Overview of Project

1. Background

Research data management is essential for good quality research, especially when data sharing is envisaged. Research data are often valuable resources that can be used and re-used for future scientific and educational purposes.

Most research data can be shared with other researchers and this is increasingly being recognised by funders. In line with the OECD’s Declaration on Access to Research Data from Public Funding, the majority of UK Research Councils now have policies in place that encourage or mandate the creation of data management plans, the sharing of research data in a timely manner and where possible the deposit of data in a recognised data centre where such exist. Furthermore, a number of leading journals now require underlying datasets to be published or made accessible as part of the essential evidence base of a scholarly article.

Social scientists in the UK benefit from established data management, sharing and preservation support and infrastructure provided by the UK Data Archive - a centre of expertise for social, economic and humanities data - and the ESRC-funded Economic and Social Data Service.

This project will draw on the reflective and proactive experiences in the UK Data Archive. Besides curating and disseminating the UK’s largest collection of data in the social sciences and humanities, the archive also has a well-established data management expertise. For over a decade UKDA has supported ESRC applicants and award holders in enable data sharing, and gained expertise on essential data management aspects for both quantitative and qualitative data. In the last few years pro-active data management and sharing strategies have been pioneered by hosting data support services for the Rural Economy and Land Use Programme, where project-level data managing planning and follow-up was implemented, and through links with Timescapes. Through this the UKDA has increased its experience to best guide and support researchers in implementing data management planning.

The project will equally use tools and practised developed by other experts, such as the Data Audit Framework and Data Management Plan template developed by the Digital Curation Centre.

This project contributes to the joint stakeholders (Research Councils, Funding Councils, HEIs, researchers and JISC) coordinating vision to coordinate strategies, approaches and tools surrounding managing and sharing data to deal with current and future data needs across the academic spectrum. This proposal will contribute a social science perspective to the challenges of researchers managing and sharing their data, and complements the mission of the recent JISC Data Management Programme and work being undertaken by the Digital Curation Centre supported by the JISC.

2. Aims and Objectives

The UK Data Archive will work closely with selected ESRC research centres and programmes - large data-rich investments funded by ESRC - to assess existing data management practice, help develop and implement effective data management planning in the research life cycle and increase individual and institutional data managing and sharing capacity by providing best practice guidance, support and training. The project also addresses areas of disciplinary research practice in the social sciences where data sharing is understood to be problematic.
More specifically, the project will:

- evaluate existing data management practices in current and past ESRC investments
- work with selected ESRC programmes and centres to assess existing data management practices and processes, identify needs,
- with centre and programme staff develop and implement practical data management planning strategies and evaluate them
- identify intervention points in the research life cycle where data management is essential
- understand better the barriers to data sharing and needs for more challenging research domains and data types and develop strategies to overcome them.
- Identify gaps in data management planning skills and knowledge and develop and deliver support and training to fill these gaps.
- develop a data management cost model to supporting centres and programmes in data management across their lifetimes
- disseminate experiences gained across the academic community via a best practice guide, online materials and a seminar showcasing evidence.

3. Overall Approach

This project will work with research directors, administrators and researchers in selected ESRC supported research centres and programmes where no centralised support for data management and sharing is currently provided.

ESRC centres and programmes represent large resource investments by ESRC and other research councils and have central research coordination. Consequently they provide maximum impact for the resources available through this project, and have fewer communication problems than those of sole researchers. Programmes are groups of dispersed awards typically under a research theme that start and finish within a given time frame. This provides good temporal scope while covering differing research methodologies. Furthermore, they are coordinated by a funded programme office or programme director and have a Strategic Advisory Committee. Centres are geographically centralised units, likely to operate long-term and relate to thematic research groups which initiate research projects at different times.

Three stages of programmes and centres will be sampled
- recently completed – will provide retrospective evidence of existing data management strategies and data sharing activities
- recently started – to test the value of early intervention in data management planning;
- current centres - to assess data management practices, and design and implement internal practical and ongoing data management strategies and support.

Investments will be selected on the basis of:
- starting date
- identification of relevant substantive and methodological research domains and traditions
- re-use potential of research data produced.

Investments are selected in dialogue with ESRC as the proposal relies on cooperation of centres and programmes to being evaluated and actively engaging in for developing and implementing data management planning and strategies. A Memorandum of Agreement will be signed with each collaborating investment. The project will work with three centres or two centres and one new programme, while gathering retrospective evidence from one centre and three past programmes.

ESDS has identified disciplinary or methodological areas with difficulties in acquiring data collections because of real or perceived data sharing challenges. The project will cover these areas, but not exclusively:

- complex data, e.g. ethnographic or anthropological data which are diverse and unstructured as a consequence of extended periods of field research
- data where attribution to the source is not believed possible due to sensitivity or confidentiality, e.g. interviewing government ministers under Chatham House rules or research where commercial or trade secrets may inhibit data sharing;
Once investments have been selected and agreements signed, the project team will undertake meetings with and visits to centres and programmes, placements of the project officer in centres, and interviews with key staff members (directors, principal investigators, data managers), in order to undertake a data audit (based on the JISC Data Audit Framework\(^1\) and the ESDS Data Inventory template) to assess and appraise existing (and future) data resources and their management; assess existing data management and sharing practices and attitudes.

Once data audits are complete and data management needs assessed, a data management planning strategy at centre or project level will be designed for each centre - together with centre staff - and implemented. This will contain crucial intervention points for data management (research planning stage, ethical review, start of consent process, data digitisation, input.). Relevant data management tools will be reviewed / assessed to help centres / programmes choose tools suitable for their needs.

The Data management planning strategy and procedures will be implemented by centres / programmes, with guidance and training provided for centre staff and researchers on data management planning; creating shareable research data; and how to assess and monitor data management planning.

The data management will be monitored monthly, through questionnaires and interviews. Optimal data management intervention points will be evaluated

A costing model will be developed by costing resources required for data management, taking into consideration various benefits.

Training workshop on topical data management aspects will be held at each collaborating research centres; another will target Programme Directors and award holders within the programme. All three will consist of hands-on sessions, which build on the existing outreach programmes of the UK Data Archive, Reu-DSS and ESDS. Key data management areas for data sharing within the social sciences focus on: informed consent, data confidentiality and ethics as they relate to data sharing; data copyright and the implications when using existing resources; best practices in data description, contextualisation and documentation and how to enhance raw data; implications of data formats and software upon sharing; and data storage, back-up, and security.

4. Project Outputs

The project will provide the following outputs:

- collated evidence on existing data management practices within the social science research domain
- data audits and best practise assessment of processes for collaborating research centres, undertaken jointly with the centres.
- best practise protocols and procedures for research centres and programmes to implement, assess and monitor data management plans, with optimal intervention points in the research cycle
- understanding of the place and practice of effective data management for more ‘problematic’ research domains and data types (report)
- data management cost model for supporting centres and programmes in data management.
- practical purpose-built data management training workshops for collaborating ESRC centres and programmes; with training materials
- seminar to share lessons, promote good practice and guidance on data management for research centres and programmes.
- printed and online best practise guidance for research centres and programmes on data management planning and procedures, including best practice protocols and procedures for identifying optimal intervention points in the research cycle
- presentations of findings at relevant conferences and JISC programme events.
- interim and final reports to JISC

Centre and programme-related outputs will be shared with the respective centre / programme. Training materials, best practice procedures and guidance and general outputs will be made available online on the project website or on the UKDA managing and sharing website [www.data-archive.ac.uk/sharing].

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5. Project Outcomes

The project benefits researchers and support staff in the UK and internationally. The ESRC and JISC profit from the exposition of workable solutions for social scientists to manage and share data. This comes from examples of delivering maximum impact from targeting high-value investments most likely to produce data with high reuse potential.

The provision of guidance tools and training allows ESDS to benefit from procedures that lessen its need to monitor ESRC awards. It allows award holders to take more responsibility for data management.

Data management planning, implementation and training documents can be added to the DCC's existing online resources.

Research programme office and research centre management and support staff benefit from guidance on ensuring they meet the ESRC's Data Policy. Research staff gains from organisation of data and sharing methods.

By addressing all researchers, mentors and support staff participating in programmes and centres, we reach groups typically difficult to contact when advice is directed through principal investigators or centre directors.

The project will provide increased awareness within the social sciences community of critical data management issues such as legal and ethical issues surrounding data sharing, the value of documentation to enhance data, data security, data storage and copyright.

The data management planning procedures and guidance for centres and programmes can be provided to all existing and future ESRC research investments, if supported by the ESRC.

The seminar will extend the impact of data management planning guidance and training, with invitations to all existing ESRC centres and programme directors. Embedding this capacity in organisations is critical to changing the culture of poor data management and resistance to data sharing.

The project will also work with the ESRC to include recommendations for data management planning in the ESRC's Data Policy.

6. Stakeholder Analysis

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Interest / stake</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESRC</td>
<td>Evidence base for the ESRC data policy and its application and for data management planning. Further effect on data sharing overall.</td>
<td>High</td>
</tr>
<tr>
<td>Funding bodies</td>
<td>Increase the value of investments by increasing the sharing of research data, without increasing the cost of data creation, preservation and archiving.</td>
<td>High</td>
</tr>
<tr>
<td>Data archives and providers</td>
<td>Best practice advice for potential depositors</td>
<td>High</td>
</tr>
<tr>
<td>Researchers and research institutions</td>
<td>Guidance, tools and procedures on data management planning. High quality data for re-use.</td>
<td>High</td>
</tr>
<tr>
<td>Institutional repositories</td>
<td>Best practice guidance on data management planning</td>
<td>Medium</td>
</tr>
<tr>
<td>General public/Community projects/ non-scientific organisations</td>
<td>Wish to manage their own data for long-term validity</td>
<td>Low</td>
</tr>
</tbody>
</table>

7. Risk Analysis

<table>
<thead>
<tr>
<th>Risk</th>
<th>Probability (1-5)</th>
<th>Severity (1-5)</th>
<th>Score (P x S)</th>
<th>Action to Prevent/Manage Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>Staff already in place. Principal investigators to monitor staff retention. UKDA staff seconded in worst case.</td>
</tr>
</tbody>
</table>
Financial mismanagement  | 1 | 5 | 5 Project Manager and PI have expertise with financial responsibility. UKDA accountant oversees all expenditure. University Research Office has strict monitoring procedures and quality assurance mechanisms in place. Institution liable to under-write losses.

Collaborating centres / programmes to drop out | 2 | 3 | 6 PIs to monitor collaboration with investments at all times throughout the project and maintain good dialogue. Clear Memorandum of understanding of engagement drawn up between ESRC, Centre/Programme and UKDA; detailing the roles, responsibilities, planned activities and expectations. Development timeline re-assessed and new collaborators engaged if time and resource permit.

Legal | 1 | 5 | 5 Project manager and Principal Investigators briefed and sensitive to legal environment. Advice from legal personnel at University of Essex and JISC.

8. Standards

<table>
<thead>
<tr>
<th>Name of standard or specification</th>
<th>Version</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>W3C</td>
<td></td>
<td>For project website and all online materials</td>
</tr>
<tr>
<td>PDF</td>
<td></td>
<td>All reports and documents</td>
</tr>
<tr>
<td>DDI metadata specification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Audit Framework, DCC</td>
<td></td>
<td>For data audits</td>
</tr>
<tr>
<td>Data Management Plan template, DCC</td>
<td></td>
<td>Basis for data management plans</td>
</tr>
</tbody>
</table>

9. Technical Development

N/A

10. Intellectual Property Rights

IPR owned by the University of Essex, with acknowledgement and copyright clearance where materials or tools owned by third parties would be used. All outputs to be made freely available.

Project Resources

11. Project Partners

ESRC.
Role: collaborate in steering the project; engage selected ESRC research centres and programmes; review documentation and assist in project monitoring
Contact: Kristine Doronenkova, Principal Policy Manager, Research Resources.

Memorandum of Understanding will be signed between UKDA and ESRC.

12. Project Management

A steering group will be set up, consisting of the project team, Kristine Doronenkova from ESRC, Simon Hodson from JISC and Matthew Woollard from UK Data Archive. The steering group will meet at the start of the project (Feb 2010), in June 2010 and Feb 2011. The steering group will provide strategic direction for the project and oversee progress.
The project management group consists of Louise Corti (project director), Libby Bishop and Veerle Van den Eynden (project manager), providing expertise on data management, ensuring the project accomplishes its aims and deliverables, supervising and supporting the various project activities, assisting with delivering training workshops, reviewing progress and outputs and liaising with JISC and ESRC. The group will meet monthly with the senior project officer.

Laurence Horton is dedicated full-time to the project, coordinating, preparing, implanting and monitoring data management plans; visiting centres and programmes to undertake interviews; collating data inventories; developing training materials; delivering training; and evaluation.

**Project team:**

Louise Corti, Associate Director, UK Data Archive  
Veerle Van den Eynden, Research Data Management Support Services Manager, UK Data Archive  
Libby Bishop, Senior Officer Research Data Management Support Services, UK Data Archive  
Laurence Horton, Research Data Management Senior Officer, UK Data Archive  
Kristine Doronenkova, Principal Policy Manager, Research Resources, ESRC.

In addition, Anne Etheridge - Senior Outreach and Promotion Officer at the UK Data Archive - will assist with website and promotional material design and support; and Claire Flaxton - Project Administrative Assistant - will provide support with organising workshops. Other ESDS/UKDA staff members may assist with training, preparing and producing reports.

**13. Programme Support**

We would like the programme manager to be part of the project’s strategic steering group.

**14. Budget**

See additional template

**Detailed Project Planning**

**15. Workpackages**

See additional template

**16. Evaluation Plan**

<table>
<thead>
<tr>
<th>Timing</th>
<th>Factor to Evaluate</th>
<th>Questions to Address</th>
<th>Method(s)</th>
<th>Measure of Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2010</td>
<td>Collaboration with centres and programmes</td>
<td>Are 3 centres / programmes actively collaborating in the project</td>
<td>Feedback from project officer</td>
<td>Three centres / programmes actively engaged</td>
</tr>
</tbody>
</table>
| Sept 2010    | Centre / programme satisfaction        | Are centres programmes happy with proposed data management planning?  
Are they happy with received training? | Evaluation request by ESRC from each centre / programme  
Training feedback form | Each centre / programme fully satisfied.  
High satisfaction scores. |
| March 2011   | Outputs delivered                      | Have all outputs been delivered?      | Peer review of outputs by stakeholder organisations | All outputs delivered |
| Feb 2010     | Data management planning guidance relevant | At end of award seminar stakeholders will be | Engage other centres in adopting data management planning | 5 additional centres signed up to initiate data management planning in their centre |
17. Quality Plan

<table>
<thead>
<tr>
<th>Timing</th>
<th>Quality criteria</th>
<th>QA method(s)</th>
<th>Evidence of compliance</th>
<th>Quality responsibilities</th>
<th>Quality tools (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>Accurateness; validity</td>
<td>follow DCC guidance</td>
<td>Project director</td>
<td>Data audit records for each centre / programme</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valid and practical</td>
<td>Review by centre / programme directors</td>
<td>Strategy implemented</td>
<td>Data management plan and strategy document for each C/P</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Usability; validity</td>
<td>Peer review by UKDA directors and stakeholders</td>
<td>approved</td>
<td>Data Management Planning for Research Centres and Thematic Programmes – a best practice guide</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project director</td>
<td>Data management cost model</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project director</td>
<td>Seminar for research centres and programmes on implementing practical data management planning in centres and programmes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project director</td>
<td>Training workshops</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Positive feedback</td>
<td>Practical and useful UKDA standards of service delivery</td>
<td></td>
</tr>
</tbody>
</table>

18. Dissemination Plan

<table>
<thead>
<tr>
<th>Timing</th>
<th>Dissemination Activity</th>
<th>Audience</th>
<th>Purpose</th>
<th>Key Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb2011</td>
<td>Seminar for research centres and programmes on implementing practical data management planning in centres and programmes</td>
<td>ESRC centres and programmes; research institutions;</td>
<td>Share experiences; promote data management planning strategies; Engage further centres</td>
<td>All centres can adopt their own data management planning strategy.</td>
</tr>
<tr>
<td>Oct2010</td>
<td>Working paper on data management practices within the social science research domain</td>
<td>Researchers</td>
<td>Inform</td>
<td>This is what other researchers do.</td>
</tr>
<tr>
<td>throughout</td>
<td>Presentations at conferences, JISC and ESRC events and meetings</td>
<td>Researchers; Data managers; Research funders</td>
<td>Inform audiences</td>
<td>Why data management planning is important to promote data sharing.</td>
</tr>
<tr>
<td>March2011</td>
<td>Data Management Planning for Research Centres and Thematic Programmes – a best practice guide.</td>
<td>Researchers; Research centres</td>
<td>Promote data management planning</td>
<td>Best practice guidance for use in research</td>
</tr>
<tr>
<td>throughout</td>
<td>Project website and blog</td>
<td>Research community; stakeholders</td>
<td>Inform about project progress and outcomes</td>
<td>This is what we do.</td>
</tr>
</tbody>
</table>

19. Exit and Sustainability Plans

<table>
<thead>
<tr>
<th>Project Outputs</th>
<th>Action for Take-up &amp; Embedding</th>
<th>Action for Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding of the place and practice of effective</td>
<td>Information added to UKDA managing and sharing website</td>
<td></td>
</tr>
</tbody>
</table>
data management for more ‘problematic’ research domains and data types

www.data-archive.ac.uk/sharing


Sent to all ESRC research centres; as well as to selected research centres in UK and abroad. Also added to UKDA managing and sharing website www.data-archive.ac.uk/sharing

Training materials

Use as base materials for further data management workshops. Place on website.

Best practise protocols and procedures for research centres and programmes to implement, assess and monitor data management plans, with optimal intervention points in the research cycle

Added to Information added to UKDA managing and sharing website www.data-archive.ac.uk/sharing

Data management cost model for supporting centres and programmes in data management.

Information added to UKDA managing and sharing website www.data-archive.ac.uk/sharing

<table>
<thead>
<tr>
<th>Project Outputs</th>
<th>Why Sustainable</th>
<th>Scenarios for Taking Forward</th>
<th>Issues to Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Management Planning for Research Centres and Thematic Programmes – a best practice guide.</td>
<td>Potential for data management planning to be adopted by all research project</td>
<td>Work with ESRC to include recommendations for data management planning in the ESRC’s Data Policy.</td>
<td></td>
</tr>
</tbody>
</table>

Appendixes

Appendix A. Project Budget

Appendix B. Workpackages