

# CASE STUDY

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## RDM strategy: moving from plans to action

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Section of the How to  
guide that this supports  
RDM policy and  
strategy

### Introduction

This case study addresses Research Data Management (RDM) policies, roadmaps and business cases, examining how these elements come together in the development and implementation of an RDM strategy.

### Background context

The increasing importance of data management in an academic context has caused many HEIs to develop policies, roadmaps and business cases as the first steps towards delivering RDM support services. The EPSRC Policy Framework on Research Data has been an important driver in this area, as it requires institutions to produce a 'roadmap' to align their policies and processes with EPSRC's expectations<sup>1</sup>.

The Universities of Edinburgh, Southampton and Surrey have taken different routes to developing their RDM strategies, but have still encountered many of the same challenges. This case study considers each of their approaches to draw out common lessons. Most have started by undertaking requirements-gathering exercises, using tools such as DAF<sup>2</sup>, CARDIO<sup>3</sup> and AIDA<sup>4</sup>. These tools help organisations to survey researchers' RDM practices and existing infrastructure in place to support this work.

### Definitions

#### Policy<sup>5</sup>

A policy defines the institution's core RDM principles and sets the framework in which support is to be delivered. Policies tend to be high-level, outward-facing documents, intended for public consumption. In some cases detailed roles and responsibilities are also defined.

#### Roadmap<sup>6</sup>

The roadmap is a basic strategy document that often defines areas of proposed activity. Acting as a high-level work plan, it is likely to include descriptions of specific goals that the institution aims to fulfil and defined milestones en route to meeting these. Many institutions have shared their roadmaps, however more detailed implementation planning is likely to be confidential.

#### Business case<sup>7</sup>

The business case defines how RDM infrastructure and support services will be resourced, describes anticipated benefits and makes the case for investment. Due to commercial sensitivities it may be internally available only.

<sup>1</sup>EPSRC, Policy Framework on Research Data, URL: <http://www.epsrc.ac.uk/about/standards/researchdata/Pages/policyframework.aspx>

<sup>2</sup>Data Asset Framework website, URL: <http://www.data-audit.eu>

<sup>3</sup>CARDIO website, URL: <http://www.dcc.ac.uk/projects/cardio>

<sup>4</sup>AIDA website, URL: [http://aida.da.ulcc.ac.uk/wiki/index.php/Main\\_Page](http://aida.da.ulcc.ac.uk/wiki/index.php/Main_Page)

<sup>5</sup>List of RDM policies produced by UK universities, URL: <http://www.dcc.ac.uk/resources/policy-and-legal/institutional-data-policies>

<sup>6</sup>List of RDM roadmaps produced by UK universities, URL: <http://www.dcc.ac.uk/resources/policy-and-legal/epsrc-institutional-roadmaps>

<sup>7</sup>Please note that business plans, costs and sustainability will be dealt with in more detail in another case study

# The process of developing and implementing RDM strategies

## Overview: University of Edinburgh

The University of Edinburgh released the first RDM policy by a UK university in May 2011. Its development was prompted by the findings of a series of Data Asset Framework (DAF) studies<sup>8</sup>. Researchers sought some form of overarching governance to help to steer local practice and the development of an institution-wide policy was recommended. Although some services such as the Edinburgh DataShare repository were already in place, the policy was described as 'aspirational' as it was recognised that further investment was needed to develop RDM infrastructure and services.

After the policy was ratified, a business case was put forward to University management. This made the case to invest recurrently in a University-wide research data management and storage service. The paper provided a basic explanation of RDM, justified why activity was needed, and outlined proposed work, anticipated costs and benefits. Proposed costs were a start-up investment of c.£1 million for hardware, software and School and Information Services staff, plus a recurrent annual cost of c.£250-450,000.

The University has since developed detailed plans for service development and implementation. Its high-level roadmap<sup>9</sup> sets out a number of objectives, actions and timeframes for delivery. The objectives fall under four main categories:

1. **RDM planning:** support and services for planning activities typically performed before research data is collected / created.
2. **Active data infrastructure:** facilities to store data being actively used in current research activities, to provide access to that storage and tools to assist in working with the data.
3. **Data stewardship:** tools and services to aid in the description, deposit, and continuity of access to completed research data outputs.

4. **Data management support:** awareness raising and advocacy, data management guidance and training.

Three pilots are being run to define and roll out appropriate services: one on data management planning; one on research data storage; and one on the DataShare repository. The pilots involve close partnerships with researchers in a range of schools to ensure that the services being developed are fit for purpose and meet the majority of use cases. This phase of work is being overseen by an academic steering group led by Professor Peter Clarke of the Particle Physics Experiment group.

## Overview: University of Southampton

The University of Southampton has a 10-year roadmap for the development of research data support services. The initial work was conducted as part of the Jisc-funded Institutional Data Management Blueprint (IDMB)<sup>10</sup> project. Initially the team conducted a survey of researchers and an AIDA assessment to inform the roadmap development. They worked with Faculty champions to gain broad input and define the development of support services collaboratively.

The roadmap sets out short-term (1-3 year), medium term (3-6 year) and long-term (6-10 year) plans. The first phase involves the development of institution-wide policy, core infrastructure and support. Medium term aims focus on embedding services and being responsive to complex needs. The long-term aspirations focus on providing significant benefits realisation across the whole University and a stable foundation for the future.

The IDMB project also developed a business model focused on the resources needed to deliver and maintain an institutional repository for the University's digital assets. This forecasts storage requirements and expected growth rates, modelling costs for a variety of service levels. The team hopes to make RDM services part of the core provision like High Performance Computing (HPC), in order that budgets are ring-fenced in the future. To secure high-level commitment the PVC Research and Provost sit on the RDM steering group.

<sup>8</sup>Ekmekcioglu, Ç. & Rice, R. (2009). *Edinburgh Data Audit Implementation Project – Final Report*. Retrieved 12 March 2013, from [http://repository.jisc.ac.uk/283/1/edinburghDAFfinalreport\\_version2.pdf](http://repository.jisc.ac.uk/283/1/edinburghDAFfinalreport_version2.pdf)

<sup>9</sup>University of Edinburgh. (2012). *Research Data Management (RDM) Roadmap August 2012 – January 2014*. Retrieved 12 March 2013, from <http://www.ed.ac.uk/schools-departments/information-services/about/strategy-planning/rdm-roadmap>

<sup>10</sup>Brown, M., Parchment, O. & White, W. (2011). *Institutional data management blueprint*. Retrieved 21 March 2013, from <http://eprints.soton.ac.uk/196241>

IDMB is being followed up by DataPool<sup>11</sup>, a second Jisc-funded project. Amongst other achievements, the DataPool team have developed and ratified an institutional RDM policy<sup>12</sup>. The policy is more detailed than most, covering the following nine sections: definitions; responsibilities; ownership and IPR; storage and management; retention; disposal and destruction; access; guidance documents; and related regulations and policies. The University has provided practical guidance webpages that accompany the policy to help researchers understand RDM and follow good practice<sup>13</sup>. The webpages also point to a number of services, for example support on data management plans.

## Overview: University of Surrey

The University of Surrey began their RDM work by developing a strategic roadmap<sup>14</sup>; this decision was driven in part by the EPSRC expectations. The initial step was to consult the research community by conducting a university-wide survey and series of interviews to inform strategy development.

The DAF requirements-gathering exercise uncovered key areas of concern and helped to identify academic staff with a stake in these issues who could participate in the interviews. The survey results indicated a strong need for additional data storage and a desire amongst academic staff for greater support from central services, particularly in terms of making research datasets publicly available.

In consultation with academic staff, a detailed roadmap document was produced and ratified by senior management. This identified areas for service development and areas in which further consultation is required, setting timeframes for delivery. They fell into the broad categories of:

1. **Finance:** the strategy contained elements of a business case but a key priority was the identification of resources to fund RDM activities.
2. **Policy:** an institutional policy outlining Surrey's core principles and responsibilities will be developed in tandem with a business case.
3. **Training/advocacy:** development of web resources and training for academics and service staff.

4. **Service development:** with sub-categories of: data storage/curation; DMP; metadata; and non-digital data. Although resourcing provision of data storage is seen as an activity involving central services, implementation is devolved to the faculty level.

Sufficient time has been built into the development processes to allow academic staff to engage with the outputs, such as institutional policy and training materials, as they are delivered. Enabling feedback improves the likelihood that RDM provision will be supported by researchers.

The need for dedicated resource to manage the development of services outlined in the roadmap was identified, and a proposed job description for a Project Manager was included. Since the publication of the roadmap, funding has been allocated and this post has been created and filled.

## Challenges

A number of challenges remain, specifically around resourcing so plans can be turned into action.

### Identifying costs

There remains little understanding of the actual cost of RDM services. Universities are grappling with a series of questions to try to identify and forecast costs. What capital outlay is needed to develop RDM services? How many staff are needed to run them? How will this activity fit in with existing roles? What is the expected level of demand? How will usage grow?

Understandably, senior management are wary of signing a 'blank cheque' and desire very detailed projections, together with a compelling justification of resources. Few benchmarks are available yet as a comparison to help make the case. The DCC hopes to provide an anonymised synthesis of business cases and resource allocation models to help others navigate this challenge.

### Securing the allocation of resources

Making the case for investment is a challenge, particularly given constrained budgets within HEIs. Naturally you need a breakdown of the costs and the more detailed you can make it, the better. Proposing phases of delivery may help to secure commitment and aid sustainability. The University of Southampton, for example, has developed a 10-year plan. It may also be useful to include the

<sup>11</sup>DataPool website, URL: <http://datapool.soton.ac.uk/datapool>

<sup>12</sup>University of Southampton Research Data Management Policy, URL: <http://www.calendar.soton.ac.uk/sectionIV/research-data-management.html>

<sup>13</sup>Research Data Management guidance website, URL: <http://www.southampton.ac.uk/library/research/researchdata>

<sup>14</sup>University of Surrey. (2012). Research Data Management Roadmap to 2015. Retrieved 21 March 2013, from <http://portal.surrey.ac.uk/pls/portal/docs/PAGE/INFOMGMT/RESEARCHDATAROADMAP.PDF>

cost of supporting service implementation in your roadmap, as done by the University of Surrey, to address this issue when approving plans.

## Managing service roll-out and uptake

The transition between plans and the delivery of functional RDM services needs to be approached incrementally. Take things step-by-step, as cultural change can be slow to gain momentum. Undertake plenty of advocacy, consultation and the piloting of potential services. The University of Edinburgh is focusing on a small number of pilot areas initially to enable issues that arise during implementation to be resolved before full roll-out. Similarly, the Southampton team is partnering with a number of academics to co-design and pilot potential services.

## Lessons learned

### Start wherever makes sense

For a number of HEIs the creation of a research data management policy has been selected as the first step in the process of defining a strategy. Policies provide clarity of purpose and may help in the framing of roles, responsibilities and requisite actions. They also legitimise making the case for investment. However, fears have been expressed about approving a policy prior to the development of infrastructure and services. Many universities have focused on developing their roadmaps and securing resources first, to avoid releasing a policy that may prove hard to implement. Either route can work, so be mindful of your institutional culture to determine the best approach for you.

### Understand the scale of the problem

It is essential that policies and strategies are developed with reference to the particular institutional context. In order to build up an accurate picture of this context it is necessary to engage in a period of requirements-gathering and analysis. You should be aware of the scale and nature of the data to be managed. By engaging with researchers you can understand the key RDM issues they face and identify any gaps in infrastructure and desired support. Tools such as DAF, CARDIO and AIDA can help you to survey RDM practices and infrastructure. These processes also help to improve engagement and secure support for future work.

### Ensure you have high-level commitment

It will be very difficult to turn your plans into action without high-level support. Ideally you should engage a senior academic champion such as

the PVC-Research to lead your steering group and make the case to senior management. This should help in securing the approval of plans and unlocking of resources. Well-respected academic champions are equally crucial to aid the roll-out and uptake of services. Consult widely throughout the development of plans and act on the feedback received to ensure your proposals have credibility. You will need the support of the academic community.

### Be open in order to help manage expectations

Share as much information as you can so that the community is well-informed of RDM plans and can engage with the process. Misinformation spreads very easily and people can become disillusioned if they see little progress. Try to be transparent and provide regular updates on service development. Good communication is also crucial to ensure that all of the support services are providing a coherent message.

### Set timescales that are practical and flexible

Timescales for implementation can be very hard to define, particularly as they will typically include one or more consultation exercise. Consequently, avoid publishing roadmaps that contain a rigid series of deadlines as they may be used to negative account should those milestones be missed. One alternative approach that recognises the fluid nature of service implementation is to use 'phases' of delivery that allow for some flexibility in the length of time that steps can take whilst still clearly defining the path of progress.

## Further information

University of Edinburgh, *Research Data Management (RDM) Roadmap August 2012 – January 2014* <http://www.ed.ac.uk/schools-departments/information-services/about/strategy-planning/rdm-roadmap>

University of Southampton, *Institutional data management blueprint* <http://eprints.soton.ac.uk/196241>

University of Surrey, *Research Data Management Roadmap to 2015* <http://portal.surrey.ac.uk/pls/portal/docs/PAGE/INFOMGMT/RESEARCHDATAROADMAP.PDF>

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