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Citations and its Impact to University Ranking

Citations and its Impact to University Ranking

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www.researcherid.com/rid/C-2414-2009
http://scholar.google.com/citations

Read more: Ale Ebrahim, N., Salehi, H., Embi, M. A., Habibi Tanha, F., Gholizadeh, H., Motahar, S. M., & Ordi, A. (2013). Effective Strategies for Increasing Citation Frequency. International Education Studies, 6(11), 93-99. doi: 10.5539/ies.v6n11p93

Abstract

Abstract: Do you know “Over 43% of ISI papers has never received any citations?” (nature.com/top100, 2014). Publishing a high quality paper in scientific journals is only halfway towards receiving citation in the future. The rest of the journey is dependent on disseminating the publications via proper utilization of the “Research Tools”. Proper tools allow the researchers to increase the research impact and citations for their publications. These workshop series will provide various techniques on how one can increase the visibility and enhance the impact of one’s research work.

Keywords: H-index, Improve citations, Research tools, Bibliometrics

WHAT DO INSTITUTIONS WANT TO FIND OUT FROM CITATION METRICS

- What is the university's research performance?
- Are we competitive compared with our peers?
- How can the university forecast growth?
- Which are our centers of excellence?
- What is our citation ranking?
- What is the influence of our research?
- Which are our most influential papers?
- Which are our top researchers?

Source: RESEARCH EVALUATION - THE METRICS - available at: http://wok.mimas.ac.uk/support/documentation/presentations/24theMetricsBiblio1010.ppt

Why citation is important?

- **In the Times Higher Education World University Rankings system Citations — research influence (worth 3 per cent).**
- Citations are widely recognised as a strong indicator of the significance and relevance — that is, the impact — of a piece of research.
- However, citation data must be used with care as citation rates can vary between subjects and time periods.
- For example, papers in the life sciences tend to be cited more frequently than those published in the social sciences.
- The rankings this year use normalised citation impact, where the citations to each paper are compared with the average number of citations received by all papers published in the same field and year. So a paper with a relative citation impact of 2.0 is cited twice as frequently as the average for similar papers.
- The data were extracted from the Thomson Reuters resource known as Web of Science, the largest and most comprehensive database of research citations available.
- Its authoritative and multidisciplinary content covers more than 11,600 of the highest-impact journals worldwide. The benchmarking exercise is carried out on an exact level across 251 subject areas for each year in the period 2004 to 2008.
- For institutions that produce few papers, the relative citation impact may be significantly influenced by one or two highly cited papers and therefore it does not accurately reflect their typical performance. However, institutions publishing fewer than 50 papers a year have been excluded from the rankings.
- There are occasions where a groundbreaking academic paper is so influential as to drive the citation counts to extreme levels — receiving thousands of citations. An institution that contributes to one of these papers will receive a significant and noticeable boost to its citation impact, and this reflects such institutions' contribution to globally significant research projects.

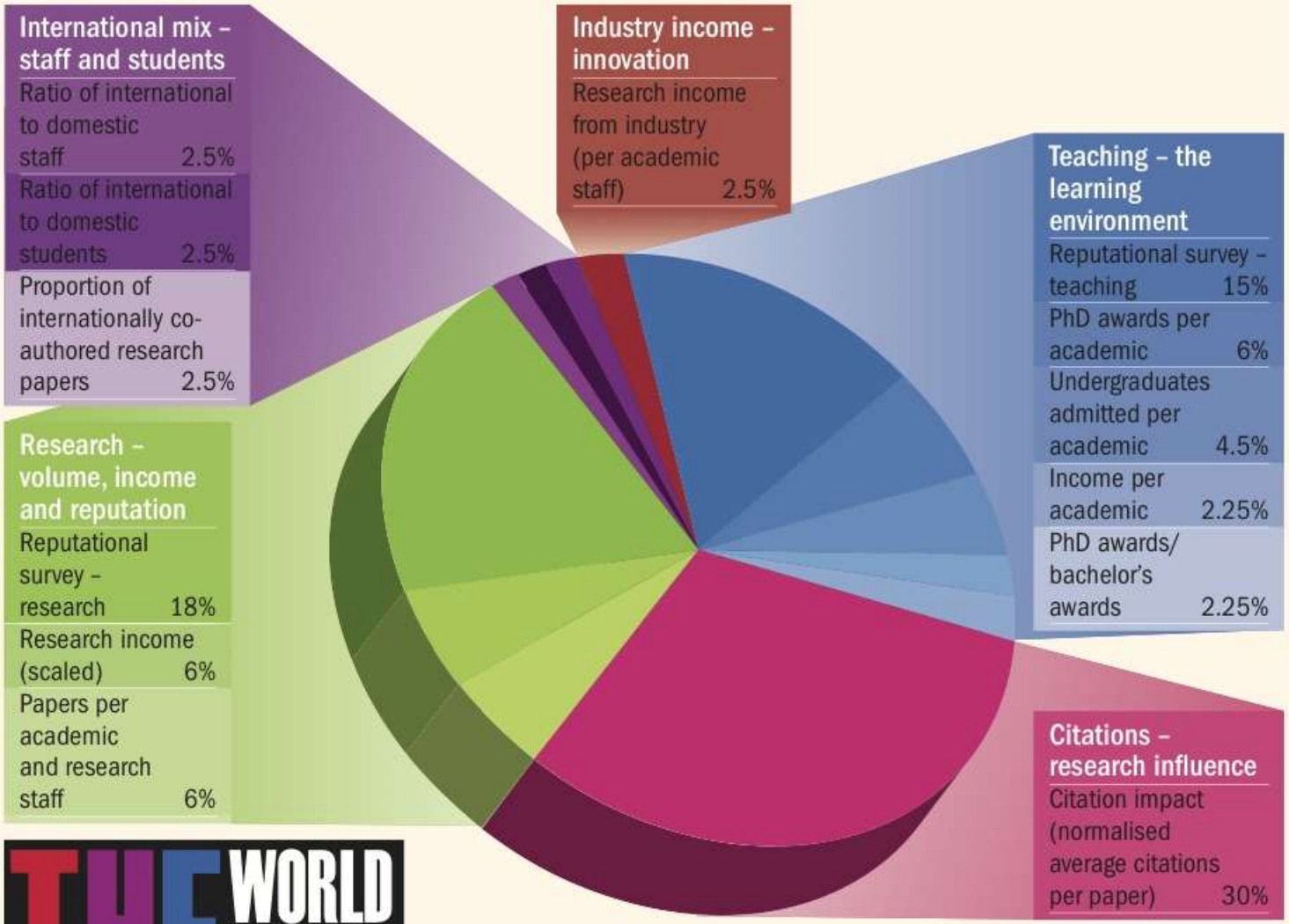
- Source: http://www.timeshighereducation.co.uk/world-university-rankings/2010-2011/analysis-methodology.html

THE WORLD UNIVERSITY RANKINGS

THE Rankings Methodology

Source: Phil Baty *Editor,* Times Higher Education World University Rankings

WEIGHTING SCHEME FOR RANKINGS SCORES



THE WORLD UNIVERSITY RANKINGS

For the latest World University Rankings news, debate and social networking, see **www.timeshighereducation.co.uk/world-university-rankings/**

World University Rankings methodology

Citations – research influence (30%)

Citation impact (normalized average citations per paper) (30%)

Source: Phil Baty *Editor,* Times Higher Education World University Rankings

Citations (research influence): 30%

Rank 2015

Our research influence indicator looks at universities' role in spreading new knowledge and ideas.

We examine research influence by capturing the number of times a university's published work is cited by scholars globally. This year, our bibliometric data supplier Elsevier examined more than 51 million citations to 11.3 million journal articles, published over five years. The data are drawn from the 23,000 academic journals indexed by Elsevier's Scopus database and include all indexed journals published between 2010 and 2014. Citations to these papers made in the six years from 2010 to 2015 are also collected.

The citations help to show us how much each university is contributing to the sum of human knowledge: they tell us whose research has stood out, has been picked up and built on by other scholars and, most importantly, has been shared around the global scholarly community to expand the boundaries of our understanding, irrespective of discipline.

The data are fully normalised to reflect variations in citation volume between different subject areas. This means that institutions with high levels of research activity in subjects with traditionally high citation counts do not gain an unfair advantage.

This year we have removed the very small number of papers (649) with more than 1,000 authors from the citations indicator.

In previous years we have further normalised citation data within countries, with the aim of reducing the impact of measuring citations of English language publications. The change to Scopus as a data source has allowed us to reduce the level to which we do this. This year, we have blended equal measures of a country-adjusted and non-country-adjusted raw measure of citations scores. This reflects a more rigorous approach to international comparison of research publications.

The methodology for the 2014-2015 World University Rankings is identical to that used since 2011-2012, offering a year-on-year comparison based on true performance rather than methodological change.

Our 13 performance indicators are grouped into five areas:

- Teaching: the learning environment (worth 30 per cent of the overall ranking score)
- Research: volume, income and reputation (worth 30 per cent)
- Citations: research influence (worth 30 per cent)
- Industry income: innovation (worth 2.5 per cent)
- International outlook: staff, students and research (worth 7.5 per cent).

Exclusions

Universities are excluded from the *Times Higher Education* World University Rankings if they do not teach undergraduates; if they teach only a single narrow subject; or if their research output amounted to fewer than 1,000 articles between 2008 and 2012 (200 a year).

In some exceptional cases, institutions that are below the 200-paper threshold are included if they have a particular focus on disciplines with generally low publication volumes, such as engineering or the arts and humanities. Further exceptions to the threshold are made for the six specialist subject tables.

Source: http://www.timeshighereducation.co.uk/world-university-rankings/2014-15/world-ranking/methodology

Overall score
Combined score.

Teaching — the learning environment
30% of overall score.

International outlook — staff and students
7.5% of overall score.

Industry income — innovation
2.5% of overall score.

Research — volume, income and reputation
30% of overall score.

Citations — research influence
30% of overall score.

University of Tokyo

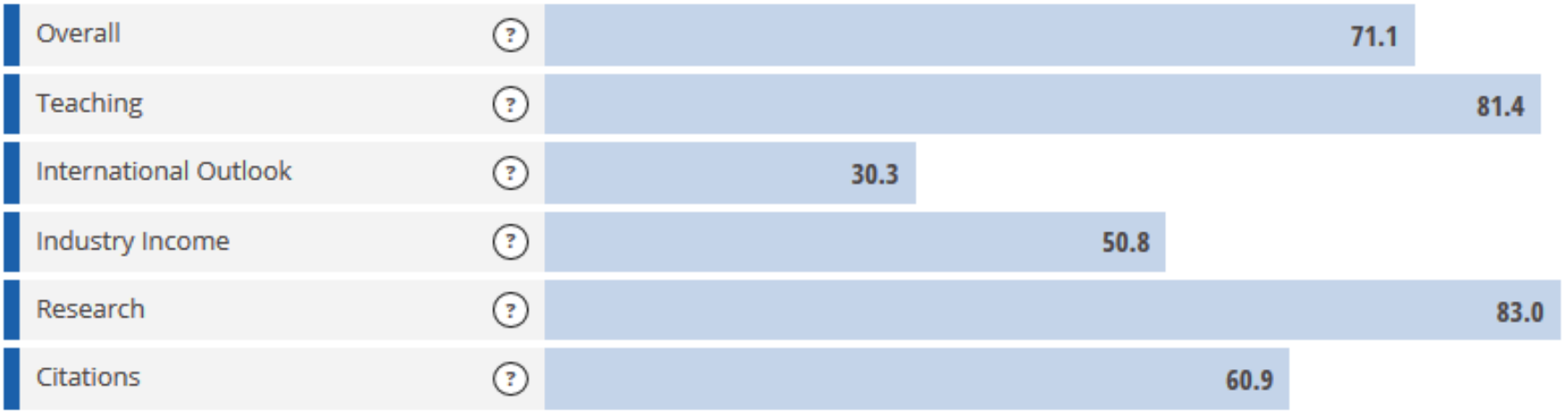
Rank 2015

43 World University Rankings

2016

1 Asia University Rankings

2015



National University of Singapore

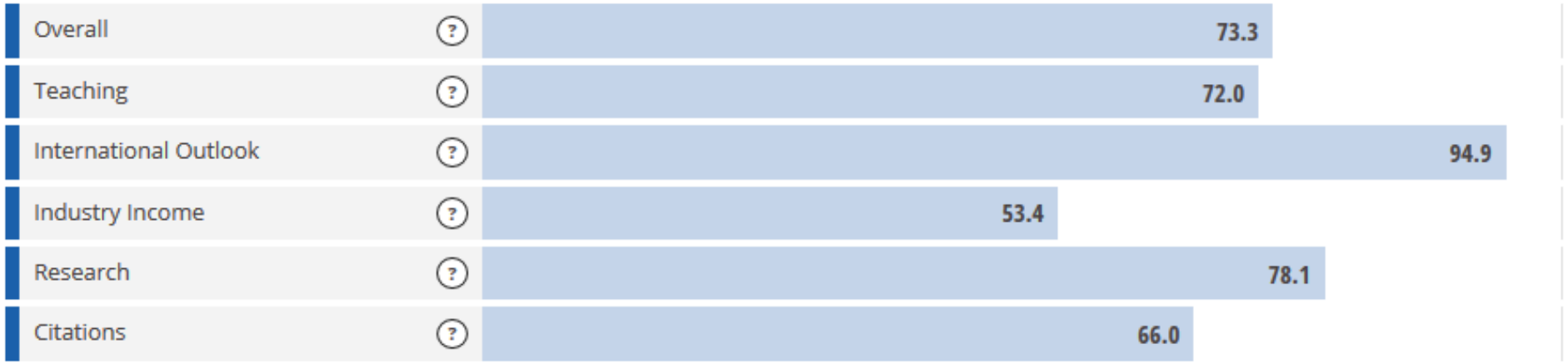
Rank 2015

2 Asia University Rankings

2015

25 World University Rankings

2015



Academic Ranking of World Universities (ARWU)

ACADEMIC RANKING OF WORLD UNIVERSITIES SINCE 2003

Ranking Methodology

Indicators and Weights for ARWU

For institutions specialized in humanities and social sciences such as London School of Economics, N&S is not considered, and the weight of N&S is relocated to other indicators.

Source: http://engineering.ucsb.edu/news/785

Indicators and Weights for ARWU

Criteria	Indicator	Code	Weight
Quality of Education	Alumni of an institution winning Nobel Prizes and Fields Medals	Alumni	10%
Quality of Faculty	Staff of an institution winning Nobel Prizes and Fields Medals	Award	20%
	Highly cited researchers in 21 broad subject categories	HiCi	20%
Research Output	Papers published in Nature and Science*	N&S	20%
	Papers indexed in Science Citation Index-expanded and Social Science Citation Index	PUB	20%
Per Capita Performance	Per capita academic performance of an institution	PCP	10%
Total			100%

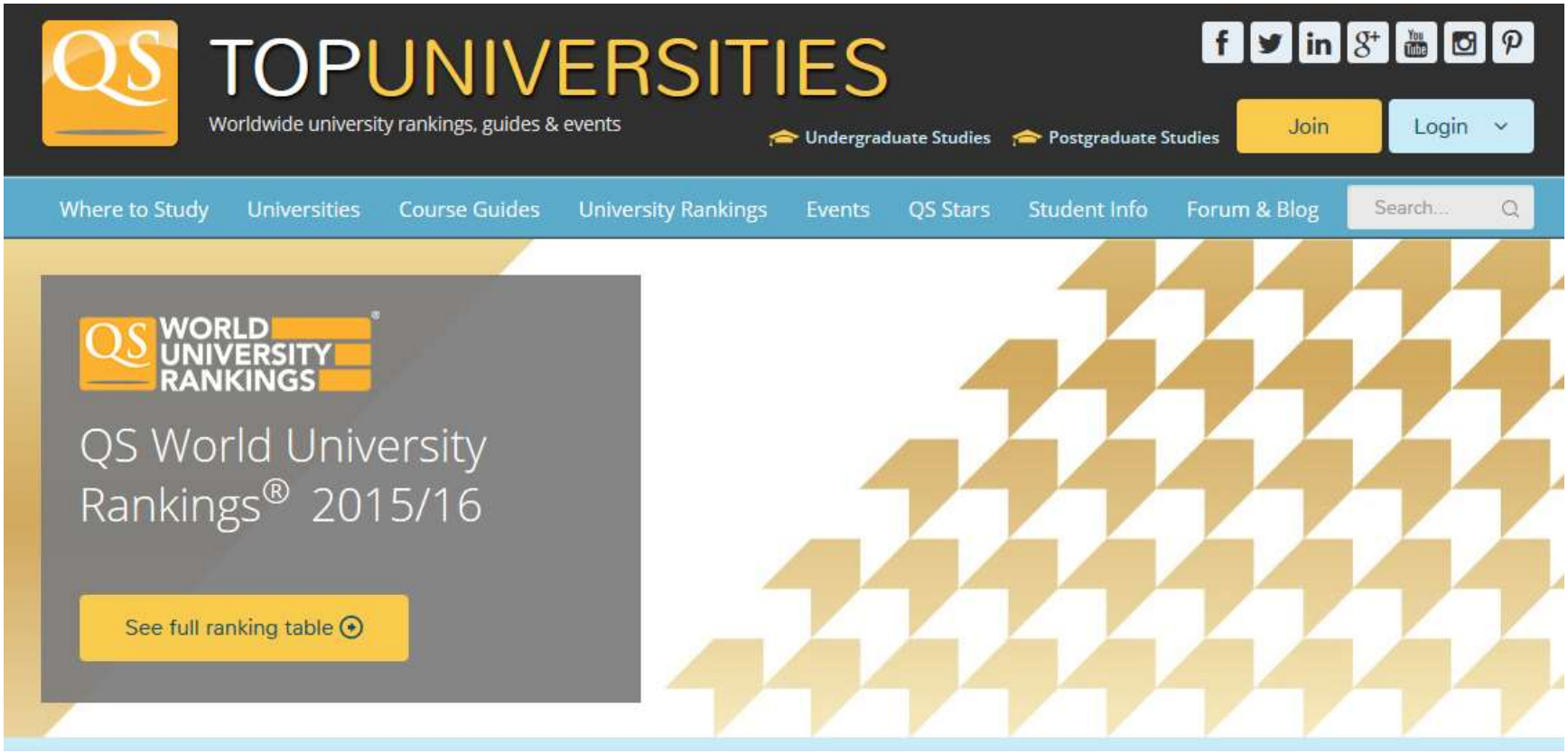
* For institutions specialized in humanities and social sciences such as London School of Economics, N&S is not considered, and the weight of N&S is relocated to other indicators.

The Best Global Universities Ranking

anking indicator	Weight
Global research reputation	12.5%
Regional research reputation	12.5%
Publications	12.5%
Normalized citation impact	10%
Total citations	10%
Number of highly cited papers	12.5%
Percentage of highly cited papers	10%
International collaboration	10%
Number of Ph.D.s awarded	5%
Number of Ph.D.s awarded per academic staff member	5%

The Best Global Universities in Asia

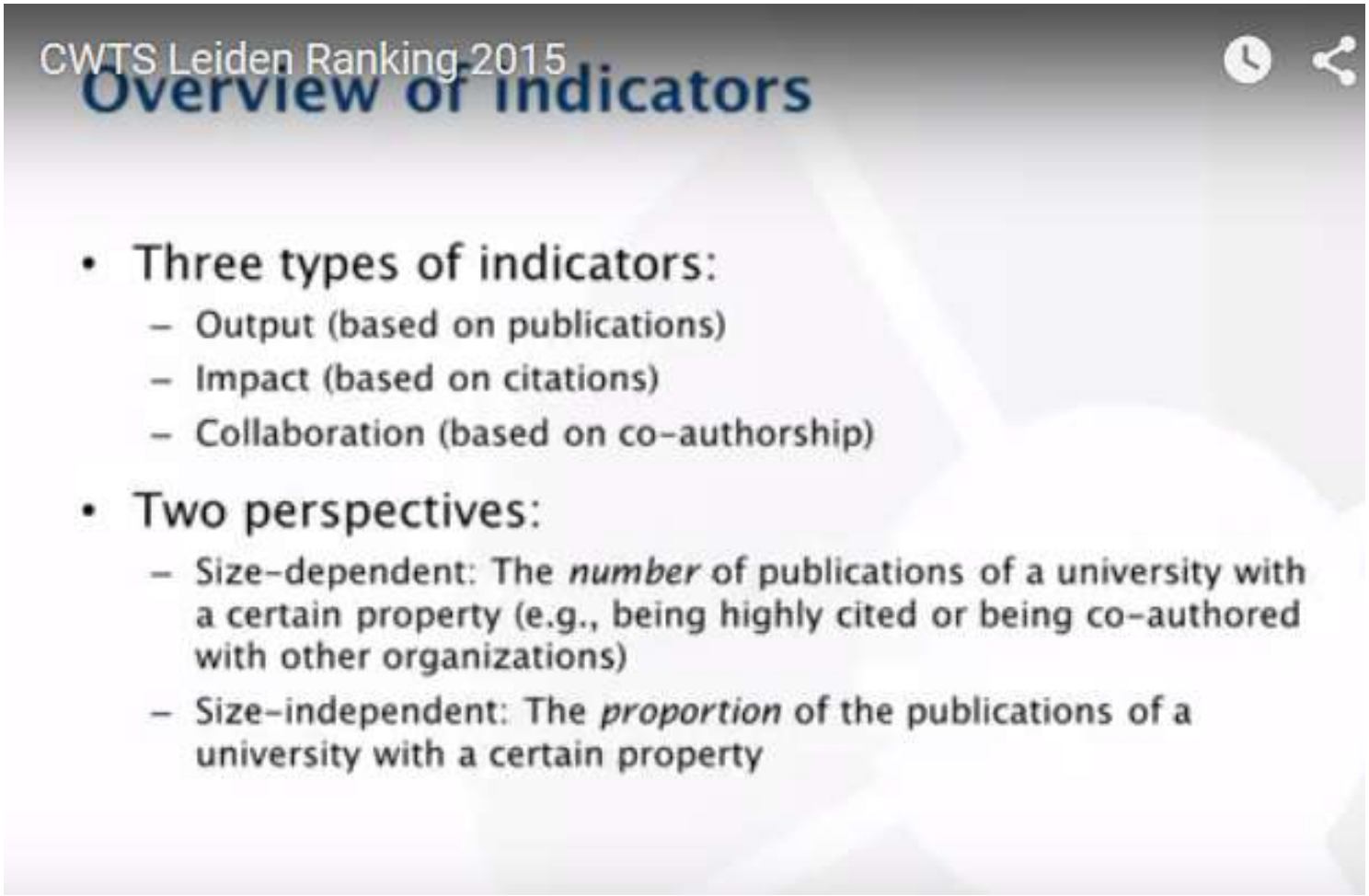
QS World University Rankings



QS World University Rankings: Methodology

1. Academic reputation (40%)
2. Employer reputation (10%)
3. Student-to-faculty ratio (20%)
4. Citations per faculty (20%)
5. International faculty ratio (5%)
6. International student ratio (5%)

CWTS Leiden Ranking Methodology



National Taiwan University Ranking (NTU Ranking)
Methodology

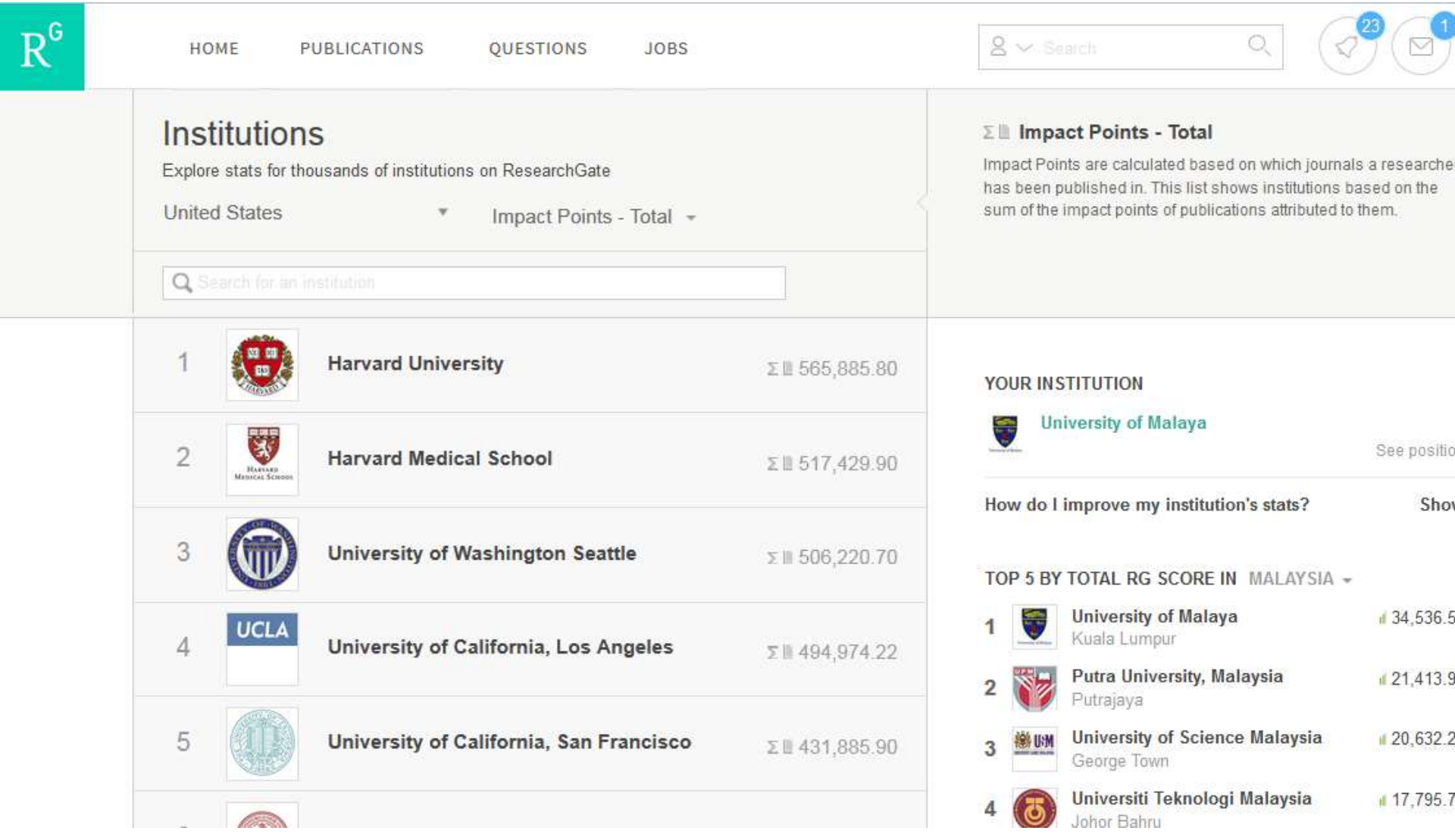
Table 1 The Criteria and Indicators, and Their Respective Weightings, Used for the Overall Performance-Based Ranking

Criteria	2014 Overall Performance Indicators	Weighting	
Research productivity	Number of articles in the last 11 years* (2003-2013)	10%	25%
	Number of articles in the current year (2013)	15%	
Research impact	Number of citations in the last 11 years* (2003-2013)	15%	35%
	Number of citations in the last 2 years (2012-2013)	10%	
	Average number of citations in the last 11 years* (2003-2013)	10%	
Research excellence	h-index of the last 2 years (2012-2013)	10%	40%
	Number of Highly Cited Papers* (2003-2013)	15%	
	Number of articles in the current year in high-impact journals (2012-2013)	15%	

*Note: The timeframe of the three long-term indicators is consistent with that in ESI, providing cumulative data for the last 11 years.

Source: http://nturanking.lis.ntu.edu.tw/BackgroundMethodology/Methodology-enus.aspx#2

USA's institutions "Impact Points" on ResearchGate 07/10/2015



Webometrics Ranking

Webometrics is the largest academic ranking of Higher Education Institutions in the world. **Web presence** and **visibility** are used as indicators of global performance and take into account the teaching commitment, the research results, the perceived international prestige, the links with the community, including industrial and economic sectors, of the university. In the near future Web indicators will be an important part of the evaluation procedures and world university rankings.

Webometrics

Activity

Size	Number of webpages, rich files, academic papers, media files, languages, age
Web 2.0	Social networks presence, blogmetrics, wikimetrics
Search Engines	Size, geographical coverage, languages, biases, algorithms, updating frequency, operators

Impact

Visibility	Number of external inlinks, Web impact factor, g-factor, PageRank
Networks	Inter-linking, co-linking, clusters, similarity, network measurements
Mentions	Names of authors, papers, institutions, journals, hot topics

Position

Presence	Presence in search engines and directories
Position	Rank in search results
Criteria	Frequency, presence in selected html tags, title, URL, bad practices

Analytics (usage)

Popularity	TrafficRank
Visits, visitors	Number of visits, visitors, geographical and temporal distribution
Behavior	Patterns of visits, referrers, referrals

Cybermetrics Lab

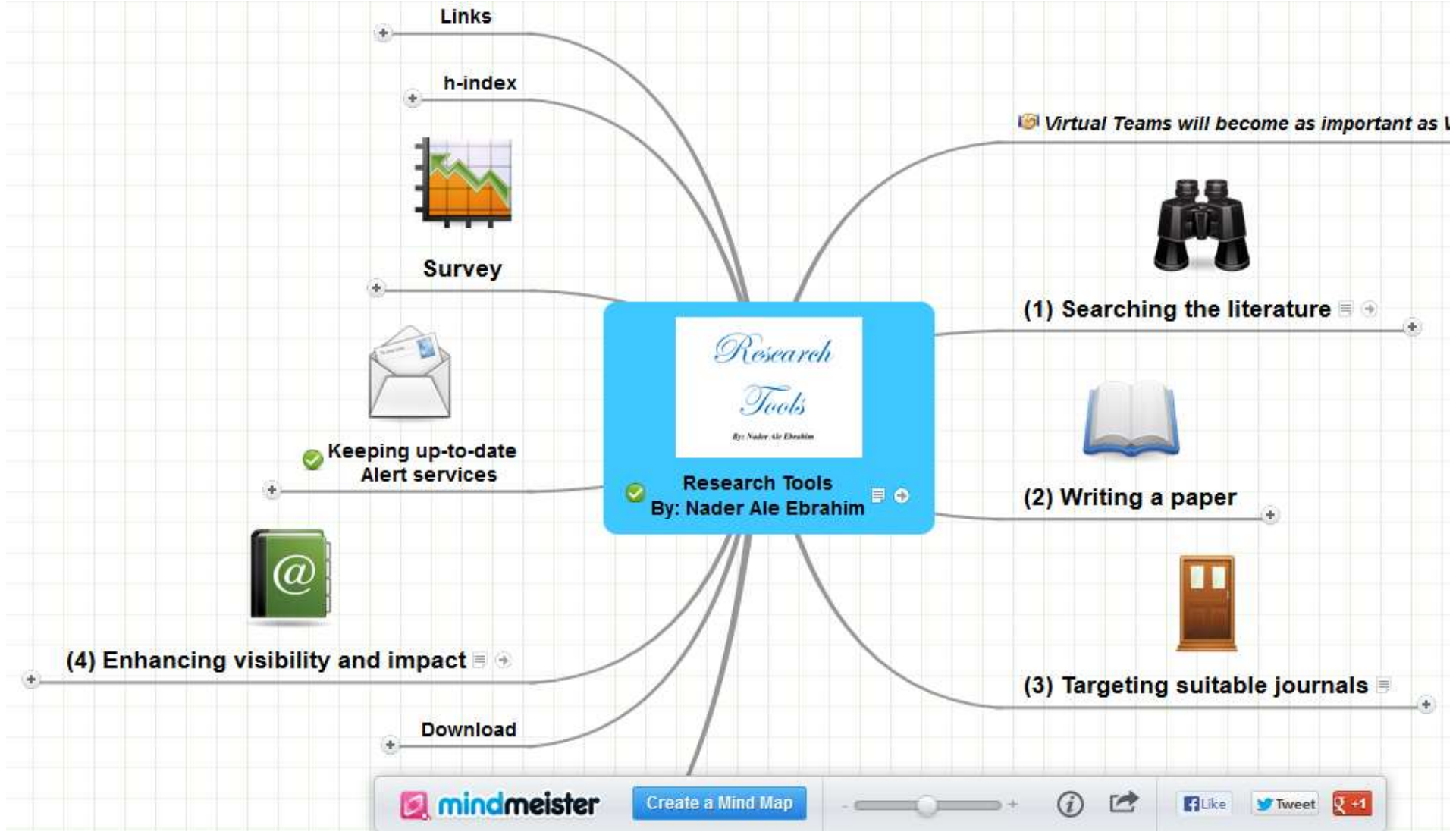
Ranking Web of Repositories

RANKING WEB OF REPOSITORIES

Methodology

- **Size (S)**. Number of web pages extracted from Google
- **Visibility (V).** The total number of external links received (backlinks) by the number of referring domains for such links obtained from MajesticSEO and ahrefs databases.
- **Rich Files (R)**. Files in formats like Adobe Acrobat (*.pdf*), MS Word (*doc, docx*), MS Powerpoint (*ppt, pptx*) and PostScript (*.ps & .eps*) extracted from Google.
- **Scholar (Sc)**. Using Google Scholar database we calculate the normalised number of papers between 2007 and 2011.

Research Tools Mind Map



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Thank you!

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References

1. Ale Ebrahim, Nader, Introduction to the Research Tools Mind Map (June 14, 2013). Research World, Vol. 10, No. 4, pp. 1-3,. Available at SSRN: http://ssrn.com/abstract=2280007
2. Farhadi, Hadi, Salehi, Hadi, Yunus, Melor Md, Aghaei Chadegani, Arezoo, Farhadi, Maryam, Fooladi, Masood and Ale Ebrahim, Nader, Does it Matter Which Citation Tool is Used to Compare the H-Index of a Group of Highly Cited Researchers? (March 27, 2013). Australian Journal of Basic and Applied Sciences, Vol. 7, No. 4, pp. 198-202, March 2013 . Available at SSRN: http://ssrn.com/abstract=2259614
3. Fooladi, Masood, Salehi, Hadi, Yunus, Melor Md, Farhadi, Maryam, Aghaei Chadegani, Arezoo, Farhadi, Hadi and Ale Ebrahim, Nader, Does Criticisms Overcome the Praises of Journal Impact Factor? (April 27, 2013). Asian Social Science, Vol. 9, No. 5, pp. 176-182, April 2013.. Available at SSRN: http://ssrn.com/abstract=2257552
4. Jaslyn Tan, (2014), Maximizing the impact of your research paper, WILEY
5. Maghami, M., Navabi Asl, S., Rezadad, M. i., Ale Ebrahim, N., & Gomes, C. (2015). Qualitative and Quantitative Analysis of Solar hydrogen Generation Literature From 2001 to 2014. *Scientometrics* 1-13. doi:10.1007/s11192-015-1730-3
6. M. Shahbazi-Moghadam, H. Salehi, N. Ale Ebrahim, M. Mohammadjafari, and H. Gholizadeh, "Effective Factors for Increasing University Publication and Citation Rate," *Asian Social Science,* vol. 11, pp. 338-348, June 19 2015. Available at SSRN: http://ssrn.com/abstract=2622372