Cost and Value: Outputs from the ‘Research at Risk’ Business case and costing project

Research Data Management: The Numbers

- 2.5 Billion gigabytes of new data is generated EVERY DAY
- 300,000 research datasets in UK repositories
- 400 PB of data at the UK Data Archive

The Data Deluge

- 3,000,000,000,000

The Value of Open Data

- Lost
- Estimated value of open data to the world economy
- Only 20% of scientific data from the 1990s is still available

Research Quality and Efficiency

- Top
- Lost
- Only 1% of results in landmark oncology papers can be replicated

UK Investment in Research

- £26 billion of government investment in research and scientific infrastructure over the next 5 years

Changing culture

- 50% of researchers are already sharing data!

The value of Research Data

- How big is big?
- EMBL-EBI £920 million per annum
- 61% of researchers strongly factor formal citation of data as a reuse indicator
- 75% of researchers strongly factor formal citation of data as a reuse indicator

Project outputs: Future developments

- Up to 30 extended case studies
- Data type and impact matrix
- Sustainability model
- Web presence—http://researchdatanetwork
- Further advice and guidance

Research Data Management: The Drivers

- Increasing volumes of data
- Mandates from funders relating to how data should be managed and where data should be deposited
- Mandates from funders relating to the long term preservation of research data
- Data management & preservation systems and infrastructure have been found to be no longer fit for purpose—in some cases even non-existent

There is a recognition by many that improved systems are needed. This requires investment, ideally investment in a long term, sustainable service not short term project funding.

Research Data Management: The Business Case Challenges

- A credible business needs to outline not only the costs associated with providing the service, but also the balancing benefits such a service will provide.
- BUT
- In the field of research data management and preservation the associated costs are often not clear: the costs are often hidden in other budget areas.
- The appropriate metrics may not be collected
- Costs may well be spread over decades with significant upfront loading: benefits tend to accrue later and tend to be realised by people who didn’t make the initial investment.
- Benefits are hard to quantify. Some benefits are relatively easy to assign value to—research income, or the cost of replacing lost data for instance. Others are more intangible—like reputational risk, impact or (potential) future value of data.

Research Data Management: The Questions

- How should costs be calculated—top-down (broad services with associated labour and capital costs) or bottom up (activity based) and what information needs to be gathered in order to calculate those costs?
- What are the eligible (and acceptable to the funder) activities and costs that should be included in a data management budget?
- What should those costs be? How can practitioners compare their costs with those of others?
- Is there an acceptable cost recovery model that can help institutions avoid “double-dipping” (funding the same activity from two different sources)?
- Can the impact on costs of different data types and sensitivities be accounted for?
- How should potentially open-ended preservation and curation be funded beyond the lifetime of project funding?
- Is it possible to assign value to intangibles such as reputation and future value of data? How can the fact that long tail benefits tend to be realised by those who haven’t undertaken the research and paid for its preservation be taken into account?
- What is an appropriate timescale over which costs and benefits should be evaluated?
- How can Research Data Management be shown to be a sustainable activity?
- Are there a readily usable business cases and are there case studies that can be used to make the case for a Research Data Management service?
- What would happen if research data were not deposited/preserved? What would the counter factual be?

The Research at Risk Business case and Costing project is helping to provide some of the answers.

Project outputs: Current or soon to be published

- Logos
- Case studies
- Research data network
- Sustainability model
- Conclusion

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