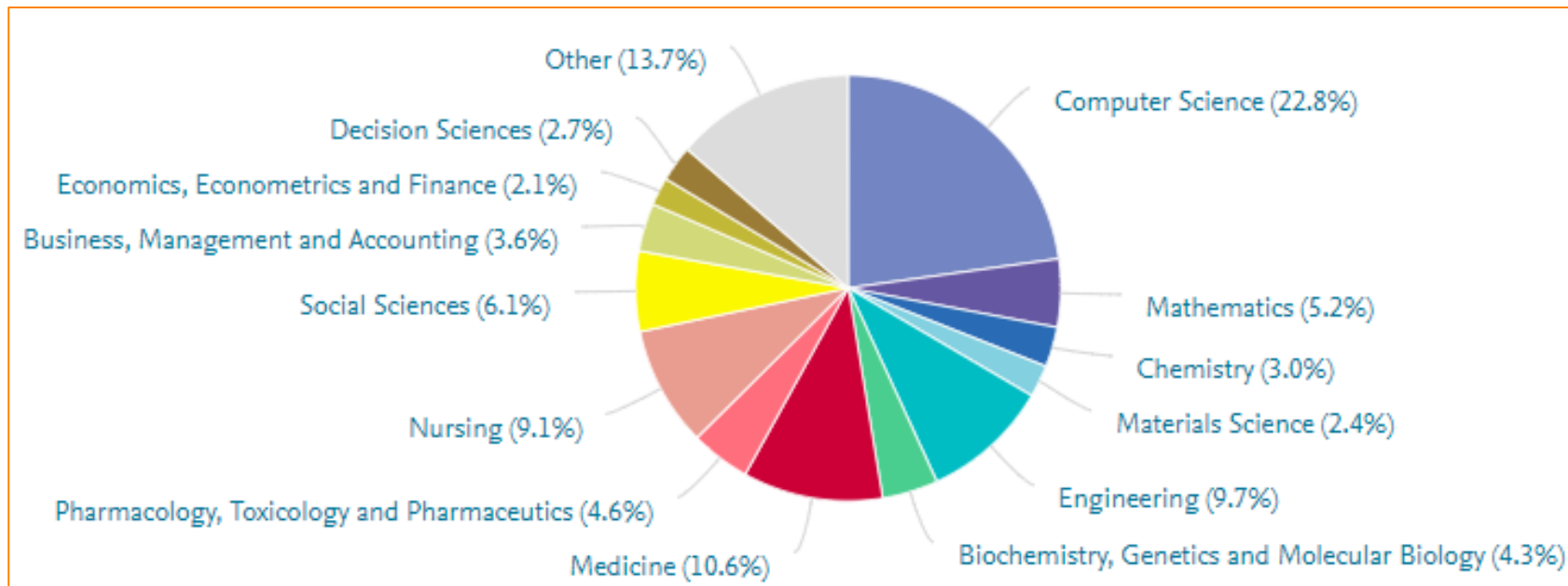Jordan has a **FWCI of 1.39** between 2015-2018

The Middle East has a FWCI of 1.05 for the same period

Zarqa University: research trends + recommendations
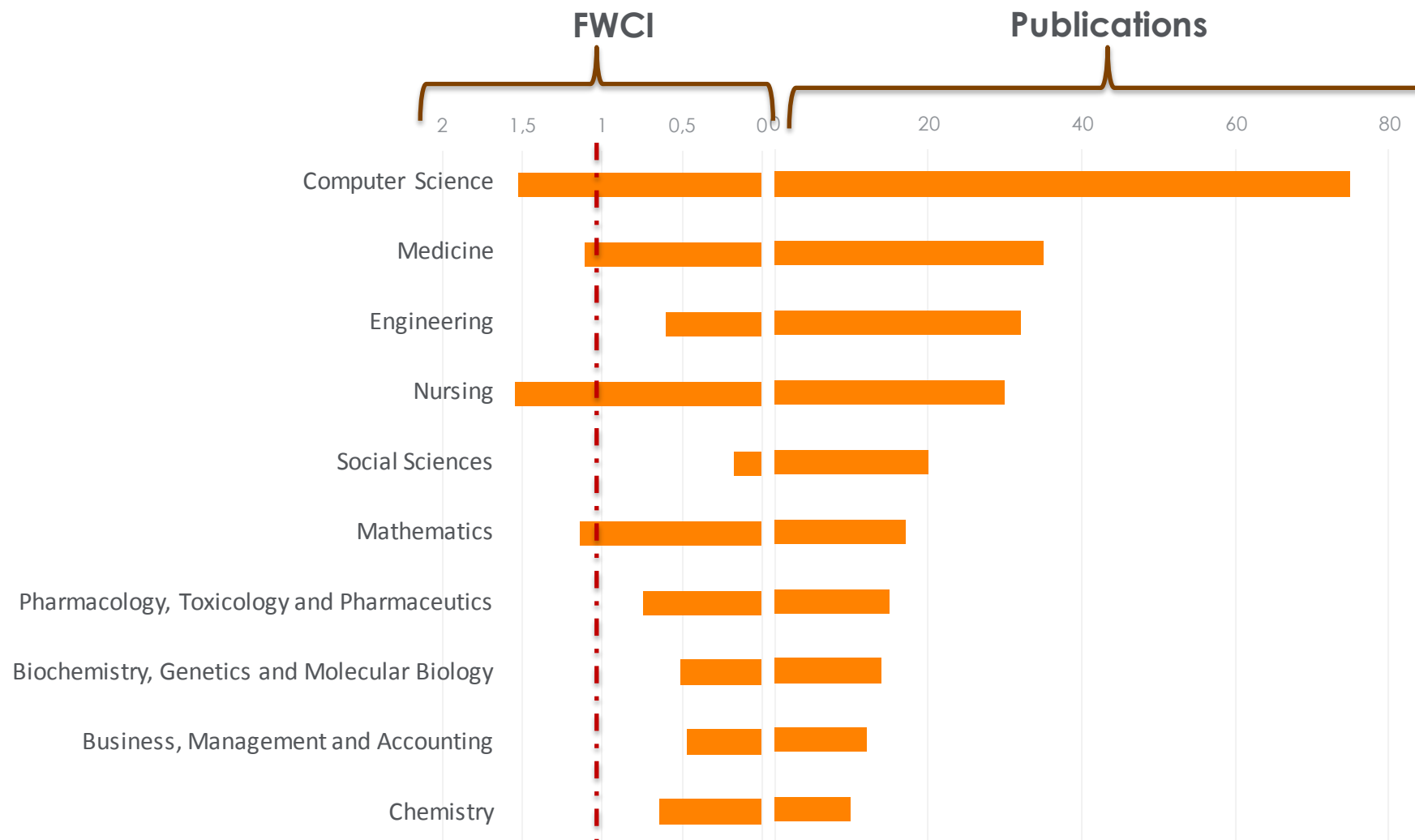
Empowering Knowledge

Zarqa University Research Trends in 2015-2018

Zarqa University has 211 publications in Scopus in 2015-2018, with 0.98 FWCI – almost world average. Computer Science, Medicine and Engineering are the top subject areas.

Scholarly Output
211 ▲
View list of publications

Authors
139 ▲

Field-Weighted Citation Impact
0.98

Citation Count
546

Citations per Publication
2.6

h5-index ⓘ
13

Other (13.7%)
Decision Sciences (2.7%)
Economics, Econometrics and Finance (2.1%)
Business, Management and Accounting (3.6%)
Social Sciences (6.1%)
Nursing (9.1%)
Pharmacology, Toxicology and Pharmaceutics (4.6%)
Medicine (10.6%)
Biochemistry, Genetics and Molecular Biology (4.3%)
Engineering (9.7%)
Materials Science (2.4%)
Chemistry (3.0%)
Mathematics (5.2%)
Computer Science (22.8%)

Zarqa University Research Trends in 2015-2018

Source: SciVal analysis of Scopus data, April 2019, 2015-2018

Subject areas that have more than 10 publications are shown

Zarqa University Research Trends in 2015-2018

Outputs in Top Citation Percentiles 💲

+ Add to Reporting

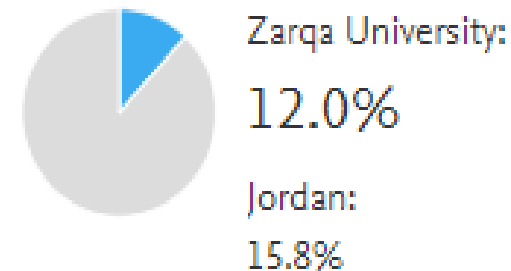Publications in top 10% most cited worldwide

Zarqa University:

8.1%

Jordan:
9.4%

Publications in Top Journal Percentiles ⚙️

+ Add to Reporting

Publications in top 10% journals by CiteScore Percentile ⌄

Zarqa University:

12.0%
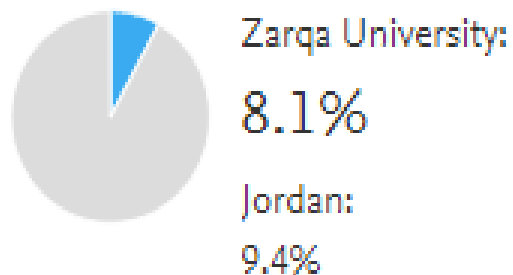
Jordan:
15.8%

- **8% of all ZU publications are among publications in top 10% most cited worldwide, which is slightly lower than Jordan average**

- **12% of ZU publications are among publications in top 10% journals by CiteScore, which is lower than Jordan average**

Zarqa University Research Trends in 2015-2018

International Collaboration ⚙

+ Add to Reporting

Publications co-authored with Institutions in other countries

Zarqa University:
34.1%

Jordan:
50.1%

Academic-Corporate Collaboration ⚙

+ Add to Reporting

Publications with both academic and corporate affiliations

Zarqa University:
0.5%

Jordan:
1.4%

- International cooperation in ZU is lower than Jordan average, top collaborators are as below:

| Institution	Co-authored publications ↓	Co-authors at Zarqa University	Co-authors at the other institution	Field-Weigh... ↓
University of Jordan	41 ▲	25 ▲	44 ▲	0.89
Al-Balqa Applied University	26 ▲	24 ▲	29 ▲	1.15
Hashemite University	21 ▼	19 ▼	30 ▼	0.47
Jordan University of Science and Technology	16 ▼	12	19	2.43
Universiti Sains Malaysia	9 ▲	2 ▲	6 ▲	6.75
Yarmouk University	6 ▼	5 ▼	8 ▼	0.84
Al-Zaytoonah University of Jordan	5 ▲	7 ▲	8 ▲	0.40
King Khalid University	5 ▼	2 ▼	1 ▼	1.66
Boise State University	4 ▼	3 ▼	1 ▼	1.79
...cal Center	4 ▲	3 ▲	4 ▲	1.13

Zarqa University Research Trends in 2015-2018

- There are 12,605 not yet collaborative institutions for Zarqa University, top 10 are as below:

Institution	Publications ↓	Authors	Field-Weigh... ⌄
🇨🇳 Chinese Academy of Sciences	205,254 ▲	148,934 ▲	1.33
🇫🇷 CNRS	174,508 ▲	119,727 ▲	1.39
🇨🇳 Ministry of Education China	160,834 ▲	176,388 ▲	1.23
🇺🇸 Harvard University	120,605 ▲	66,783 ▲	2.32
🇷🇺 RAS	88,503 ▲	51,715 ▲	0.68
🇨🇦 University of Toronto	70,065 ▲	42,326 ▲	2.06
🇫🇷 ComUE Paris-Saclay	64,909 ▲	36,169 ▲	1.63
🇫🇷 Universite Paris-Saclay	62,369 ▲	34,661 ▲	1.72
🇨🇳 Shanghai Jiao Tong University	60,317 ▲	52,187 ▲	1.21
🇨🇳 Graduate University of Chinese Academy of Sciences	60,142 ▲	50,532 ▲	1.22

# Zarqa University Research Trends in 2015-2018
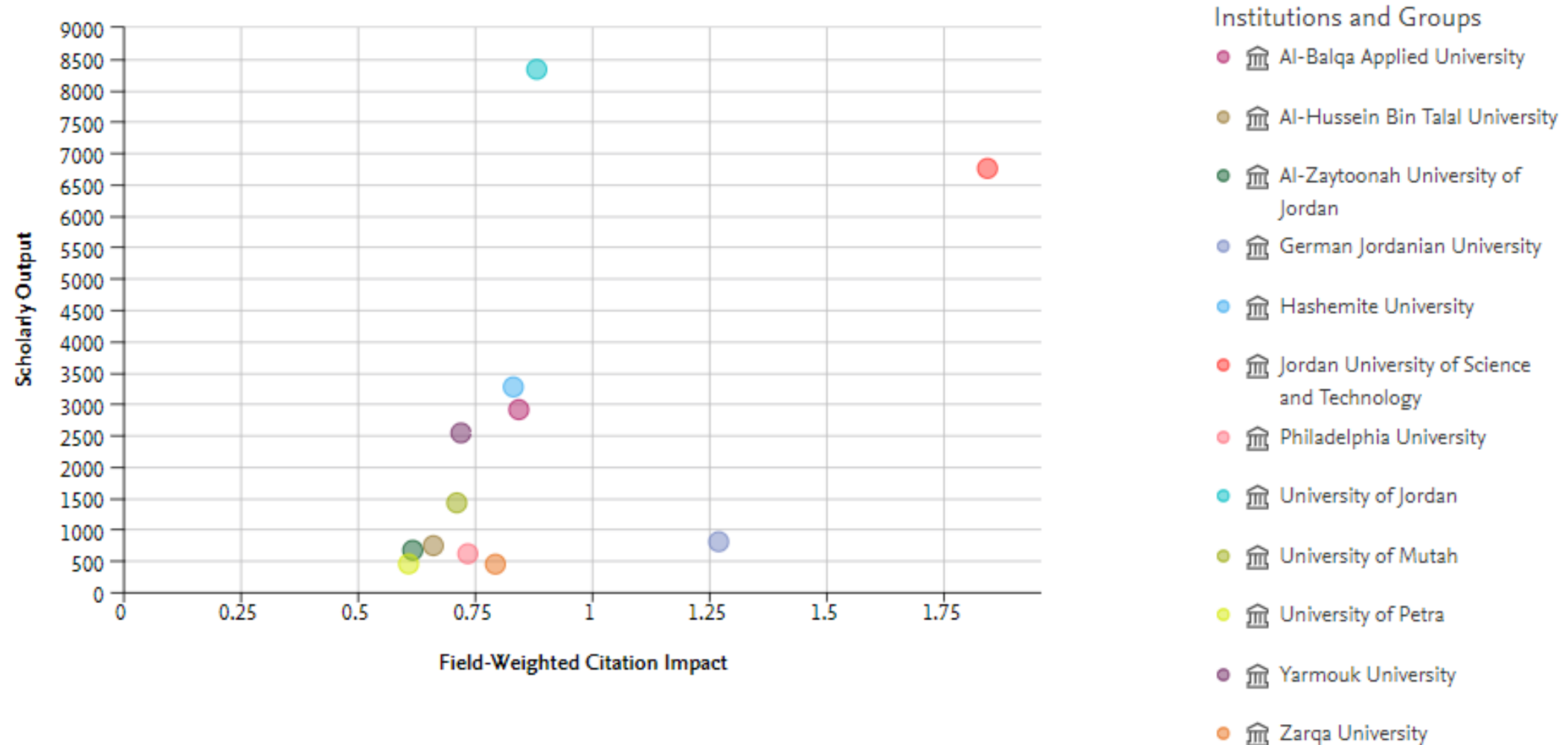
Where to focus?

A topic in SciVal is a collection of documents with a common intellectual interest. This Topic Prominence combines 3 metrics to indicate the momentum of a topic, Citation count, Views count and CiteScore

👍 **Top %1 of worldwide Topics by Prominence**

Researchers at Zarqa University have contributed to **164 topics** between 2015- 2018
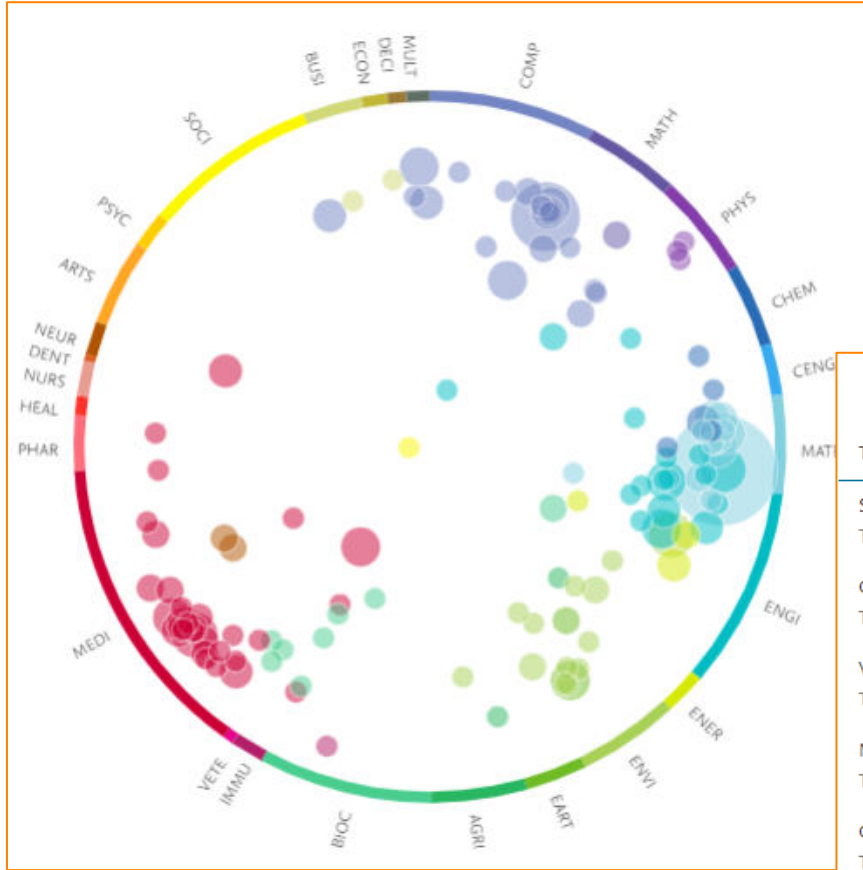
Focusing on topics with high worldwide prominence and impact such as **Semantics, Models, Recommender Systems (**ZU published output in this field brought **79% higher** impact than the world average) will highly contribute to the scientific success of ZU.

Topic Cluster	At this Institution			Worldwide
	Scholarly Output	Publication Share	Field-Weighted Citation Impact	Prominence percentile
Semantics; Models; Recommender Systems ... TC.37 | Analyze at Institution | Analyze worldwide	12	0.02% ▼	1.79	96.319
Computer Crime; Network Security; Intrusion Detection ... TC.218	7	0.03% ▲	0.91	88.822
Wireless Sensor Networks; Sensor Nodes; Routing Protocols ... TC.27	6	0.01% ▼	0.44	96.519
Neoplasms; Patients; Palliative Care ... TC.77	6	0.02% ▼	0.38	95.047
Corporate Social Responsibility; Corporate Governance; Firms ... TC.56	6	0.02% ▼	0.00	92.905

Source: SciVal analysis of Scopus data, April 2019, 2015-2018

Recommendations on how to enter / improve rankings (long term)

1. Increase publication output (minimum threshold = 150 eligible publications/year)

2. Collaboration is a fundamental aspect of research. Increase international collaboration – especially with researchers from top institutes (e.g. focus on your Topics of Prominence)

3. Citation impact is one of the performance indicators used in the academic rankings. Focus on FWCI! It can be useful to spot strengths and weaknesses
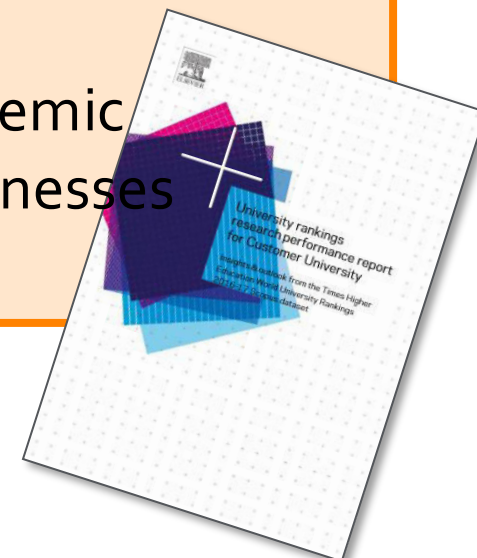
Elsevier Research Intelligence

Thank you