REPORT

The University of Nottingham

UNITED KINGDOM · CHINA · MALAYSIA

UK HEIs RDM service models and skills to support Research Data Management

Author(s):	Laurian Williamson, Tom Parsons
Audience:	ADMIRe Project Stakeholders
Published:	01/02/2013

Contents

1. Introduction

The ADMIRe project [1] aims to facilitate the embedding of the management of research data into the infrastructure and organisational culture of the University of Nottingham. The ideal scenario would be to integrate and embed data management institutional support throughout the research data life cycle [2] from project proposal to storing and sharing research data. In order to enable researchers to adopt good research data management (RDM) methodologies and practice, it is essential to ensure that the necessary knowledge, skills and institutional support infrastructure are in place.

In order to build institutional RDM capacity and capability and develop skills to support researchers with their RDM requirements, the following needs to be in place:
1. The technical infrastructure, a data catalogue or repository (in progress)
2. An approved institutional Research Data Management Policy (awaiting approval)
3. Training and up-skilling of the professional support services and enhancing the support provided to researchers
4. Authoritative guidance and support, for example, subject-discipline RDM exemplars, re-use case studies, RCUK funders' data management plans guidance

A stepped, pragmatic approach to supporting RDM at an institutional level was one of the key recommendations from the Incremental project[3] at the Universities of Cambridge and Glasgow. This is a valuable exemplar outlining how to build a RDM support and training service around the needs of the researchers at a research-intensive university.

From an institutional perspective, there is a clear need for better, centralized systems that can ensure that the research data produced in the University is known and managed in an infrastructure that meets the requirements of the major funding bodies and the needs of the researchers.

The University of Nottingham Research Data Management Policy is currently awaiting approval from the University Management Board. It is acknowledged that it is an 'aspirational' policy and that implementation will take some years. The Digital Curation Centre (DCC) is collecting examples of RDM policies and existing institutional policies which have been amended to encompass research data.

The drivers for RDM come from the research funders, legislation, the open data agenda, and UK HEIs wanting to have a better oversight of their research outputs, and increasingly of the research data produced within their institution.

It is important to note that whatever the drivers, good research data management is good for research: better management of research process,

---

[1] https://workspace.nottingham.ac.uk/display/ADMIRe/Home
[2] http://data-archive.ac.uk/create-manage/life-cycle
[3] http://www.lib.cam.ac.uk/preservation/incremental/docs.html

potentially more productive research, avoidance of data loss, benefits of data reuse.

However, as noted by Rice and Haywood[4] (2011) UK HEIs "have been rather reluctant to assert their role in either incentivising or supporting their academic staff in meeting these more demanding requirements for research practice, partly due to lack of knowledge as to how to **provide suitable assistance** or **facilities for data storage and curation/preservation.**"

The ADMIRe project funding ends in June 2013 and this report considers some of the options for a future interim or transitional RDM service at the University of Nottingham from July 2013. It is acknowledged that there is a requirement for research funders and research organisations to work together to provide guidance and develop RDM services to support and promote better management and effective sharing of research data. At the end of the ADMIRe project the big challenge is to keep the RDM work and activities going within the University. There needs to be an institutional commitment to up-skill and/or reskill staff in good RDM practice. Repurposing existing skills for RDM activity is both pragmatic and cost-effective for the institution.

One of the biggest drivers for good RDM practice is the clear 'data' expectations of the EPSRC [5] concerning those in receipt of EPSRC funding and in particular, that all research organisations must be fully compliant with these expectations by May 2015. Non-compliance with the EPSRC data policy will result in sanctions, including *ineligibility for future EPSRC funding*. Any 'non-compliance' would have an enormous impact on the funding received by UoN from the EPSRC and on its substantial research portfolio. The UoN's roadmap to the EPSRC policy framework was submitted in May 2012.

2. RDM Training and Advocacy

A supportive and committed institutional approach to RDM training would benefit the institution as a whole. As most PIs are required to include a research data management plan as part of a grant application, training and advice on DMP tools would be highly relevant. This could benefit and increase the amount of successful funding proposals submitted by UoN researchers. The UoN Data Asset Framework RDM survey [6]conducted in summer 2012 clearly indicated a training requirement on developing research data management plans (66%) and only 4% of respondents said that they wanted no training at all. As one respondent noted:

"…this is critical information for any researcher, it should form part of an induction package for new research staff at any level."

The RDM at UoN website [7] (phase 1) will provide some generic advice on data management planning but raising awareness of the free Web based DMP Online tool[8] would be beneficial for those interested in more detailed data management

---

[4] http://www.ijdc.net/index.php/ijdc/article/view/194
[5] http://www.epsrc.ac.uk/about/standards/researchdata/Pages/expectations.aspx
[6] http://admire.jiscinvolve.org/wp/files/2013/02/ADMIRe-Survey-Results-and-Analysis-2013.pdf
[7] http://www.nottingham.ac.uk/researchdata
[8] https://dmponline.dcc.ac.uk/

advice and guidance. The DMP Online tool has been developed by the Digital Curation Centre (DCC) and it allows users to:

- create, store and update data management plans
- meet both institutional and UK funders' data requirements
- export data management plans in various formats

The current DMP Online tool (v3.0) works by mapping funders questions to DCC questions (namely those found within the DMP Checklist) to form a document that individuals can fill in and use as their Data Management Plan.

The current version of DMP online also allows users to share their DMP's with others, a feature that may be particularly beneficial for collaborative projects, or if an individual has to have their DMP checked by others before submission. The ability for users to share their plans ultimately means that more than one person can work on a plan at the same time, reducing time, effort and potentially duplication of work.

However, training requirements cover the whole spectrum of the research data lifecycle, and includes training and guidance on open data, and legal, ethical and regulatory issues.

2.1 ADMIRe training activities

The ADMIRe team have already delivered a series of RDM awareness training two-hour workshops for both IT and Library staff. These were initially very generic, around RDM benefits, drivers, and the research data lifecycle.

The second workshops covered key components of the research data lifecycle and identified the data issues and current levels of support available at each stage of the lifecycle. The workshops were well received and feedback indicated that it raised the awareness of RDM amongst all participants. However, feedback also indicated that staff were not necessarily ready to deliver a RDM service at this early stage, all staff said significant up-skilling and training was required in order to increase confidence and capability in this emerging area of research support.

The Graduate School and ADMIRe will be launching the 'Research Data MANTRA[9]' online course designed for PhD students and others who are planning a research project using digital data. It has been made UoN specific where feasible, and is available in Moodle. MANTRA was produced by the University of Edinburgh and is available through a Creative Commons open attribution license for re-using, rebranding, repurposing.

Any interim/transitional RDM service should be focussing training and advocacy on RDM with the explicit aim of helping researchers help themselves. This approach could be essential in the long-term with regards to embedding institutional RDM practice and raising awareness of the importance of RDM within our research community.

---

[9] http://datalib.edina.ac.uk/mantra/

The results of the UoN RDM survey highlighted a training need in several areas, but in particular around writing data management plans, access and restricting access to datasets, creating metadata, and storing and discarding research data.

No bespoke generic RDM training is currently available at UoN but ADMIRe has begun initial conversations with David Burns, Director of Professional Development regarding the delivery of institutional RDM training as part of the continuing professional development (CPD) programme.

3. Research Funders and Data Management Plans

Researchers are faced with national mandates to both **manage** and **share** their research data. The DCC have produced a useful summary of UK research funders' expectations[10] for research data management and sharing plans.

Most research funders require applicants to submit a statement on data management and sharing at the grant proposal stage. The coverage of this statement does vary by funder, but it is worth noting that the biomedical funders (BBSRC, Cancer Research UK, MRC, and the Wellcome Trust) focus heavily on data sharing.

3.1 RCUK and research outputs

In their revised policy on access to research outputs published in July 2012 the Research Councils UK (RCUK)[11] have stated that peer reviewed research papers which result from research that is wholly or partially funded by the Research Councils must:

"..include details of the funding that supported the research, and a statement on how the underlying research materials – such as data, samples or models – can be accessed."

Compliance with the RCUK policy is expected to start on 01st April 2013. The RCUK have not yet provided an indication of how compliance will be monitored but there are data expectations that need to be taken into account.

---

[10] http://www.dcc.ac.uk/sites/default/files/documents/resource/policy/FundersDataPlanReqs_v4%204.pdf
[11] http://www.rcuk.ac.uk/documents/documents/RCUK%20_Policy_on_Access_to_Research_Outputs.pdf

3.2 EPSRC Policy Framework on Research Data

It is the 'data' expectations[12] of the EPSRC that is driving much of the RDM activity within UK HEIs. Full compliance with all its expectations is required from May 2015. The EPSRC have said that non-compliance will result in sanctions, including ineligibility for future EPSRC funding.

In order to ensure that researchers comply with the EPSRC policy UK HEIs have to ensure that the seven EPSRC requirements are met. Policies are enforceable rules, and non-compliance will be considered under disciplinary procedures. However, we need to acknowledge that researchers cannot comply if the institutional RDM infrastructure is not yet ready.

Some national initiatives involving research funders' and research data must be monitored closely after the ADMIRe project closes; these initiatives could facilitate and inform the building of RDM capacity and capability at UoN:

Research Councils UK (RCUK) Gateway to Research (GtR)

The RCUK Gateway to Research portal and dataset is a discovery tool which can be used to explore the entire breadth of the RCUK research portfolio that results from the investment of around £3 Billion of public money annually in research and innovation. The 'proof of concept' was launched in December 2012 and the launch of the gateway is expected in late 2013.

G4HE

G4HE is a JISC-funded project which aims to engage with the BIS-funded RCUK Gateway to Research (GtR) initiative to improve the information exchange between Higher Education Institutions and the Research Councils.

4. Current RDM skills at UoN

The ADMIRe project aims to demonstrate the value of research data management to the university and also identify areas where there are pockets of expertise and identifying which skills are required in order to deliver a relevant RDM service. It is necessary to identify those who will have permanent responsibility for RDM and what current skills there are amongst institutional support services and take advantage of the existing infrastructure and knowledge.

Currently the demarcations between roles that will support RDM are blurred and the decision on whom the proposed process owner for any planned RDM service is not clear.

---

[12] http://www.epsrc.ac.uk/about/standards/researchdata/Pages/policyframework.aspx

4.1 Current RDM skills awareness amongst staff from professional support services

A robust and sustainable RDM service requires professional collaboration amongst three of the key university professional services: IT, RGS and LRLR. The three key stakeholders include:

1. <u>Research and Graduate Services (RGS)</u> supports the delivery of the University's Research and Knowledge Transfer Strategy, and contributes expertise and guidance across the full spectrum of the University's research and doctoral training activities.

2. <u>Libraries and Research & Learning Resources (LRLR)</u> provide library facilities and learning technologies.

3. <u>IT Services and Corporate Systems</u> departments provide IT and AV facilities.

From engagement with these key stakeholders we have learnt that currently RDM awareness is low, but all have acknowledged the importance and necessity of long-term strategic planning around RDM service delivery. In the environmental analysis of LRLR conducted recently by Professor David Baker he acknowledges that the LRLR staff are in a good position to help in the effective stewardship of research data by providing expertise and an institution-wide focus. He does note however that in a recent RLUK study[13], nine areas identified as significant skills gap amongst subject/liaison librarians are related to research data management.

Some key components of research data management planning are listed here, and these are areas, which will require institutional cross-service support and guidance:

Project introduction and administrative context
- Aim of research project (overview)
- PI and discipline and subject focus of research
- Outline of roles and responsibilities involved in the research
- Collaborators (internal and external)
- Funding source
- Equipment requirements and resources
- Budget
- Planned adherence to related policies e.g. funders' ,institutional policies, research group
- Duration of research project

Data collection (scale and nature)
- Where does the data come from? For example, instruments, experiments, observations
- How often do you get new data?
- How much data do you generate? Forecasting and estimation of growth during the project

---

[13] http://www.rluk.ac.uk/content/re-skilling-research

- Data collection methods
- Data collection procedures approved by UoN
- Recording data methods
- Quality control procedures
- Review of existing data
- Adherence to funding body policies or appropriate research group policies

Organisation of data and file formats

- File structure
- Folder structure
- File and folder naming conventions
- Version control
- File formats, hardware and software
- File transformation
- archival readiness

Metadata and documentation

- *Documentation describing* on project methods, data collection and data preparation. To include: protocols, laboratory notebooks, codebooks, data dictionaries, questionnaires, software syntax and output files, equipment settings & instrument calibration, database schema, methodology reports, indication of provenance about sources of derived data.
- contextual details to make metadata meaningful
- creating and capturing metadata
- metadata form
- automatic metadata creation
- metadata standards to be used

Data Storage and Security

- storage and backup
- selecting media for storage
- frequency of backup
- reliability, robustness, sustainability
- active stage of research – storage plans
- responsibility for data storage and backup
- Identification pathway for MASTER VERSION of data
- Approximate volume of data that will be generated
- Adherence to local standards and procedures regarding data storage and backup

Data Protection, rights, and access

- privacy restrictions
- informed consent
- confidentiality
- safeguards to prevent unauthorised disclosure
- encryption, authentication, access control
- sensitive information (personal and commercial)
- access arrangements and data security
- permissions, restrictions, embargoes
- copyright

- IP
- data sharing (adherence to funders' and institutional policies)

Preservation rights and licensing
- data retention
- compliance with funders expectations
- long-term data preservation rest with
- deposit – institutional/external
- levels of access – metadata only, open data, data with licenses, negotiated access, no access to either metadata or data

In February 2013 ADMIRe did a brief survey of IT support and library staff who had already received some RDM awareness training. They were asked if they had dealt with a RDM query from a researcher and we had 53 respondents (67.9% from IT Support and 32.1% from library staff). The survey indicated that some RDM queries had been dealt with by both IT and library staff.

The table below includes responses from both IT Support and LRLR staff to the question: '*Have you ever had to deal with a RDM query from a researcher*?' RGS staff were not surveyed, as they have not received any RDM awareness training.

Section 2: Research Data Management queries from researchers

3. Have you ever had to deal with a RDM query from a researcher?

Planning a research idea:	n/a	11
Systematic review of the literature/data review:	n/a	5
Funding/Grant bid proposal:	n/a	12
Data management planning:	n/a	12
File organisation:	n/a	21
Local storage:	n/a	27
Data gathering:	n/a	13
Documentation and Metadata:	n/a	8
Data analysis:	n/a	8
Publishing research data:	n/a	6
Repository storage:	n/a	11
Data curation:	n/a	4
Data deposit:	n/a	1
Data discovery:	n/a	7
Accessing and re-using research data:	n/a	7
Never dealt with a RDM query:	n/a	20
Other *(please specify)*:	n/a	3

The table below outlines some of the key RDM competencies and skills required of a RDM support service. The ADMIRe project has identified the following activities as important when considering a future RDM service. This skills matrix has been developed after brief discussions with all three professional services (IT, LRLR, and RGS). It does not however reflect activities that are *necessarily* currently within the remit of these departments.

Research Data Management activity	LRLR	IT Services	RGS
Data storage		███	
Data transmission		███	
Data migration		███	
Data security		███	
Authentication/access authorisation		███	
IP, patents, commercialisation of research data			███
Research integrity and governance			███
Research Data Management Policy			███
Research costing			███
Research funders compliance			███
Digital preservation	███		
Repository management	███		
Metadata	███		
Data information literacy	███		
Research data and publications	███		
Current awareness of the research data landscape	███		
Copyright	███		
Licensing			

When considering the complexity of RDM activities it is feasible that the cost of developing the institutional human infrastructure to support researchers could be as significant as research data storage and the associated technical infrastructure.

As noted by the University of Southampton[14] in their final report on developing an institutional data management blueprint:

"This "big picture" approach to full institutional costs will support an opening out of data management as part of the overall information landscape, to supplant a discrete budget-line or ring fenced activity."

4.2 Current RDM practice awareness amongst researchers

The University of Nottingham Research Data Management Survey[15] results (366 respondents) clearly indicated a requirement for further advocacy, training and support on a range of RDM components. The responses indicated that training, an RDM support service and improved storage and backup facilities would have a good uptake if they were introduced at an institutional level. The results also demonstrated a lack of awareness around sharing data,

---

[14] http://eprints.soton.ac.uk/205715/1/IDMB_finalreport.pdf
[15] http://admire.jiscinvolve.org/wp/files/2013/02/ADMIRe-Survey-Results-and-Analysis-2013.pdf

suggesting that the benefits to the researchers of publishing data need to be articulated clearly at all stages.

Two notable conclusions from the survey that need to be considered in any future service planning indicate that:

- Training appears to be high on the agenda for many, with very few expressing no interest at all. Key areas included help with DMPs, metadata, storing data and funding body requirements sessions.
- The funding analysis revealed a surprisingly <u>low awareness of funding requirements</u> regarding data sharing.

Overall a strong case can be made to support researchers who are faced with the challenge of developing good RDM practices; certainly there are clear requirements for advocacy, training and a revised technical infrastructure to allow them to meet funding and University policies.

5. RDM Service Models at UKHEIs

There are some useful examples of current activity around RDM service and infrastructure planning amongst **Russell Group** universities. These provide useful scenarios and their progress should be monitored in order to inform the delivery of any future RDM Service at the UoN.

Different stakeholders lead many of these fledging institutional RDM services and there is a concerted effort from them all to deliver a coherent and co-ordinated RDM service. As noted by the DCC[16], institutional co-ordination is crucial for raising awareness and embedding good RDM practice.
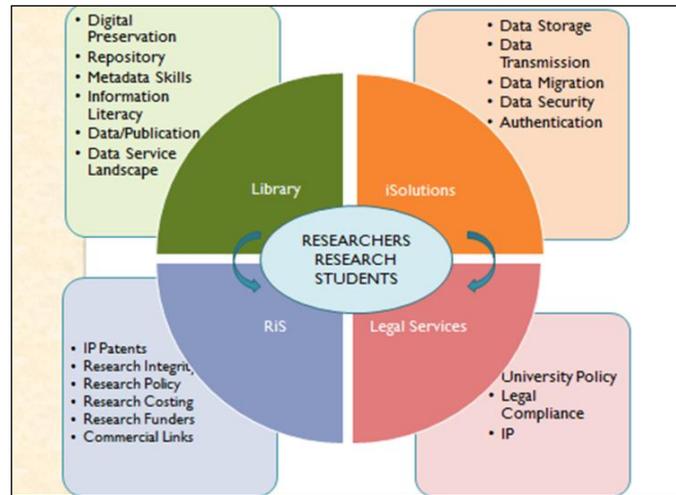
5.1.   The University of Southampton

The University of Southampton has been working on RDM service planning since 2009. They have received substantial project funding from the JISC Managing Research Data Programme, so are quite advanced and established in this area.

The University is in the process of developing research data management services and have established a 10 year roadmap[17]. The development of institutional research data services is still at an early stage and much of the current RDM activity is led by the JISC funded DataPool project.

---

[16] https://docs.google.com/document/d/11bfoqdt40NQVoHpDE1Jwg8PuBh-ZeobGVH7jqA5hsOM/edit?pli=1
[17] http://eprints.soton.ac.uk/196241/1/IDMB_Blueprint.pdf

DataPool Service Model for the University of Southampton

The DataPool Project will produce an evidence base for establishing and scaling-up pilot RDM services to meet whole-institutional needs.

Resourcing:

No costings for this service are publicly available and Southampton is currently working on staffing requirements.

5.2.   The University of Manchester

The University of Manchester has been working on RDM service planning since 2009. Recently there has been a major re-structuring of library services (subject/liaison librarians) to support research data management requirements. The Library established a new 'Research Services Team' which acts as the single point of contact for the service but works in liaison with other key stakeholders as part of a wider support network.

An interim service was launched in January 2013 to provide the necessary support to researchers in the transition period between their RDM policy being ratified in May 2012 and the full RDM service being launched in June 2013. The interim service period will also inform thinking and planning ahead of full service provision.

A phased approach to the implementation of the interim service was implemented and during phase 1 (June-December 2012) there was significant 'up-skilling' and 're-skilling' of key support staff and identifying their training requirements around RDM.

During phase 2 (January-June 2013) the service communicated to the research community that there is now a single point of contact for RDM enquiries, produced a website on RDM, delivered training events, and created templates and examples of good data sharing statements aligned with what the funding bodies are demanding.

Resourcing:

5.0 FTEs, two newly appointed (research data manager and technical post) and the remaining 3.0 FTEs are the result of the re-structuring of the library services.

5.3.   The University of Bristol

The University of Bristol have planned a three year roll-out for an institutional RDM service across the university starting in August 2013. They have already decided that their focus will be on the following:

- Managing datasets which underpin outputs
- Providing training, advice on DMPs and promoting good RDM
- Doing hands-on curating, checking metadata, gathering usage stats

Resourcing:

1 newly appointed FTE RDM Manager, some developer time and trainee posts. They have agreed that their minimal service will focus on compliance, generic RDM training and advice, minimal checking/quality control of individual DMPs, and there will be no institutional 'policing' of external mandates.

During the three year roll-out they will be developing discipline-specific knowledge (especially on metadata & training), 'policing' of funder/publisher mandates (especially the EPSRC), checking/quality control of individual DMPs, some hands-on curation, and facilitating and monitoring mandatory deposit to data services

5.4.   The University of Edinburgh

The University of Edinburgh have implemented a high level strategic research data management roadmap[18] for the period August 2012 – January 2014. This roadmap takes into account a two year planning horizon but is focused on what can be achieved during the 18 month period. The roadmap was developed by the Information Services RDM Policy Implementation Committee's Action Group. The 'phased' approach to service delivery covers:

Phase 0: August 2012 – January 2013: largely a planning phase, with some pilot activity and early deliverables.

Phase 1: February – July 2013: Initial rollout of primary services.

Phase 2: August – January 2014: Continued rollout; maturation of services

The roadmap covers four major RDM themes and activities all of which address specific clauses in the RDM policy. These are: data management planning, active data infrastructure, data stewardship, and data management support services.

Resourcing:

In their business case submitted to the University IT Committee in June 2012, they estimated a cost of £1M one-off, and £250K recurrent.

6. International case study (Monash University)

Monash University, Australia has been identified as a useful institutional case study demonstrating how to improve research data management services and embed RDM practice at a research-intensive, multi-campus university. Key issues include:

- High level buy-in from all key stakeholders

---

[18] http://www.ed.ac.uk/polopoly_fs/1.101223!/fileManager/UoE-RDM-Roadmap201121102.pdf

- RDM sub-committee established which reports to the Research Committee
- Library-led, user-oriented collaborative approach (capability partners)
- Library skills recognised early on, especially the library as the lead on scholarly communication activities
- RDM Strategic plan and RDM themes were aligned with university strategy

Their institutional RDM activity began in 2006 and they emphasise the importance of researcher involvement in developing their RDM capability. Their RDM strategy and strategic plan for 2012 -2015 is available here.

7. Proposed interim/transitional service

Any future RDM institutional service, as a <u>minimum</u>, should be aiming to:

- Support researchers with embedding research data management practice
- Acknowledge the roles and responsibilities involved in RDM and provide the necessary training and support
- Develop and provide a template or distribute examples of successful data management plans
- Build and sustain a robust research data infrastructure and create workflows for data publishing and archiving
- Use various channels to raise awareness about research data related aspects and to co-ordinate communication
- Provide staff with authoritative guidance on intellectual property issues and licensing of data

An interim service would be able to explore issues around expectation management with regards to research data. Further work needs to be done in this area, major issues to think about include, how many staff, how many DMPs, how many data deposits to facilitate. This places even more emphasis on tailored advocacy and awareness activities.

The major research funders 'data' expectations of those they fund and the interpretation of their guidance on data management plans is something that should be dealt with as a priority. An interim service could provide discipline-specific data planning for NERC, ESRC, AHRC and MRC funding applicants.

Issues requiring further exploration during an interim service include:

- Long-term data preservation – will this be at no cost to the PI?
- Governance of RDM at an institutional level
- Could on-going costs for an interim RDM service be justified in terms of compliance and benefits?
- Further clarification from the funders on whether RDM activities can be charged to research project costs
- Establishing costs/costing models

7.1. Proposed models from ADMIRe for a future RDM Service at the University of Nottingham

The ADMIRe Steering Group asked the ADMIRe project team to consider some pragmatic models for institutional RDM service delivery. The table below provides the outline of three levels of service (minimal, mediated, consultancy). The project manager will provide further details of the benefits and risks of these models at the February 2013 Steering Group meeting.

Core RDM Service activities	Level 1 Service Minimal	Level 2 Service Mediated	Level 3 Service Consultancy
Data Management Plans	PI with website guidance	Institutional training, advocacy & some one-to-one	Tailored approach, subject-specific advice & training
Active data management and storage	IT Support, Schools & PI (ad hoc)	Institutional training, advocacy & some one-to-one	Tailored approach & subject-specific advice to meet funders requirements
Data archiving and long-term preservation	IT Services with IT Support	Institutional training, advocacy & some one-to-one	Tailored approach & subject specific advice to meet funders requirements
Data sharing and publishing	IT Services with IT Support	Institutional training, advocacy & some one-to-one	Tailored approach an on-going training and advocacy
Copyright and IPR	PI with website guidance	Institutional training and CPD	Tailored approach and on-going training
Compliance and reporting	PI responsible	Institutional overview and mechanisms	Systemised reporting
	Website advice and self-supporting RDM activity	Focused support and capacity and capability building	Consultancy, subject-specific and embedding skills

Minimal Service (Level one)
- No additional FTEs
- Process and website adopted and promoted by key stakeholders
- Support staff up-skilling

Mediated Service (Level two)
- 2.0 FTEs additional minimum
- Researcher training & awareness

Consultancy Service (Level 3)

- 3.5 FTEs additional minimum
- Embed within Faculty and at School level to build capacity
- Assumption: after 2-3 years PIs will be familiar with RDM – dedicated FTEs could be reduced

7.2. View from the Head of Academic Services (Chris Middleton)

Chris views any future RDM service as a process driven collaborative effort. Key stakeholders include RGS, LRLR, and IT support. She acknowledged that RDM awareness and training (including up-skilling) were required.
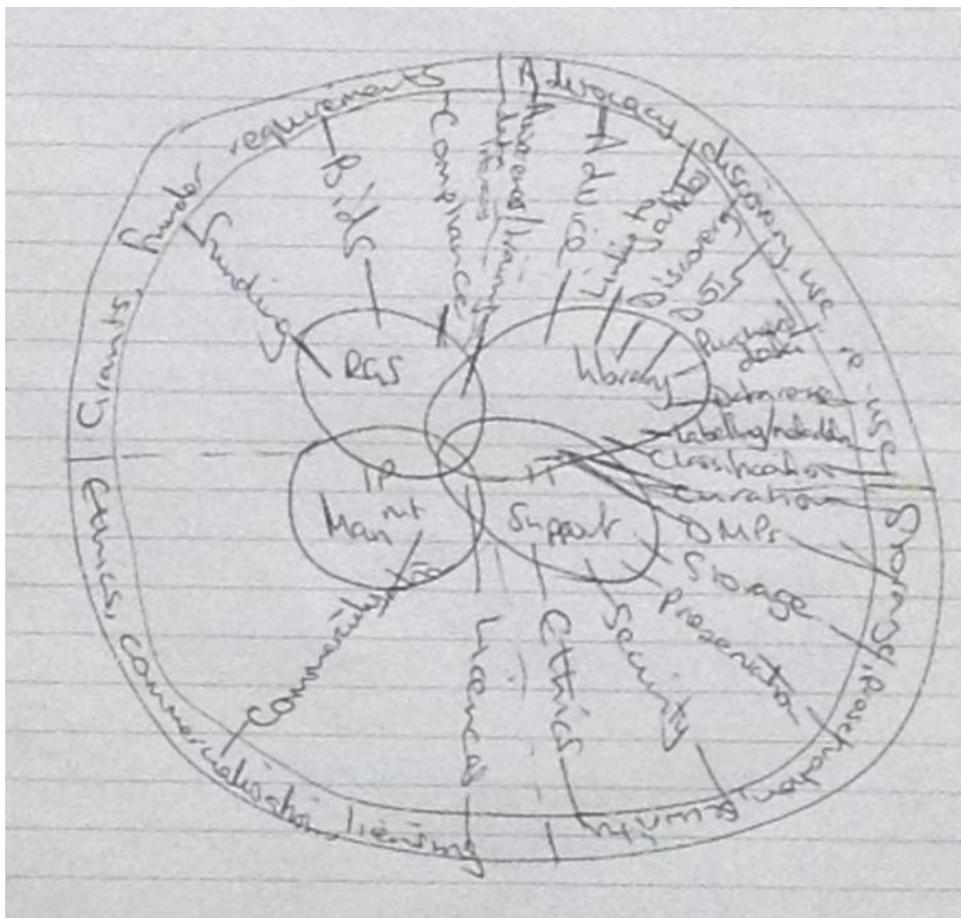
7.3. View from the Head of IT Support (Caroline Gregory)

- IT-led RDM service with RGS as the key stakeholder
- IT lead on several RDM components
- Data Management Plans expertise (especially with technical appendices)
- Advice and guidance on appropriate solutions for managing research data – based on not knowing the throuput this RDM planning will be absorbed into current roles
- RDM activity absorbed into their current roles
- No new FTE required at this time

- RDM awareness and 'up-skilling' required

7.4.　View from RGS

We have not had detailed discussions with RGS about their role in any transitional or interim RDM service. In the 'Research Data Management' paper authored by Paul Kennedy and submitted to the University Board of Management for approval in February 2013, it is recommended that the University of Nottingham RDM Policy should be owned by RGS on behalf of the PVC for Research.

8. General conclusions

- The technical RDM infrastructure should be underpinned by training, support and documentation, and an approved institutional RDM policy.

- It is the role of the institution to enable researchers to work with their data within a RDM framework.

- It is acknowledge that ultimately the responsibility for RDM rests with the researchers or the research team.

- Libraries are often the lead partner on collaborative RDM services within UK HEIs.

- A hands-on, ground-up service for researchers for the curation of their data will provide benefits for the researchers and the institution.

- The consolidation of research data into one service model (currently storage provisioning is distributed and ad hoc) would provide benefits for researchers and provide the institution with an overview of their data assets.

- The public will have an improved view of what research is conducted at UoN (research data showcase).

- Good research data management practice will facilitate reporting on data-reuse and citation rates.

- Research funders view data as a valuable research output and good RDM practice facilitates and improves the discoverability, accessibility, and citability of research data.