

# Strategisch gebruik van rankings



**Jessica Steur MSc**  
**Ir. Tommy van der Vorst**  
8 juni 2017



Gebruiken jullie op dit moment rankingdata?



# Ontstaansgeschiedenis



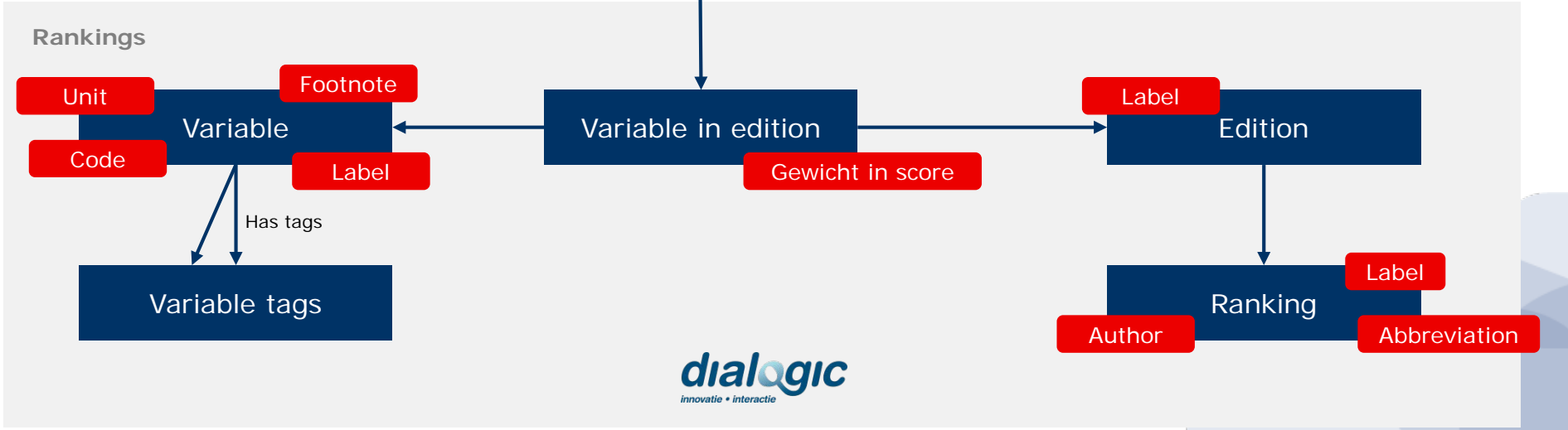
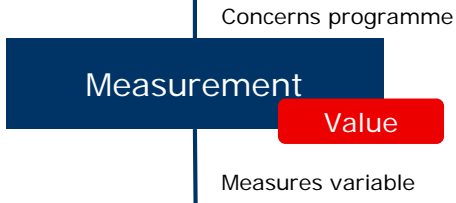
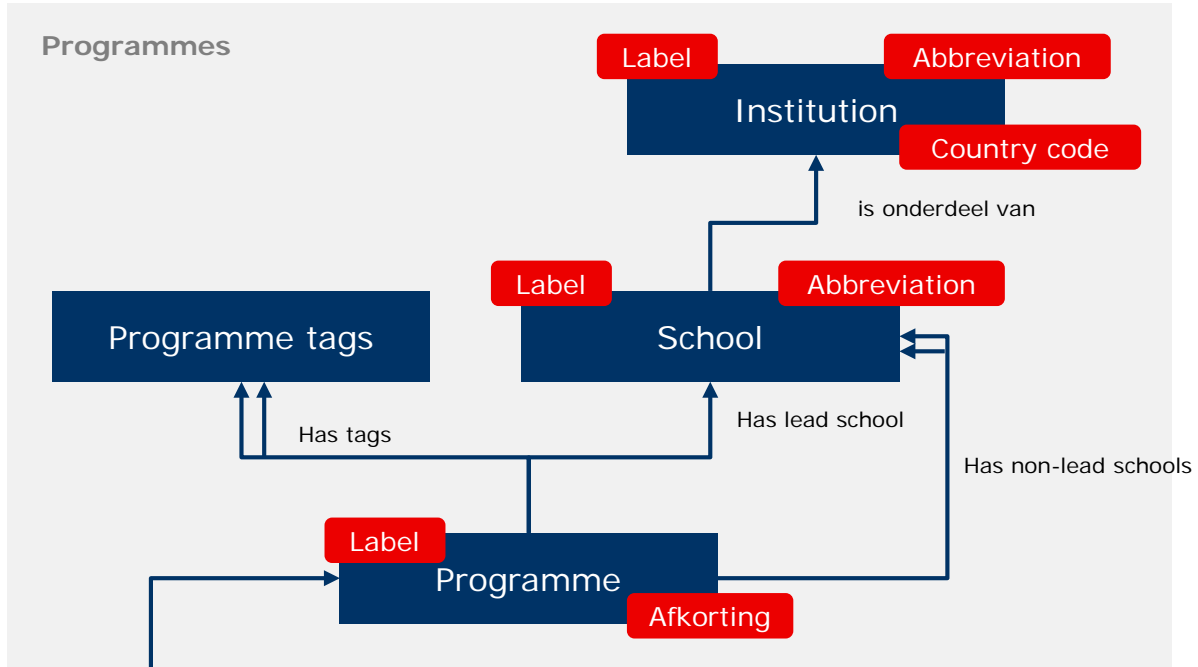
# Producten en diensten

- Databases
  - Geunificeerde database met rankingdata op instituutniveau
  - Geunificeerde database met rankingdata op business school-programmaniveau
- Openbare demo
  - AllSchoolsRanked.com / AllUniversitiesRanked.com
- Private dashboards
  - RSM Metrics, EUR Metrics, ERIM Dashboard
  - Koppelingen met andere (private) datasets
  - Custom analyses, eigen KPI's/strategy indicators, ...
  - Technische integraties (authenticatie, embedding, API's, ...)

# Bronnen



# Datamodel



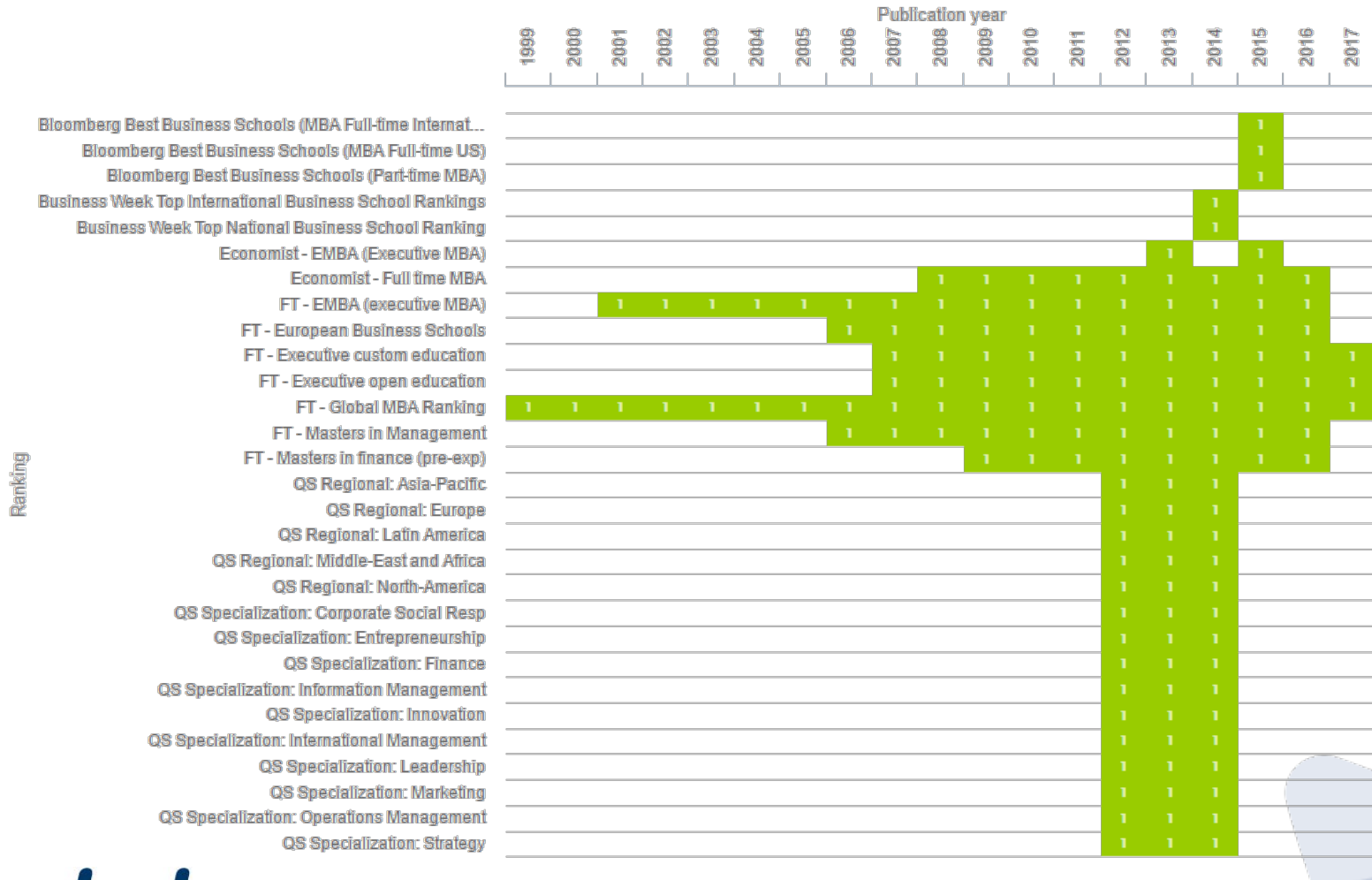


# Statistieken

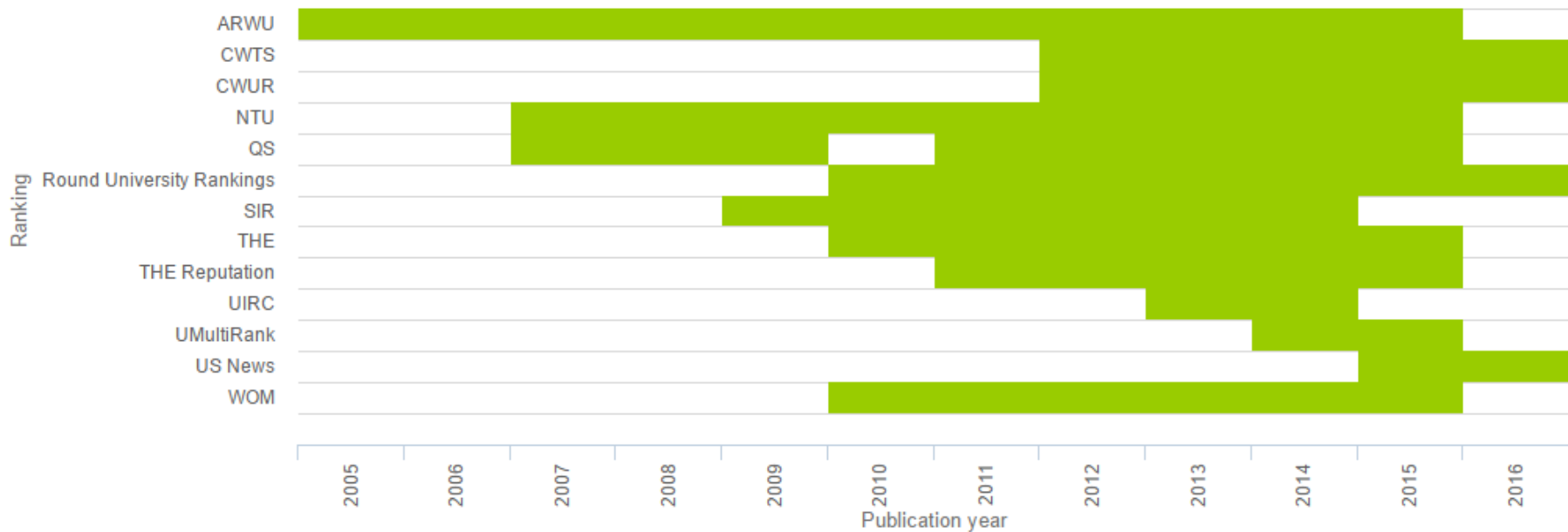
	AllSchoolsRanked	AllUniversitiesRanked
Instituten	929	1.876
Schools	965	-
Programma's	1459	-
Variabelen	450	280
Rankings	31	185
Edities	171	630
Datapunten		
Instituutniveau	(koppeling →)	2.380.549
Schoolniveau	53.518	-
Programmaniveau	204.742	-

# Dekking: AllSchoolsRanked

Rankings in current database



# Dekking: AllUniversitiesRanked



# Proces



# Proces: dataverzameling en -cleaning

- Aangeleverde data is veelal in (wisselende) Excelformaten
- Crawling en scraping
- Punten en komma's

# Proces: unificatie instituten

- Spelling van namen: "Erasmus Universiteit Rotterdam" => EUR

**ins\_label**  
Naam variant van het instituut  
ERASMUS UNIV ROTTERDAM  
Erasmus University  
Erasmus University of Rotterdam / Erasmus Universi...  
Erasmus University Rotterdam  
Erasmus University of Rotterdam  
Erasmus Universiteit  
Rotterdam School of Management, Erasmus University

**ins\_label**  
Naam variant van het instituut  
King?s College London (University of London)  
Kings Coll London  
KINGS COLL UNIV LONDON  
Kings College London  
King#s College London  
University of London- King#s College London  
King  
University of London - King#s College London  
University of London King#s College London  
Kings College London (KCL)  
King\_s College London  
King's College London  
King''s College London  
University of London - King\_s College London  
University of London - King's College London  
University of London - King''s College London  
University of London King\_s College London  
University of London- King\_s College London  
University of London- King's College London  
University of London- King''s College London  
University of London King's College London  
University of London King''s College London  
University of London, King\_s College London  
University of London, King's College London  
University of London, King''s College London  
University of London  
King's College London  
King's College London (University of London)  
University of London-King\_s College London  
University of London-King's College London  
University of London-King''s College London  
King s College London  
king's university college at western university

# Proces: unificatie programma's

- Bilaterale samenwerking met één penvoerder
- Bilaterale samenwerkingen met eigen programma's (Bradford/Tias, Essec/Mannheim, etc.)
- Multilaterale samenwerkingen met eigen programma's (CEMS, IMMIG, ...)
- Overige groeperingen (AMBA, EQUIS, PIM, ...)
- Fusies/splitsingen/dependances/...

# Proces: unificatie variabelen

- Variabele-definities zoveel mogelijk delen tussen rankings en ranking-edities (definitie moet wel exact overeenkomen)
- “Variable\_edition” is een voorkomen van een variabele in een specifieke ranking-editie met een bepaald gewicht.
- In veruit de meeste rankings wordt de rank bepaald op basis van een gewogen som over de variabelen:

$$\sum Gewicht_{variabele} * Waarde_{variabele}$$



# Proces: dataverrijking

- Berekende variabelen: rank\_1year\_ago, rank\_2years\_ago, 3-year average, ...
- Transformaties: programme fee van lokale valuta → euro's
- Groeperingen (tiers, subtiers)
- Percentages naar absolute waarden en andersom
- Reverse-engineering van rankingwaarde naar absolute waarde (werkt niet altijd!)
- Z-score (relatieve score binnen variable-edition)

# Proces: metadata

Verzamelde metadata over instituten betreft o.a.:

- Locatie (long/lat)
- Website
- Adres
- Land
- Logo (icon)

Overige metadata:

- PPP-data landen
- Valutakoersen

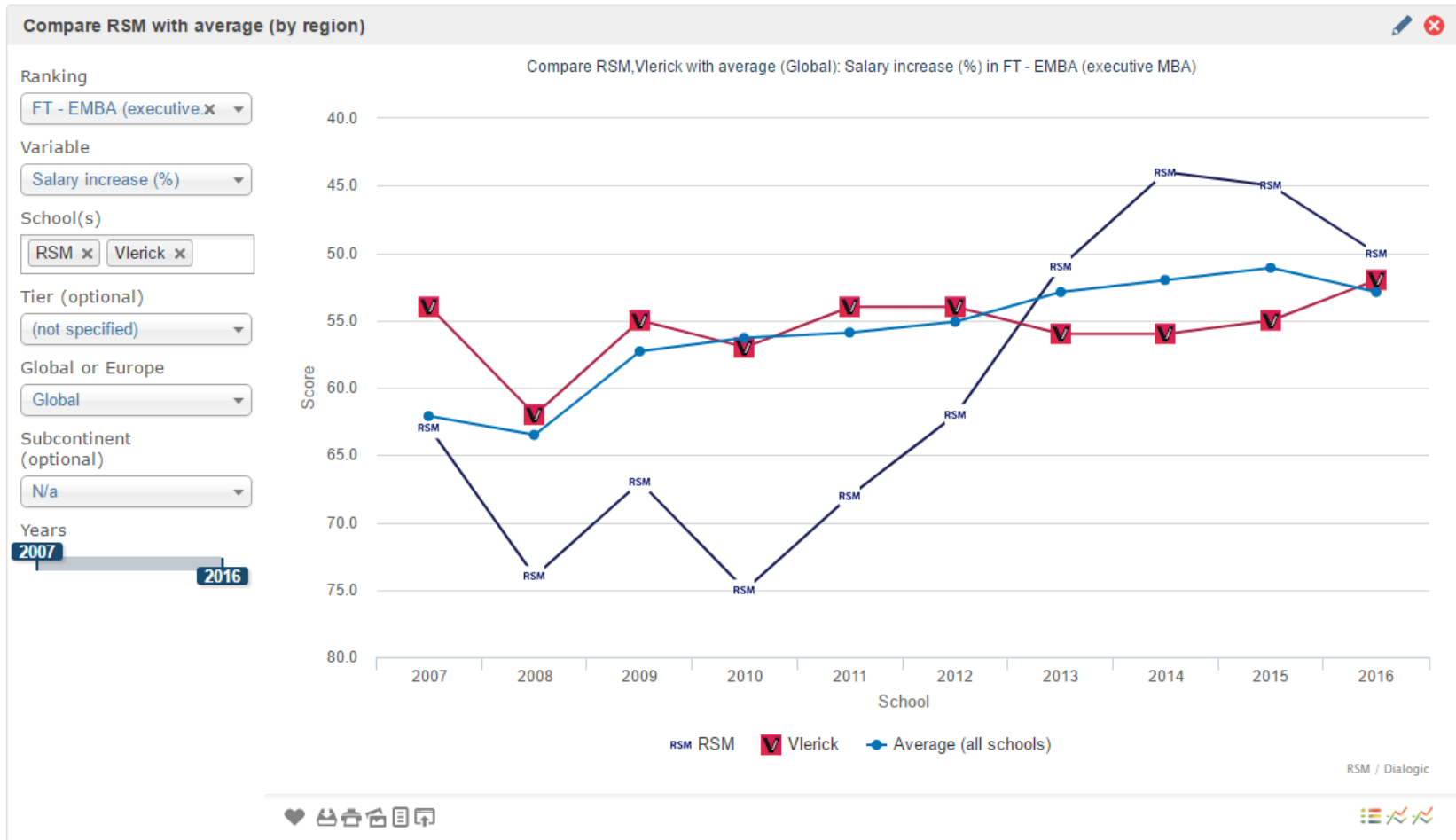
# Compare by topic

DEMO



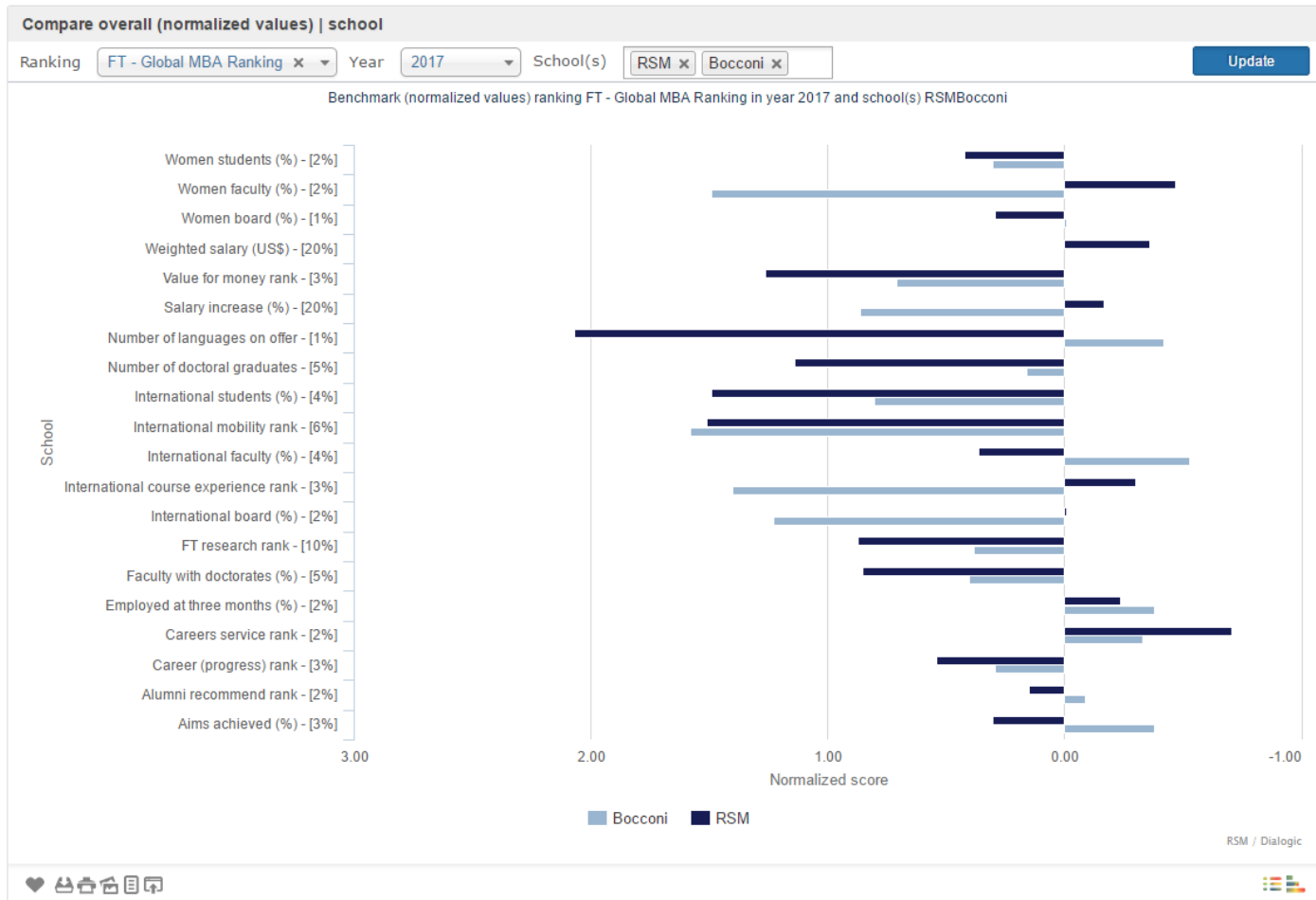
# Compare variable with average

[DEMO](#)



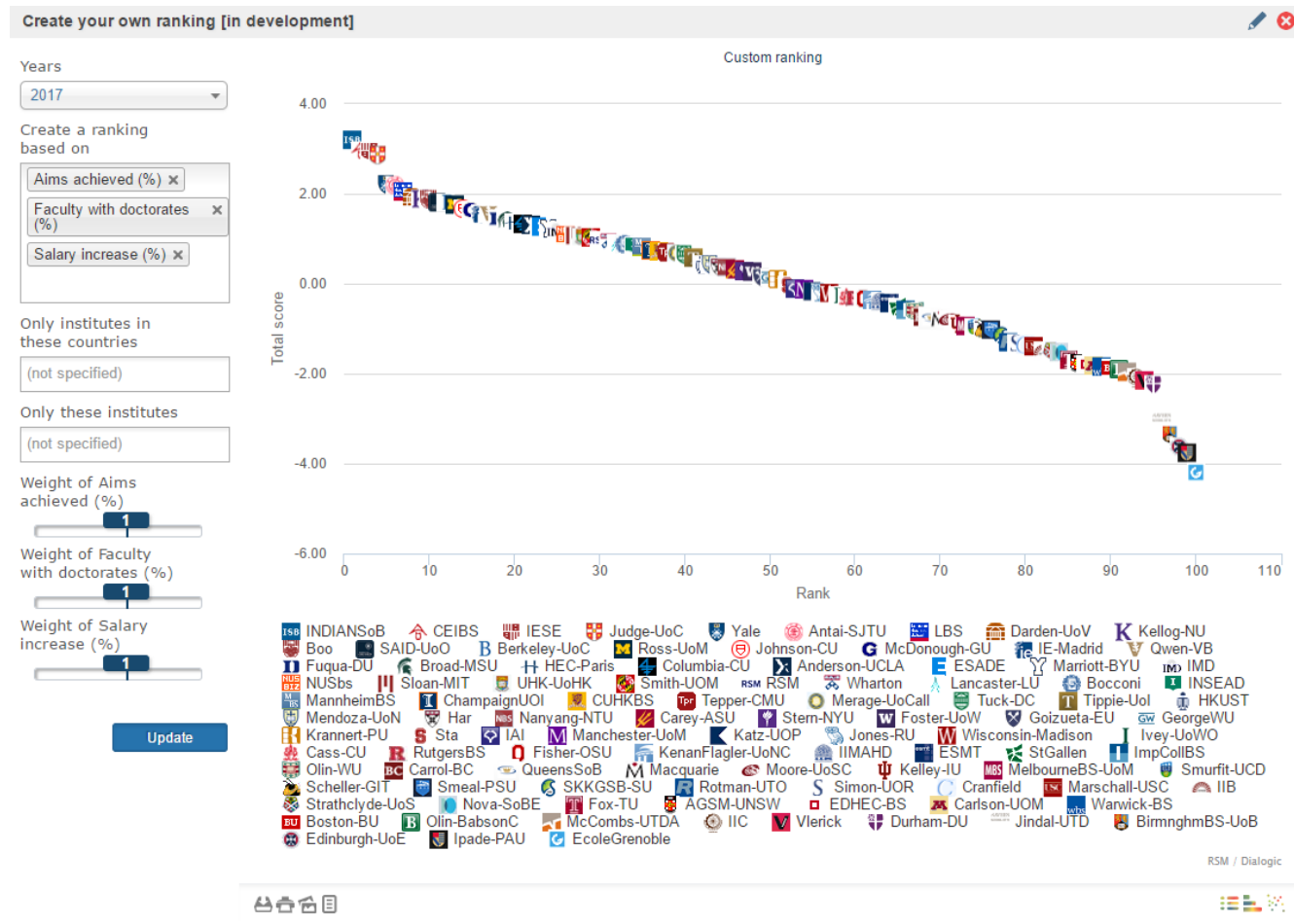
# Benchmark school

DEMO



# Create your own ranking

DEMO



# Neighbour analysis

DEMO

**Neighbour analysis | compare variable(s)**

Ranking: Economist - Full time ...

Edition: 2016

Compare neighbours on: Student rating of careers service (out of 5)

Focal school: RSM

Range: 5

Neighbours (places 88 - 98) of RSM (place 93) in Economist - Full time MBA 2016

School	Current rank	Student rating of careers service (out of 5)
StGallen	88	69
Poole NCSU	89	62
BirmnghmBS-UoB	90	71
MonacoIU	91	93
IIMAHD	92	13
RSM	93	100
AudenciaNantes	94	47
CBS	95	76
Weatherhd-CWRU	96	100
LeipzigGSM	97	55
SunYatSen	98	21

♥ 📄 🔄

# Photo finish

DEMO

## Photo finish benchmark

Ranking

- FT - EMBA (executive MBA) x
- FT - Global MBA Ranking x

Year

2014

Variable

- Women board (%) x
- Women faculty (%) x

Benchmark year

2012

Benchmark of

- Average of 1st tier x
- Average of 2nd tier x
- Average of 2nd tier (RSM) x
- Average of 3rd tier x
- Average of 3rd tier (RSM) x
- Average of 4th tier x
- Average of Europe x
- Benchmark: RSM in 2012 x
- OneMBA x
- RSM x

Update

Photo finish benchmark for year 2014 and ranking(s) FT - EMBA (executive MBA)/FT - Global MBA Ranking



- Average of 1st tier
- Average of 2nd tier
- Average of 2nd tier (RSM)
- Average of 3rd tier
- Average of 3rd tier (RSM)
- Average of 4th tier
- Average of Europe
- Benchmark: RSM in 2012
- OneMBA
- RSM



# Rising stars analysis

DEMO

**Schools ranked more than X places higher**

Schools ranked more than 10 places higher (2016 vs 2017) in ranking FT - Global MBA Ranking

Ranking: FT - Global MBA Rank...

Variable (rank): Current rank

Optional continent filter: (not specified)

First year: 2016

Second year: 2017

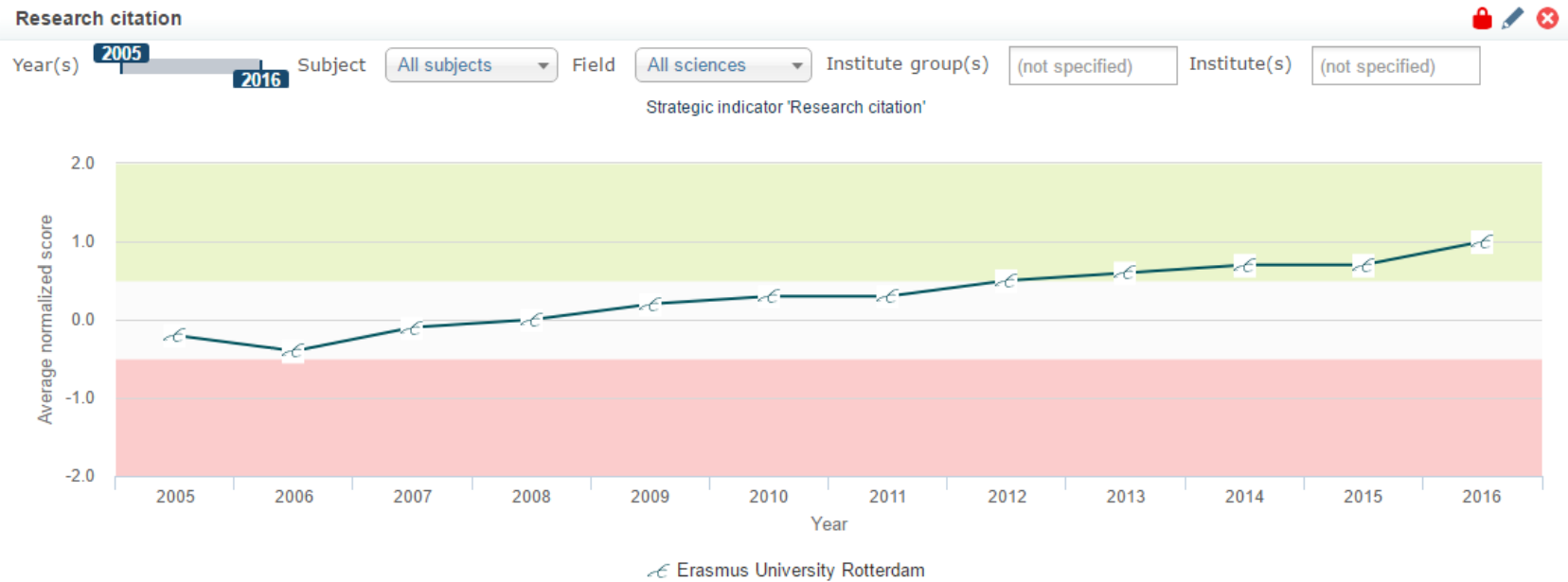
Threshold for number of places: 10

**Update**

School	2016	2017	Growth
AGSM-UNSW	66	54	12
Fisher-OSU	75	63	12
IIB	62	49	13
Katz-UOP	98	85	13
Marriott-BYU	80	65	15
MelbourneBS-UoM	87	76	11
Mendoza-UoN	76	60	16
Olin-WU	80	68	12
RSM	42	31	11
SKKGSB-SU	69	54	15

♥ 📄 🔄

# Strategic indicators



Erasmus University Rotterdam / Dialogic

# Rankings

- Bekendste rankings:
  - ARWU University Ranking (Shang Hai Jao Tong University)
  - Times Higher Education Supplement (THE University Ranking)
  - QS University Ranking (Quacquarelli Symonds)
  - CWUR Center for World University Rankings
  - CWTS Leiden University Ranking
  - U-Multirank
- Rankings gebaseerd op verschillende elementen
  - Metrics & survey informatie
  - Research & educatie informatie
  - Wereldwijd of veldspecifieke informatie

**Nederlandse universiteiten  
scoren zeer goed op ranglijst**



# Rankings – wat meten ze?

- Wetenschappelijke reputatie
- Resources en omvang universiteit
- Onderwijs
- Carrière perspectief
- Research output en impact
- Marketing?

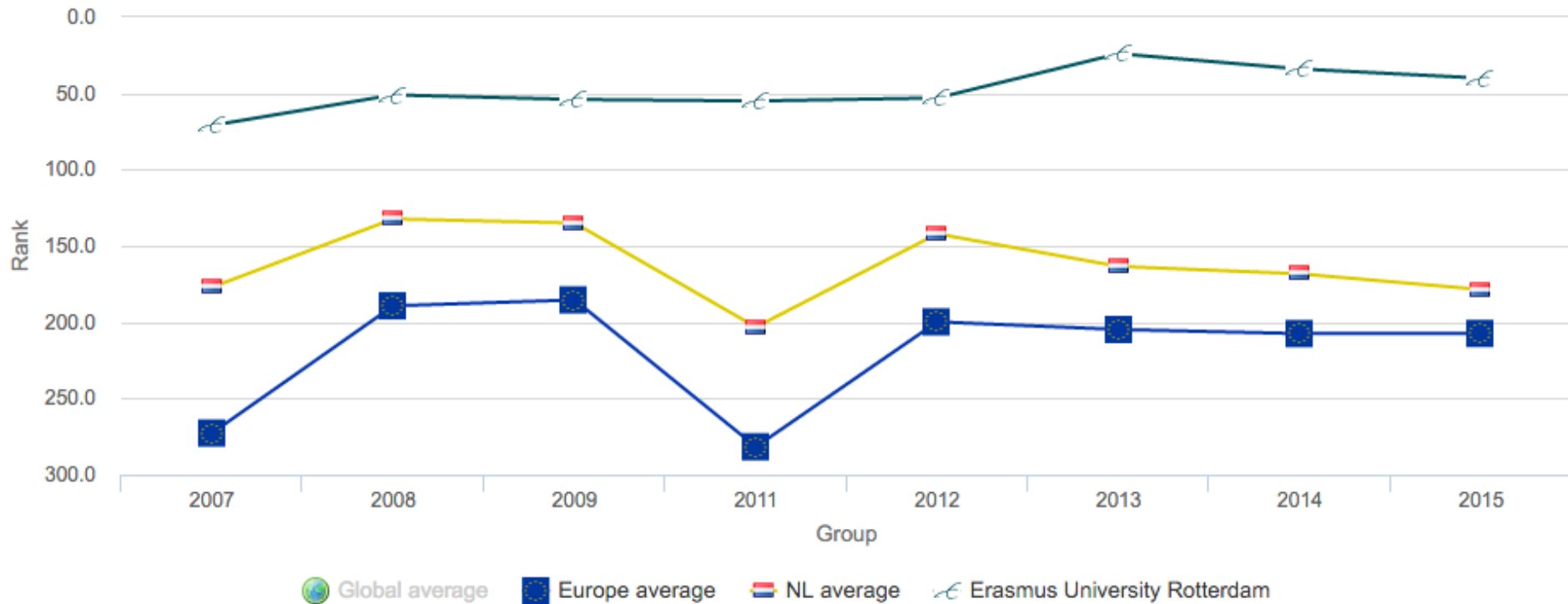
Kritiek: appels bij peren optellen

# Strategische inzet van rankings

- Gebruik rankings voor het verkrijgen van een beter inzicht en maken van onderbouwde keuzes
- Afgezet tegen de missie van de universiteit
  - Wat voor universiteit willen we zijn?
  - Met wie willen we ons vergelijken?
- Eigen universiteit promoten

# Strategische inzet van rankings

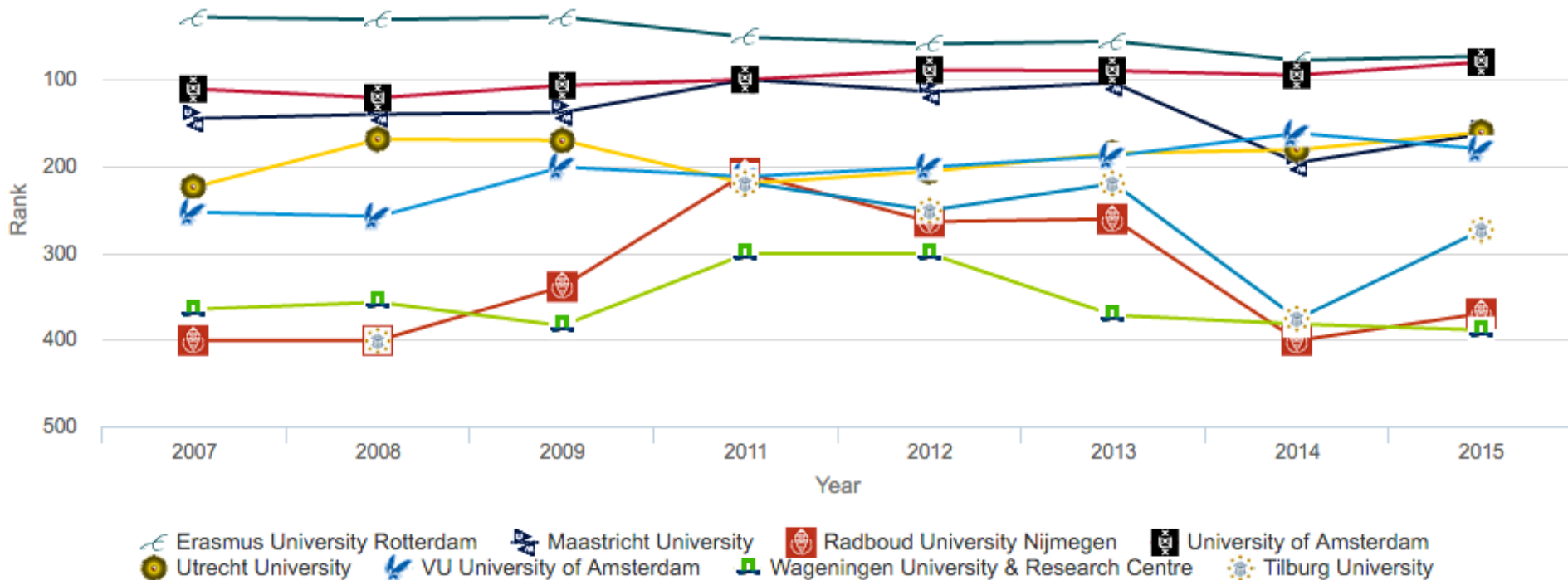
Regional benchmark of Erasmus University Rotterdam, variable 'current rank' in ranking QS (All subjects, Social sciences and management)



Erasmus University Rotterdam / Dialogic

# Strategische inzet van rankings

Variable 'Employer reputation rank' in QS Ranking (All subjects, All sciences)

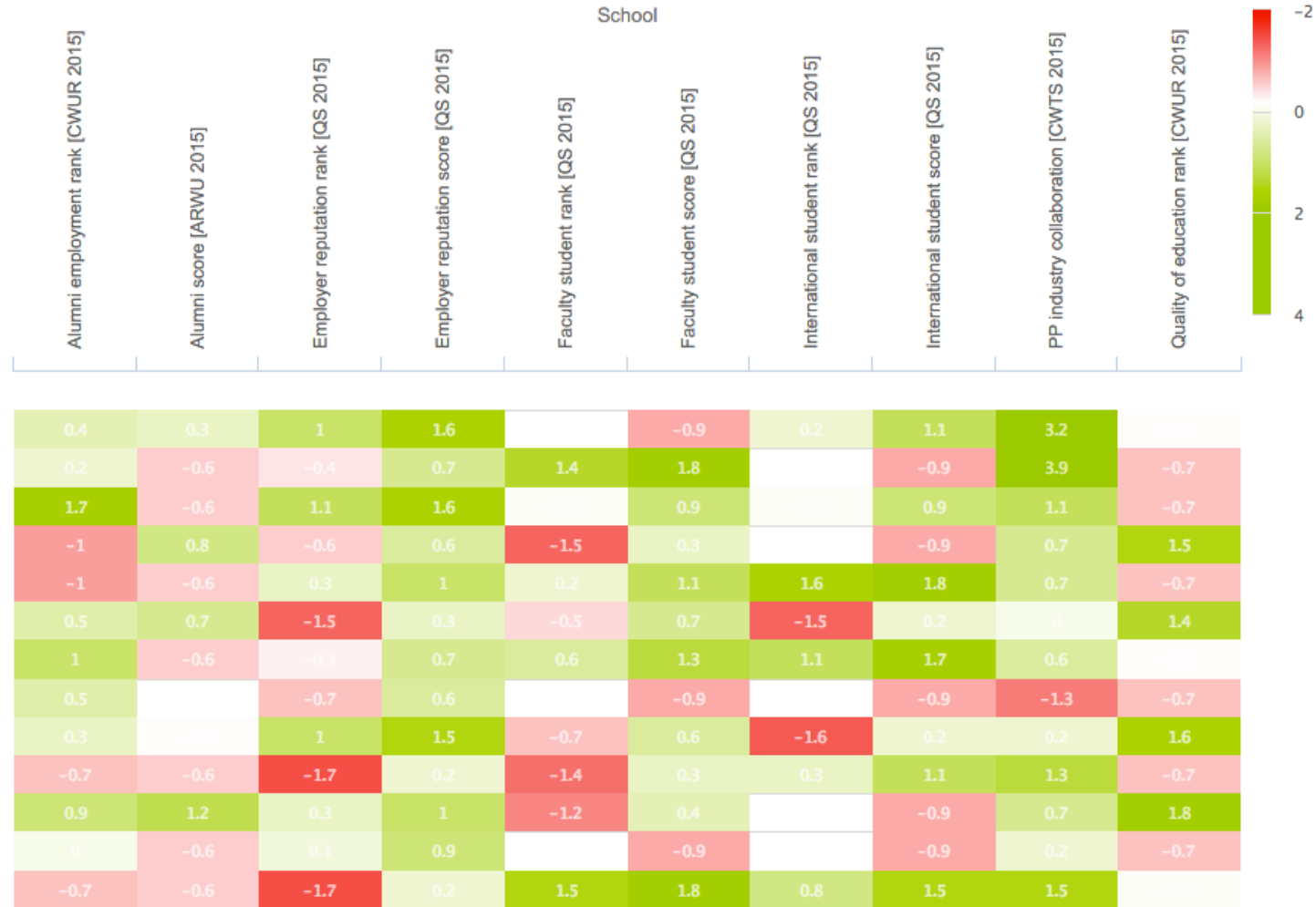


Erasmus University Rotterdam / Dialogic

# Strategische inzet van rankings

Normalized scores for strategic indicator Quality of Education) of (All subjects, All sciences) in 2015

School





Hoe zouden jullie rankingdata willen gebruiken?

# V & A

Tommy van der Vorst ([vandervorst@dialogic.nl](mailto:vandervorst@dialogic.nl))  
Jessica Steur ([steuer@dialogic.nl](mailto:steuer@dialogic.nl))

# ARWU University Ranking

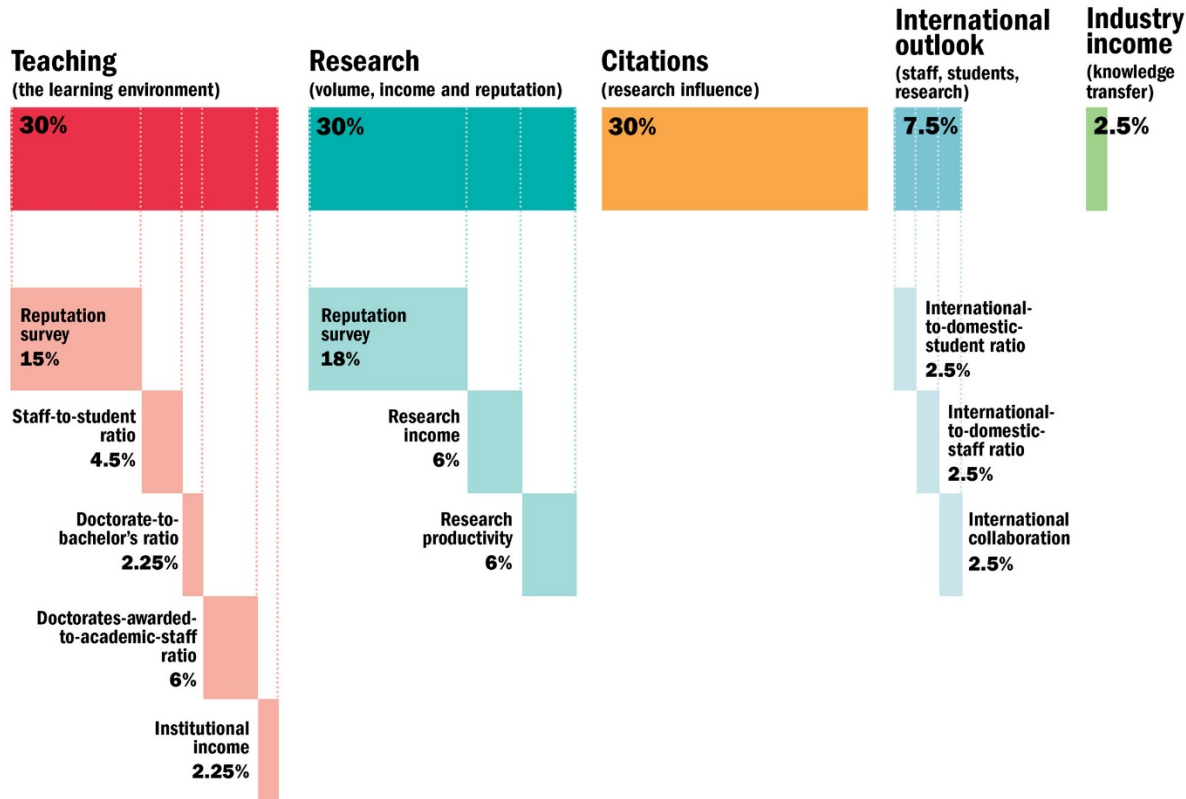
Indicators and Weights for ARWU



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.

# Times Higher Education (THE) University Ranking



The calculation of the *Times Higher Education* World University Rankings has been subject to independent audit by professional services firm PricewaterhouseCoopers (PwC)

For more information on the methodology and the PwC audit, visit [www.thewur.com/methodology-2017](http://www.thewur.com/methodology-2017)

# CWUR

- 1) **Quality of Education**, measured by the number of a university's alumni who have won major international awards, prizes, and medals relative to the university's size [25%]
- 2) **Alumni Employment**, measured by the number of a university's alumni who have held CEO positions at the world's top companies relative to the university's size [25%]
- 3) **Quality of Faculty**, measured by the number of academics who have won major international awards, prizes, and medals [25%]
- 4) **Publications**, measured by the number of research papers appearing in reputable journals [5%]
- 5) **Influence**, measured by the number of research papers appearing in highly-influential journals [5%]
- 6) **Citations**, measured by the number of highly-cited research papers [5%]
- 7) **Broad Impact**, measured by the university's *h*-index [5%]
- 8) **Patents**, measured by the number of international patent filings [5%]

- The primary aim of the QS World University Rankings is to **help students make informed comparisons** between their international study options.
- Since first being compiled in 2004, the rankings have expanded to feature **more than 800 universities** around the world, with far more (over 3,000) assessed.
- The top **400 universities are given individual ranking positions**, and after this universities are placed within a group, starting from 401-410, up to 701+.

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



## World University Rankings: Methodology

What information is collected, and how is this used to compile the ranking?



### Academic reputation

Based on a global survey of academics



### Employer reputation

Based on a global survey of graduate employers



### Faculty/student ratio

An indication of commitment to teaching



### Citations per faculty

An indication of research impact



### International student ratio

Measuring international diversity of the student community



### International staff ratio

Measuring international diversity of the academic faculty







U-Multirank

# U-Multirank design principles

- Rankings should be based on interests and priorities of its users: *the principle of user-drivenness*
- Higher education and research institutions are predominantly multi-purpose: *the principle of multi-dimensionality*
- Higher education and research institutions are generally combinations of different faculties, departments, and programs and show internal diversity: *the principle of multi-levelness*
- Rankings are only useful if institutions/ programs are compared that are sufficiently similar: *the principle of comparability*
- The instrument should refrain from methodological mistakes: *the principle of methodological soundness*



# CWTS Leiden Ranking 2015

The CWTS Leiden Ranking 2015 offers key insights into the scientific performance of 750 major universities worldwide. A sophisticated set of bibliometric indicators provides statistics on the scientific impact of universities and on universities' involvement in scientific collaboration. The CWTS Leiden Ranking 2015 is based on Web of Science indexed publications from the period 2010–2013.



CWTS

## Main internationalization elements of the LR:

- Based on 'core' WoS publications
- **842** universities have been selected for inclusion in the 2016 edition
- **Normalized indicators** at the world level

### Difference

Compare scientific Ranking of provided dimension

### Improvement

Compare enhance Bibliometric Second, the counting

improvements have been made to the presentation of the ranking. Size-dependent indicators are presented in a more prominent way, and it is possible to obtain a convenient one-page overview of all bibliometric statistics for a particular university.

to the Leiden newsletter



### Size-independent ranking

In this ranking the performance of a university does not depend on the size of its publication output

### Size-dependent ranking

In this ranking universities with a larger publication output generally perform better than universities with a smaller publication output

#### Select field and region/country

Field:

Region:

Country:

#### Select indicators

Type of indicators:

Ranking indicator:

#### Advanced parameters

### Important characteristics:

- User driven: users must make their choices
- Two dimensions: size-dependent and size-independent
- Highly-cited publications used for ranking (and collaboration)
- Other indicators: collaboration, MNCS, etc.
- Reliability indication: stability intervals

14 [Univ Texas - Southwestern Med Ctr](#)



4235

18.4%



15 [Ecole Polytech Fed Lausanne](#)



5015

18.2%



16 [Univ Calif - San Diego](#)



11707

18.1%

