**REF 2014 & RAE 2008**

**Purpose**

* Results used to determine the proportion of public funding allocated to individual universities for research
* To ensure UK universities are accountable for public investment that support the researches
* Benchmarking university research performance for users such as PhD candidates

**Facts**

|  |  |
| --- | --- |
| REF 2014 | RAE 2008 |
| * 6 years * 36 units of assessment (subject areas) * 154 universities * 52061 academic staff * 191150 outputs submitted * 76% researches in UK are “internationally excellent” or “world-leading” * 2 billion pounds allocated to universities based on results | * 215507 outputs |

**Stages**

1. Submission
2. Assessment
3. Publication

**REF**

**Assessment criteria**

1. **Output**

* Simplest
* Measure quality of academic work
* Up to 4 research outputs can be nominated for each academic
* Publications: journal articles, book-length studies
* Fruits of research: datasets, new technologies, IP
* Output score for specific uni at specific subject area -
  + how successful its academics are at generating high-quality publications
  + Identify cutting-edge research projects
  + Academics are recognised leaders in the field

1. **Impact**

* New criterion for 2014
* Assess the positive effects of a university’s research beyond the academy
* Assessed using submitted case studies
  + Demonstrate past research effects
  + Strategies for ensuring present and future impact
* Definition:
  + *‘any effect on, change or benefit to the* ***economy, society, culture, public policy or services, health, the environment, or quality of life****, beyond academia’*
* E.g.
  + Medical science research - generate changes to public health policy
  + Arts and humanities - educational outreach, exhibitions in public libraries and galleries
* Impact score for specific uni at specific subject area -
  + Identify high-profile projects and activities outside uni
  + Benefit to society

1. **Environment**

* Most important for prospective research students
* Measure quality of departments, academic units and research groups in universities
  + The environment in which PhD students work
* Assessed based on evidence demonstrating the sustainability and vitality of research environment
  + Continuity of research funding
  + Structures for effective support, supervision and training

1. **Overall**

* Output - 65%
* Impact - 20%
* Environment - 15%

**Expert panels**

* 1. Practising Researchers
* Other academics working in a field appropriate to their assigned unit of assessment
* Peer-review
  1. Research Users
* Selected from the audience
* Academics using research data
* Representatives of industry, business or policy groups

**REF Data and analysis**

1. **Units of Assessment UOA**

Summary of each UOA: <http://www.ref.ac.uk/media/ref/results/AverageProfile_All%20UOAs.pdf>

1. **Analysis results by REF official**

<http://www.ref.ac.uk/results/analysis/>

Comparative data

* Average across all universities
  + By UOAs (subject areas)
  + By main panels (faculty)
* Average across the entire UK

1. **REF impact analysis**

<http://www.hefce.ac.uk/pubs/rereports/Year/2015/analysisREFimpact/>

* 6679 impact case studies submitted to REF 2014
* outline changes and benefits to the economy, society, culture, policy, health, the environment and quality of life — both within the UK and overseas.
* undertaken by Digital Science, a division of Macmillan Science & Education; working in conjunction with its sister company Nature Publishing Group and the policy institute at King’s College, London
* co-funded by the UK higher education funding bodies, Research Councils UK and Wellcome Trust
* Text mining and qualitative analysis
* Identify general patterns and thematic structures
* Synthetic analysis
* Impact case studies data: <http://impact.ref.ac.uk/CaseStudies/>
  + Pure text documents
  + Individual pdf links for download
* Underlying data for impact topics
  + Which case study corresponds to which impact topic
  + 0 or 1 matrix
* REF impact analysis report available

1. **Citation data - Scopus**

<http://www.ref.ac.uk/about/guidance/citationdata/>

**RAE 2008**

**Results:**

* Outputs less high quality
  + 14% world-leading (vs 22% for REF)
  + 37% internationally excellent (vs 50% for REF)
* Meaning that outputs quality has improved over years
  + 4\* outputs increased by 42%, 3\* by 24%
  + Top 1% world’s most highly cited papers increased by 44%, top 5% by 31%, top 10% by 29%
  + Aligned with independent evidence of the enhanced international standing of UK research

**Assessment criteria:**

* Impact not assessed
* Significant difference in how environment is assessed - two elements are not comparable

**Mapping of UOAs:**

<http://www.ref.ac.uk/media/ref/results/Mapping%20of%20UOAs%20across%20RAE%202008%20and%20REF%202014.pdf>

* 67 vs 36 UOAs

**Extra sources of data**

* Quality of journals
  + Web of science
  + Google Metrics
  + Core conference
* Number of citations
  + Scopus - different papers but similar trajectory of improved research performance

**Questions to ask**

**OUTPUTS**

1. What type of outputs have been submitted?
   1. Journal articles; Conference contributions; Books and book chapters; Physical artifacts; Exhibitions and performances; Digital artifacts (including web content)
2. To what extent are the outputs representing **originality, significance and rigour**?
   1. New insights
   2. Contribute significantly to understanding the subject of matter
   3. Using an efficient approach
3. How do outputs represent the above qualities through **methodology, approach, research topics and inter-disciplinarity**?
   1. Research topic, inter-disciplinarity
4. Is there any time delay between the publication of outputs and the academic utilisation of outputs e.g. paper being cited by others, methodology being further developed - contribute to further research advancement? Does the time lags affect the output scores?
   1. For example, publications on tribology are dated back to 10 years ago due to limited numbers of research groups and institutions involved in UK
5. What quantitative data can be extracted from output submissions?
   1. From output summaries
      1. Do output summaries contain quantitative information on **originality, significance and rigour** that can be developed into metrics of research output?
      2. Do output summaries contain information on **methodologies, approaches, research topics and inter-disciplinarity** that can be developed into metrics?
   2. From original publications - not recommended
   3. To quantify **originality, significance and rigour**
6. What quantitative measure can be compared against to evaluate our prediction?
   1. Final REF published score data
7. Does the number/significance of research users - number of citations - affect research output? To what extent?
8. Does research collaboration affect the quality of outputs?
9. Is there any policy/government strategy/research council funding e.g. horizon 2020 encouraging the development in any UOA in particular? To what extent do they affect the output score?
10. Any connection between different UOAs and to what extent interrelated UOAs affect their output scores?

**IMPACT**

Detailed analysis available.

Mainly about text mining and synthetic analysis.

**ENVIRONMENT**

Tbc