



FAIR Evaluation – Study on Lessons Learned

Final Report for FAIR

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Executive Summary

Many JISC programmes conduct a summative evaluation at the end of the programme. A traditional summative evaluation would synthesise outcomes and achievements, evaluate the success of the programme, and capture lessons learned.

JISC took a different approach for the FAIR programme and commissioned the FAIR Synthesis. The Synthesis fulfilled a dual role – an evaluation role to review outputs, outcomes, and achievements, and a dissemination role to make them available to the community. The FAIR Synthesis web site (http://www.jisc.ac.uk/fair_synthesisintro.html) was posted in February 2005 so it was available when the Digital Repositories call for proposals was announced. It will be updated as projects complete their work and submit their final reports. A more reflective glossy brochure focusing on outcomes and achievements is scheduled for summer 2005.

As the FAIR Synthesis covered outcomes and achievements, JISC decided not to undertake a formal summative evaluation. Instead it commissioned this short study to capture lessons learned. Together the Synthesis and the study would cover much of the ground covered by a summative evaluation. At some future date after the FAIR programme has finished, JISC can decide if it wishes to evaluate the success of the programme and its impact on the community.

The lessons learned from the FAIR programme were compiled from three sources:

- Structured telephone interviews with several key people involved in the programme to find out lessons learned from their perspective
- Project completion reports (and where appropriate their progress and final reports)
- Interviews with projects already conducted for the FAIR Synthesis.

The lessons learned in this report were selected on the basis of their relevance to JISC programmes generally, relevance to future planning, importance, and the degree of consensus. A brief summary of these lessons learned is below.

Lessons Learned at Programme Level

Advisory Boards

- JISC should brief advisory boards at the start – to make sure there's a shared understanding of the role of the board and the importance of engaging with programme strategies.
- Focus on the strategic aspects of the programme and set aside time to reflect on how well the programme is succeeding in different areas.
- Choose board members carefully and review membership periodically. Don't be afraid to second new members when new expertise or new blood is needed.
- Inviting members of the selection panel to join the advisory board provides continuity and a sense of ownership of the programme.
- International membership was important for FAIR. It can be difficult for international members to participate at a distance, so explore ways to get them to engage with the programme.
- Advisory boards should consider giving projects positive as well as negative feedback and say 'well done' occasionally.
- The programme manager's reports to the advisory board were very useful and gave them an insight into how projects were really doing. This type of reporting could serve as a model for future programmes.

Programme Management

- Planning a programme is important – It's important to develop strategies for evaluation and QA, dissemination, and sustainability and share them with the advisory board and projects.
- A good programme manager is critical to the success of the programme. Chris Awre was considered by all to be an excellent programme manager.
- Continuity is important – Ideally have the same programme manager in place for all or most of the programme. If the programme manager leaves, JISC should recruit a new one as soon as possible.

- For FAIR, one programme meeting per year was sufficient.
- The FAIR Synthesis was valued and fulfilled a role in evaluation and dissemination at programme level. This approach could be used by other programmes.

Project Support

- Projects valued the individual support they got from the programme manager and stressed the importance of good communication.
- Picking up on problems and issues early is important, and the programme manager did this effectively.
- The amount of support projects need will vary. Projects new to JISC will need more support than those with previous experience.
- Projects must be disciplined and submit their reports on time. Similarly JISC needs to be disciplined and chase reports effectively.
- Projects need to keep their web sites up to date and make their outputs available to the community.

Clusters

- Announce any plans for clusters in the call for proposals, so projects can plan for it in their project bids.
- Agree the purpose of clusters and what cluster groups there will be in consultation with the advisory board and projects at the start of the programme.
- Clusters enable projects to collaborate, share experience, and develop solutions to common problems. They add value when projects have something to share.
- Clusters can also be an opportunity to explore what projects can do as a group that they can't do individually.
- Overall clustering by theme seemed to work for FAIR.
- Clusters need some central direction to realise their potential. Strike a good balance between giving them freedom and micromanaging.
- Timing can be important – Projects may not feel they have much in common at the start of a programme.
- Consider new approaches to allow projects to collaborate and engage with issues, e.g. electronic clusters, discussion lists, cross-programme clusters, or SIGs.

Lessons Learned at Project Level

- **Flexibility is important** – It's important to have a project plan, but staff need to be flexible and able to change the plan.
- **Think through dependencies at the start of the project** – If you need X in order to do Y, develop contingency plans in case X is late or doesn't materialise at all.
- **Plan for the fact that staff may leave** – Consider this in the risk analysis and ideally make sure that the project isn't overly dependent on any one person.
- **Agree the role and responsibilities of all project partners at the start of the project** – This is done via a consortium agreement where partners are funded, but equally important to sort out if some or all partners are unfunded.
- **Institutional buy-in is important** – FAIR projects explored many techniques that work, e.g. working closely with stakeholders, getting a good fit with institutional objectives, making a good business case, and demonstrating the value.
- **Getting buy-in may change the project** – Some projects found that the internal value of an e-print repository (e.g. using it for the Research Assessment Exercise) can be as important as external benefits like visibility of the institution's research output. When a project becomes a live service, there may be more interest in issues like quality of metadata, functionality, and design of the user interface.
- **Projects value collaboration** – Working with project partners or with other projects in clusters allows them to test ideas and develop better solutions than they might individually.
- **Cultural change takes time** – Advocacy is important and will pay off, but it takes time to change attitudes and institutional practice, and it takes time to populate repositories.
- **Engage with users** – It's important to understand their needs and ensure that the systems you develop meet those needs and integrate with how they work.

- **The quality and consistency of metadata is important** – It's important within a repository and even more important to enable harvesting and searching across repositories.

1. Introduction

1.1 FAIR Evaluation

Many JISC programmes undertake a formal summative evaluation at the end. Summative evaluations are typically done by a professional evaluator and synthesise outcomes and achievements, evaluate the success of the programme, and capture lessons learned.

JISC took a slightly different approach for the FAIR Programme. JISC commissioned the FAIR Synthesis in late 2004. The Synthesis fulfilled a dual role – an evaluation role to review outputs, outcomes, and achievements, and a dissemination role to make them available to the community. The Synthesis was undertaken by Chris Awre and Christine Baldwin and done in two parts:

- The FAIR Synthesis web site (http://www.jisc.ac.uk/fair_synthesisintro.html) – This summarises project outputs and facilitates access to them. It was posted in February 2005 so it would be available when the Digital Repositories call for proposals was announced. It will be updated as projects complete their work and submit their final reports.
- A more reflective glossy brochure focusing on outcomes and achievements at project and programme level is scheduled for summer 2005.

As the Synthesis covered outputs, outcomes, and achievements, JISC decided not to undertake a formal summative evaluation. Instead it commissioned this short study to capture lessons learned. Together the Synthesis and the study would cover much of the ground covered by a summative evaluation. At some future date after the FAIR programme has finished, JISC can decide if it wishes to evaluate the success of the programme and its impact on the community.

1.2 Overall Approach

The purpose of the study was to capture lessons learned from the FAIR programme so they can be used by the Development Group in planning future programmes. The overall approach agreed with JISC was to capture lessons learned in three ways:

- Interview several key people involved in the programme to find out lessons learned from their perspective
- Extract lessons learned from project completion reports
- Extract lessons learned from the project interviews already conducted for the FAIR Synthesis.

Interviews on Lessons Learned

In April 2005, structured telephone interviews were held with seven people representing different stakeholder perspectives – the FAIR Advisory Board (FAB), FAIR projects, and JISC programme management. Each was sent a list of questions in advance, and questions varied with the role of the interviewee. The interviews focused on lessons learned about programme governance, programme management, clusters, and project support. Each phone interview lasted 45-60 minutes, and interviewees were sent a summary of the conversation so they could correct any errors or omissions. Interviewees were:

- Alison Alden (Bristol) – Chair of FAIR Advisory Board
- Chris Awre (Hull) – Programme manager (until 2004)
- Rachel Bruce (JISC) – IE Team Leader
- Rachel Heery (UKOLN) – FAIR Advisory Board
- Steve Hitchcock (Southampton) – FAIR Advisory Board
- William Nixon (Glasgow) – FAIR project in the e-prints and e-theses area (DAEDALUS)
- Shaun Osborne – FAIR project in the museums and images area (Harvesting the Fitzwilliam)

Completion Reports

Projects are asked to write final and completion reports at the end of the project. The final report is for the community and focuses on what the project did and achieved. The completion report is for JISC and acts as a sign off on the project work. Projects are asked to note any lessons learned from their

perspective, e.g. on their project work, what they might have done differently, on the support they received from JISC, etc. Of the projects that have finished to date, six have submitted completion reports.

FAIR Synthesis Interviews

In December 2004, Chris Awre held structured telephone interviews with all FAIR projects as part of the FAIR Synthesis. One part of the interview focused on lessons learned about the project work, e.g.

- Software and standards used
- Other technical issues in relation to the project
- Practical implementation with the project, including workflow
- Cultural and legal aspects
- Best practice.

Chris Awre provided a copy of his notes from these interviews.

Other Reports

Project final reports and recent biannual progress reports were also reviewed for any lessons learned. There were three reasons for this. Firstly, some projects that have ended haven't submitted completion reports. It was felt worthwhile to see if their final reports noted any lessons learned. Secondly, not all projects have ended. Projects report on issues like project management and project support in their biannual progress reports, so these were checked for any lessons learned. Thirdly, the FAIR Synthesis interviews were conducted in December 2004, so more recent reports were checked to see if a project's views on lessons learned had changed.

Themes on Lessons Learned

All the above sources were used to identify lessons learned. These were reviewed to identify themes – areas where many had commented and there seemed to be similar views. The most important themes and lessons learned are reflected in this report. The main criteria in selecting the lessons learned were that they should be:

- Relevant to JISC programmes generally, not just to FAIR
- Helpful for future planning, i.e. issues that could arise again
- Significant, i.e. there's something at stake
- A shared view, not just one person's opinion
- Positive or negative – it's useful to learn from what works well as well as what could have been done better.

Projects in particular noted lessons learned on a wide range of issues, and different issues arose for each project. It would be difficult and probably unhelpful to capture them all. The report tries to focus on the most important issues raised by projects, and the ones most likely to be of interest to future programmes.

1.3 The Report

This report is intended for two main audiences:

- Participants in the FAIR programme – They participated in the study by interviews and reports, and may be interested in the results. The lessons may be useful if they participate in a future JISC programme.
- The JISC Executive – They will plan future JISC programmes and can take these lessons into consideration.

The main report is in two parts – lessons learned at programme level and lessons learned at project level. The part on lessons learned at programme level has a summary of lessons learned at the start of each section. The part on lessons learned at project level simply highlights lessons learned in the text.

The report also contains a short confidential annex for the JISC Executive. Most of this annex focuses on administrative issues relevant to JISC that wouldn't interest other participants in the FAIR programme. They are therefore spared having to read it.

The report does not generally attribute lessons learned or comments to people or projects. Those interviewed about lessons learned were encouraged to be frank, but told that they would not be quoted. Projects have been helpful and honest about their experience and lessons learned, particularly in completion reports. The aim is to learn from this experience, not to 'name and shame'. In a few cases views are attributed where it's logical in the context, e.g. where it's important to know that the view is from the programme manager or JISC. And where someone had a really useful idea, they may be mentioned so they get the credit.

2. Lessons Learned at Programme Level

2.1 Advisory Board

Summary of Lessons Learned

- JISC should brief advisory boards at the start – to make sure there's a shared understanding of the role of the board and the importance of engaging with programme strategies.
- Focus on the strategic aspects of the programme and set aside time to reflect on how well the programme is succeeding in different areas.
- Choose board members carefully and review membership periodically. Don't be afraid to second new members when new expertise or new blood is needed.
- Inviting members of the selection panel to join the advisory board provides continuity and a sense of ownership of the programme.
- International membership was important for FAIR. It can be difficult for international members to participate at a distance, so explore ways to get them to engage with the programme.
- The programme manager's reports to the advisory board were very useful and gave them an insight into how projects were really doing. This type of reporting could serve as a model for future programmes.
- Advisory boards tend to interact with projects via the programme manager and can be perceived as 'distant'. Explore ways to 'connect' with projects more directly.
- Advisory boards should consider giving projects positive as well as negative feedback and say 'well done' occasionally.
- Meeting every six months with email contact between meetings worked out fine.

2.1.1 Role

The terms of reference were agreed at the first FAB meeting (January 2003) and posted on the FAIR web site (http://www.jisc.ac.uk/index.cfm?name=programme_fair):

- To develop an overview of the FAIR programme, with particular reference to the broad aims of the Programme and ongoing development and content initiatives of the JISC Information Environment.
- To ensure that links between clusters and themes emanating from the clusters are identified and feed into the overall running of the programme
- To offer advice on the direction of individual projects and to identify synergies between projects.
- To offer advice to the programme on developing practices and standards that should be incorporated into the programme.
- To offer advice on dissemination, exit strategies and evaluation for the programme and projects
- To advise on additional areas of work that could enhance the objectives of the programme.
- To identify synergies with developments and organisations both outside and within the JISC community
- To report to the JCIE bi-annually.
- To maintain interactive and pro-active involvement and communication with projects.

The terms of reference did not change during the programme. However, at the second FAB meeting the role was restated for clarification: to steer the FAIR programme, provide a programme level overview, and provide speakers and a resource where requested or needed by projects or JISC.

Interviewees for the study on lessons learned were asked about the role of FAB, i.e. how would they describe it in their own words. Most perceived the role as follows:

- A steering role – to steer the FAIR programme
- A governance role – to guide the programme manager in decisions and issues related to projects.

There were variations in how the role was perceived – some saw more emphasis on steering the programme, and some saw more emphasis on project issues. Some felt that the board had a PR role to raise the profile of the programme in the community or to foster collaboration, but others didn't. One member commented that the role lacked a self-reflective element. Time wasn't regularly set aside to reflect on how well the programme was succeeding and the fit with other JISC initiatives.

Though terms of reference were agreed at the start of the programme, it's interesting that there were different perspectives on the board's role at the end. For future programmes it could be useful to highlight the main purpose of the board (e.g. steer the programme) within the terms of reference. It could also be useful to add the self-reflective role. Rachel Bruce also commented that from JISC's point of view, it would be useful to hold a meeting with the new board at the start of a programme to explain how JISC works, agree the role of the board, and make sure there's a shared understanding of expectations from everyone's perspective.

2.1.2 Meetings

FAB met every six months and meetings typically lasted 3-4 hours. Where possible, FAB meetings were held at FAIR programme meetings. Meeting dates and locations are listed below:

- 28 January 2003, HEFCE office, London
- 24 June 2003, Warwick (coincides with programme meeting)
- 13 January 2004, JISC office, London
- 7 July 2004, Brighton (coincides with programme meeting)
- 11 March 2005, AHDS office, London.

Most of the work conducted by FAB was done at meetings. There was a JISCmail list for FAB, and this was used to circulate agendas, papers for discussion at meetings, minutes, and to follow up on issues between meetings. Meeting every six months did mean there were many issues to cover, so there wasn't time for long discussion on each issue. FAB members interviewed felt that meeting every six months plus the email list was sufficient to fulfil the role.

The advisory board was very impressed with the status reports the programme manager circulated to update them on the progress of projects. For each project he extracted key portions of their biannual report to summarise progress. This was followed by a paragraph of commentary that reflected his own view of the project's progress. He was close to project work and knew about any problems they might be having. He noted any problems or issues the board should discuss, e.g. whether there was sufficient progress, if changes in direction were needed, etc. This approach meant the board didn't have to read the project reports in detail and could rely on him to identify the issues they should address.

Some noted that not all meetings were well attended. There were two main reasons. Firstly, FAB members all held senior posts and were busy people. It wasn't possible to schedule meetings when all could attend. Secondly, about a third of the members were international. Only one of the international members participated regularly in FAB meetings; the others participated in the email list or in other ways.

As noted above, it's difficult to schedule advisory board meetings when all can attend. Meetings need to be announced well in advance to get them into busy calendars. If they are to be held at JISC Joint Programmes meetings, then these need to be announced well in advance.

2.1.3 Membership

A selection panel was formed at bid stage to plan the FAIR call for proposals and then mark the bids. After projects were selected for funding, the selection panel was invited to become the FAIR Advisory Board. Everyone interviewed felt that this worked out well. The approach has several benefits:

- Continuity from the start to the end of the programme
- Collective memory of how and why decisions were made
- Ownership of projects and the programme, and a desire to see them through.

The list of FAB members is posted on the FAIR web site (http://www.jisc.ac.uk/index.cfm?name=programme_fair). Everyone interviewed felt that the board had an excellent mix of skills and experience, a good balance between UK and international membership, and a good balance between those who were involved with FAIR projects and those with a broader perspective. Members of FAB gave various tips on membership that could be useful to future programmes:

- Select some board members from the selection panel for continuity, and then choose others to add value later on.
- The knowledge and skills you want may vary as the programme progresses. Early on you may be focusing on technical issues, and later on sustainability and the success of the programme.
- Consider the potential for advocacy. Good people from key sectors can influence how the programme is regarded in those sectors.
- Review membership periodically. Don't be afraid to second someone when a gap emerges.
- Aim for international membership, but don't be over-ambitious.

2.1.4 International Membership

FAB had several international members, and everyone interviewed felt that international membership was important for FAIR. It was important for the programme to get input from an international perspective, and international membership can also raise the profile of the programme abroad. However, there was some disappointment that international members didn't participate more fully.

It's obviously difficult for international members to attend meetings physically. Instead FAIR suggested that they participate by phone conference, i.e. they would dial a pre-booked phone conference number and be heard on a speaker phone. This allowed them to participate for the entire meeting, but it can be difficult to stay with a meeting for 3-4 hours by phone link. It also meant that the physical meeting had to tinker with the phone technology.

FAB members interviewed thought that international participation could have been handled better. Suggestions included the following:

- **Corresponding members** – Have two types of board members – full and corresponding. Corresponding members could be asked to comment on papers by email but not expected to participate in meetings.
- **Schedule an 'international' section of the meeting** – It's difficult to engage with a meeting by phone for 3-4 hours. Allocate a shorter timeframe for international members to link in. Summarise the discussion and get their input on decisions.
- **Videoconferencing** – Videoconferencing might make it easier for international members to engage with the meeting at a distance. The down side is that there would be tinkering with technology that's possibly more complex.

For future JISC programmes where international membership is important, it might be useful to review these options with the international members and get their views.

2.1.5 Fulfilling the Role

All felt that FAB fulfilled the role that had been defined. They were an advisory group and advised on all topics where they were asked. The meeting minutes confirm that the various topics listed in the

terms of reference were all addressed during the programme, though emphasis varied from meeting to meeting.

One area was highlighted where some members thought the board could perhaps have done more – connecting with projects. FAB didn't have any direct interaction with projects. The programme manager acted as a 'go between' summarising the status of projects for FAB, and sending their feedback back to the projects. Projects saw the minutes of FAB meetings and occasionally met members at programme or cluster meetings, but there were no face to face meetings. There's therefore the potential for projects to feel 'distant' from the board.

It's difficult to know if more connecting with projects would have been useful. One project commented that more feedback would have been useful, but they didn't feel 'isolated'. Future programmes might like to consider ways for the board to connect with projects and establish two-way feedback, e.g. sessions at programme meetings.

The Chair also commented that advisory boards tend to work on the basis of exception reporting, so feedback from the board to projects tends to be negative. She felt that boards could do more to make projects feel 'cared for' and give positive as well as negative feedback. An occasional note to say 'well done' might encourage them.

2.2 Programme Manager

Summary of Lessons Learned

- A good programme manager is critical to the success of the programme. Chris Awre was considered by all to be an excellent programme manager.
- The programme manager needs an in-depth understanding of the programme and how projects are really doing. The advisory board valued the programme manager's insights.
- Projects valued the individual support they got from the programme manager and stressed the importance of good communication.
- Picking up on problems and issues early is important, and the programme manager did this effectively.
- The amount of support projects need will vary. Projects new to JISC will need more support than those with previous experience.
- Continuity is important – ideally have the same programme manager in place for all or most of the programme.
- If the programme manager leaves, JISC should recruit a new one as soon as possible.

2.2.1 Programme Management

Chris Awre was programme manager for most of the programme, from November 2002 to June 2004. By all accounts, Chris Awre was an excellent programme manager. From FAB's point of view he:

- Had an in-depth understanding of the content of the programme and developments in the wider community
- Had a detailed understanding of each project, the status of their work, and problems they might be having
- Was competent and decisive
- Picked up on issues early
- Had a good management style – he managed the programme effectively without micro-managing.

FAB highlighted two points in particular. As noted in Section 2.1.2, FAB valued the progress updates he circulated. These gave an insight into the status of project work and highlighted issues the board should address. They also commented that he was very good at picking up on issues soon. This is an important skill for programme managers – some seem to be born with it and others learn it. However it's acquired, it's important to prevent small problems and issues becoming large ones. He was able to do this and bring issues to the board early so they could be discussed and resolved early.

2.2.2 Project Support

Part of being a good programme manager is providing individual support to projects in the programme. In interviews and reports projects commented that Chris Awre provided excellent support. This included:

- Informing projects of JISC requirements, e.g. dates progress reports were due, dates for programme meetings
- Site visits
- Feedback on project plans and progress reports
- Informing projects about events and initiatives in the wider community
- Individual support with problems and issues.

Projects described Chris as supportive and 'always there'. He listened and he helped with problems. One point made by several projects is the importance of communication. It's easy to establish e-lists and facilitate one-way communication. What projects value is developing a good relationship with the programme manager where there's quality two-way communication. They need to be able to ask questions and raise problems. They value feedback on their work, and many commented that they valued the feedback on their reports.

A point that was mentioned explicitly in some interviews/reports and implicitly in others is that some projects need more support than others. An institution that has participated in JISC development programmes before may know the ropes and need little support. One that is new to JISC will need more support to understand how JISC works, what constitutes a good plan or report, etc. Chris understood this and gave support where it was needed. One project mentioned that he was very helpful in making 'introductions' to other projects, both within FAIR and other programmes. The project was new to JISC, and Chris's broad knowledge meant he could easily identify projects where there would be synergy.

Chris was asked if he would have done anything more or differently in terms of supporting projects. He said perhaps more personal contact by phone. Most contact with projects was by email or during personal visits. Visits are time consuming and it's rare if a programme manager can visit projects more frequently than once per year. In the meantime programme managers tend to keep in touch with projects by email. More contact by phone is a useful tip for future programmes – it's part of the two-way communication that projects value and helps the programme manager to really understand the progress they're making.

2.2.3 Transitions in Programme Management

Chris Awre was programme manager for most of the programme, from November 2002 to June 2004. A comment made from all perspectives – FAB, projects, and JISC – is that it's important to have continuity in programme management. Ideally there would be one programme manager for the life of the programme, but failing that most of the programme. The detailed knowledge of projects and the relationships that have been built over time are difficult to replace. In the event, Chris was programme manager for most of the programme, and for the most critical timeframe – from the time that projects developed their project plans to June 2004 when many projects were finishing.

When Chris Awre left, Rachel Bruce and Balviar Notay looked after FAIR until a new programme manager was recruited. Balviar focused on project issues (e.g. reports, completion of project work) and Rachel focused on programme issues (e.g. FAB, reports to the JISC funding committee). Both had full workloads, so neither individually nor both together could provide the time that JISC would expect of a full time programme manager.

This situation isn't ideal. As the programme had a year to run when Chris left, ideally a new programme manager should have been recruited promptly. As this wasn't possible, Rachel and Balviar did their best to look after the programme. There were no dire consequences. The programme stayed on course and has been perceived as successful. JISC has carried forward all initiatives from FAIR as planned (e.g. the Digital Repositories call, the EThOS project), and no important initiatives had to be abandoned due to lack of programme staffing.

2.3 Programme Strategies

Summary of Lessons Learned

- Planning a programme is important – It's important to develop strategies for evaluation and QA, dissemination, and sustainability and share them with the advisory board and projects.
- It could be helpful to have these as standing items on the advisory board agenda, so progress can be assessed.
- The FAIR Synthesis was valued and fulfilled a role in evaluation and dissemination at programme level. This approach could be used by other programmes.

2.3.1 Background

JISC developed a new Programme Management Framework in 2004 to increase the quality and consistency of programme management across JISC programmes. One element of the framework is that programme managers should develop strategies for evaluation and QA, dissemination, and sustainability at the start of a new programme. The strategies provide an overall plan for how these issues would be handled at programme level and a way to guide activities at project level. They would be shared with the advisory board and projects at the start of the programme, and progress would be monitored against them.

Rachel Bruce commented that for future programmes, it would be useful for JISC to meet with the advisory board, explain how JISC works, what the Programme Management Framework is, and the significance of programme strategies. The draft strategies would be discussed with the board to get feedback. During the programme, they could be standing items on the advisory board agenda to review progress.

The FAIR programme didn't develop strategies for evaluation, dissemination, or sustainability as outlined above. FAIR started in 2002, and the Programme Management Framework was introduced in 2004. Nevertheless FAIR obviously did work in these areas. The sections below reflect comments made in the interviews for this study and in project reports.

2.3.2 Evaluation

Programme Formative Evaluation

Traditionally JISC has conducted external formative and summative evaluations for most large programmes. From the start it was decided not to do a formative evaluation for FAIR. The Centre for Research in Library and Information Management (CERLIM) team at Manchester Metropolitan University had just completed a formative evaluation for the 5/99 programme (EDNER), were about to conduct one for the JISC IE (EDNER+), and were providing evaluation support at project level for FAIR and X4L (EFX). In the end FAIR seemed to get on well without a formative evaluation. Some interviewed missed the security of knowing that a formative evaluation was being done and that it would identify any problems. But others commented that formative evaluations are an overhead for the programme, and in the end you don't miss what you don't have.

Programme Summative Evaluation

As noted in Section 1, FAIR didn't do a traditional summative evaluation. Instead it commissioned the FAIR Synthesis focusing on outputs, outcomes, and achievements, and this study on lessons learned. FAB was very pleased with the Synthesis and felt that in some respects it was more useful than a summative evaluation. It fulfilled a dual role – an evaluation role to review outputs, outcomes, and achievements, and a dissemination role to make them available to the community. Some commented that there's no reason to do evaluations in the traditional way simply for the sake of it. It can be useful to try new models. It's too soon to judge the success of the programme, and in the meantime JISC has the Synthesis and lessons learned.

Evaluation at Project Level

Traditionally JISC has asked projects to build formative and summative evaluation into their project plans but hasn't provided much guidance. FAIR was one of the first programmes to provide evaluation support. CERLIM and Lancaster University's Centre for Studies in Advanced Learning

Technologies (CSALT) provided evaluation support for FAIR and X4L from October 2002 to July 2003, including a workshop and a web site of resources. Projects commented in interviews and reports that they valued this support and found it helpful. However, it was probably more helpful to some projects than others. It was probably most helpful for projects in developing their evaluation plans and for projects conducting user needs studies early on. Projects continuing into 2005 may find that EFX was some time ago.

One project commented that there's a big gap between understanding what evaluation is and actually doing it. They would have liked more guidance about what to evaluate and how. This is just the view of one project, but it's a good point. In a programme like FAIR where several projects are similar (e.g. developing pilot institutional repositories), it could be useful to think through at programme level what approaches projects could take to evaluating their work and issues to cover. For future programmes, this could be part of the programme evaluation strategy.

2.3.3 Dissemination

Overall, those interviewed thought FAIR did well in the area of dissemination. Projects were proactive about attending conferences and explaining their work. Advocacy was an integral part of many projects. This raised awareness of the project, FAIR, and issues like open access within institutions and the wider community. Some projects held workshops and conferences to raise awareness in the community and gain consensus on ways forward, e.g. on electronic theses and medical images. The programme manager was also very active in promoting awareness of FAIR in the community.

Dissemination is an area where FAIR did develop a strategy. The JISC Communications team now works with all programme managers to develop strategies for their programmes. Their approach is to think about the key audiences that need to learn about the programme, clear and coherent messages to send, and how to reach each audience effectively. Chris Awre worked with the Communications team to develop the strategy in spring 2004, but it wasn't shared with FAB or projects. It's being used by JISC at programme level to target dissemination.

The FAIR Synthesis perhaps illustrates the concept of targeting audiences. The web site allowed bidders for the Digital Repositories call to easily find out what FAIR projects had done and get quick access to their project outputs. The glossy brochure will be more reflective and aimed at senior managers thinking about developing repositories. There will also be a short briefing paper aimed at heads of institutions to raise awareness of FAIR and repositories, so they can then suggest their staff get a copy of the glossy brochure.

Two comments made in the interviews related to targeting dissemination. Firstly, it could be useful to get advisory boards involved in planning how to get the right messages to the right audiences from their stakeholder perspective. Secondly, it could be useful to give projects more help and advice. For example, if they want to reach a particular audience with a journal article, how to choose the right journal.

2.3.4 Sustainability

Sustainability is an important issue for all JISC programmes. FAIR didn't develop an overall sustainability strategy, but it did handle sustainability in a well-organised way. In October 2003 a workshop was held on sustainability for projects in several JISC programmes. It explained what sustainability was, why it's important, and case studies illustrated how previous JISC projects had worked to make their outputs sustainable. In December 2003, projects were asked to fill out a questionnaire and develop a sustainability plan. The programme manager commented that most of the plans were quite good, and the idea was to let projects to get on with them.

There were mixed views on whether FAIR has done enough in the area of sustainability. Projects developed their own plans and are carrying them out. What was missing was an overall plan at programme level thinking through what outputs should be sustainable, why, and how to take them forward. This would have given the projects some context for developing their own plans. In the end the Digital Repositories Review study probably fulfilled this need (see link on http://www.jisc.ac.uk/index.cfm?name=programme_digital_repositories). It identified important issues from FAIR and elsewhere that should be carried forward and addressed in the Digital Repositories

programme. Other issues are being carried forward separately in projects like EThOS and SHERPA-DP.

2.4 Clusters

Summary of Lessons Learned

- Announce any plans for clusters in the call for proposals, so projects can plan for it in their project bids.
- Agree the purpose of clusters and what cluster groups there will be in consultation with the advisory board and projects at the start of the programme.
- Clusters enable projects to collaborate, share experience, and develop solutions to common problems. They add value when projects have something to share.
- Clusters can also be an opportunity to explore what projects can do as a group that they can't do individually.
- Overall clustering by theme seemed to work for FAIR.
- Clusters need some central direction to realise their potential. Strike a good balance between giving them freedom and micromanaging.
- Timing can be important. Projects may not feel they have much in common at the start of a programme.
- If there are clusters, all projects must participate.
- Consider new approaches to allow projects to collaborate and engage with issues, e.g. electronic clusters, discussion lists, cross-programme clusters, or SIGs.

2.4.1 FAIR Clusters

For most large programmes, JISC tends to organise projects in clusters, either by topic or regionally. There were three FAIR clusters organised by topic:

E-prints and E-theses cluster

- DAEDALUS
- e-prints UK
- Electronic Theses
- HaIRST
- SHERPA
- TARDIS
- Theses Alive!
- RoMEO

Museums and Images cluster

- Accessing the Virtual Museum
- BioMed Image Archive
- Harvesting the Fitzwilliam
- Hybrid Archives

Institutional Portals

- FAIR Enough
- PORTAL

The RoMEO project focused on IPR, and the initial plan was for RoMEO to participate in both the E-prints and E-theses cluster and the Museums and Images cluster. In the end, RoMEO found greatest synergy with the e-prints and e-theses cluster.

2.4.2 Announcing Clusters

JISC may have planned from the start to structure FAIR by clusters, but this wasn't mentioned in the call for proposals. Projects were therefore taken by surprise when clusters were announced at the start of the programme. Projects hadn't taken clusters into consideration when developing their bids, e.g. staff time, costs, how they might contribute to a cluster, or benefits they might derive. Inevitably there was some grumbling when clusters were announced. It's now JISC policy to announce any plans for clusters in the call for proposals so bidders can build them into their plans.

2.4.3 Decisions about Clusters

JISC tends to think of clusters as part of the structure of a programme. JISC decides if there will be clusters, what clusters there will be, and assigns projects to them. A theme that emerges from this study is that projects would like some say in the matter. Minutes of the FAIR cluster synthesis meeting held in Brighton (July 2004) say:

A general feeling of support was passed to FAB for the use of clusters in this programme. It was recognised that FAIR became clustered by 'topic' and that X4L was clustered by region. Whilst it was agreed that a cluster allowed a broad field of knowledge to influence the work of individual projects, there was concern that the process of clustering was not transparent to the projects. Properly defined reasons for clustering by topic should be relayed to those involved at the outset of a programme. Where projects were displaced by many hundreds of miles it was not always easy to find the resources in travel budgets to support this initiative. However, despite some of the logistical and topical concerns the FAIR programme as a whole recommended that clusters should continue to be used in large programmes.

This was borne out in the interviews. JISC needs to manage the programme and will probably want the final say in what clusters will be most useful and which projects should join each cluster. However, it would be useful to discuss this with the advisory board and projects at the start of the programme so they can buy in, rather than simply assigning projects without explanation.

2.4.4 Role of Clusters

There was also some confusion about the purpose of clusters at the start of the programme. The IE Protocol (2002) indicated that the purpose of clusters was to:

- Assist the JISC in the oversight of the project(s) providing reports and recommendations to the JISC Executive and its sub-committees from time to time.
- Encourage and promote sharing of experiences and appropriate joint working within the cluster.
- Assist the project(s) to align the work being undertaken with the development of the JISC Information Environment and other relevant strategy areas, paying particular attention to interoperability within the overall managed framework and to current strategic issues and directions.
- Represent the best interests of the broader HE/FE community in the UK in advising the projects how best to develop products and services commensurate with the information needs of learning and teaching, research, and scholarship in UK universities and colleges.
- Receive regular reports from the project(s) on progress including the achievement of milestones and on future plans and associated milestones and deliverables.
- Support the project(s) and to help the project and its staff to further its aims, with particular reference to the need to maintain for the project(s) a very high level of visibility in the UK HE/FE communities.
- Offer a forum to discuss issues and devise ways to tackle these.

The programme manager was still clarifying the purpose of clusters using the JISCmail list in January 2003. Perhaps the purpose outlined in the IE Protocol wasn't clear – something short and simple in plain English might have been better. Perhaps it also didn't tell projects what they wanted to know – what the clusters should *do*. In the end, the programme manager left it to each cluster to decide what they would do.

Simply stated, the purpose of FAIR clusters was to be a talking shop, to:

- Share experience on common issues
- Develop solutions for common problems
- Identify issues that should be raised with JISC.

However, the interviews for this study suggest that clusters can have another role – to do something at programme level, to achieve something as a group that projects could not do individually. The Museums and Images cluster took on this role and developed three issues papers to capture their

collective view on key issues. The E-prints and E-theses cluster thought this would be useful and proposed developing a roadmap paper. In the end they ran out of time, but the interest was there. In retrospect, they would have liked more central direction.

For future programmes, it would be helpful for JISC to think through the purpose of clusters and state it simply and clearly. It would also be useful to give clusters some guidance about what they could achieve as a group. For example, the advisory board might want to give them a list of issues to consider and come to a consensus view. Clusters involve the time of projects, so it's important that the time is well spent. If they're given some direction, they won't waste time deciding what to do.

2.4.5 Timing

JISC tends to ask clusters to meet at the earliest opportunity. FAIR clusters met for the first time at the first programme meeting (31 October – 1 November 2002). The interviews and project reports suggest that the timing of clusters merits some thought.

At the start of a programme, projects are concerned with getting their work up and running. They may not be particularly interested in devoting time to clusters, or for that matter feel they have much in common with other projects. However, once they get into the project work and problems and issues start to emerge, there's something to share and they may find they have more in common than they thought. As one project put it, "What at first seemed to be an additional burden on projects turned out to be a useful forum for discussion of common problems and issues, and for receiving and giving advice on various topics".

It could be that there's a 'right' time to ask projects to start collaborating and sharing, e.g. a year into a 3-year programme. JISC might want to announce clusters in the call for proposals, but not ask projects to meet until they are well into the project work.

2.4.6 What Clusters Work

This short study can't hope to tell JISC what makes a cluster work. However, a number of points were made in interviews that are worth recording.

- **Common ground** – Clusters only work where projects have something in common.
- **Expectations** – The purpose of clusters must be clear and what the programme expects from clusters.
- **Benefits** – Clusters take time, so projects must get some benefit out of them.
- **Topic vs. regional** – Clusters by topic seemed to work for FAIR.
- **Size** – Enough projects so there's some critical mass, but not so many that meetings are too large.
- **Participation** – All projects need to belong to a cluster.

Some programmes have clusters by topic (e.g. FAIR) and some programmes have regional clusters (e.g. X4L). For a programme like FAIR where projects are very different, clustering by topic seems to make sense. For a programme like X4L where projects are broadly similar, clustering regionally makes sense. In either case there are tradeoffs. Where clusters are regional, the projects may not feel they have much in common. Where clusters are by topic, projects may have to travel some distance to meetings. So arguably JISC can't win. But overall clustering by topic seemed to work for FAIR.

Some projects commented that the size of clusters is important. If there are too many projects, meetings will be large and it will be difficult to get things done. If there are too few, there may not be enough to discuss. Initially the e-prints and e-theses clusters were to be separate. In the end they felt they had enough in common to merge, but the e-theses sub-cluster continued to work together. There were different suggestions about the optimum size of a cluster, typically 4-5 or 6-7 projects.

Of the three FAIR clusters, the E-prints and E-theses seemed to be the most successful in that they had the most in common and the most to share. The portals cluster was probably the least successful, simply because it was too small (only two projects), and the projects were very different culturally. The Museums and Images cluster had the problem that museum objects and images are quite different. But the projects did find some common ground and developed three papers on issues

related to non-text objects. In the end the factor that most influenced their success was probably how much they had in common.

2.4.7 Other Approaches

The main value of clusters seems to be in projects collaborating, sharing, and developing solutions to common problems and issues. JISC clusters tend to operate by holding meetings, e.g. 2-3 per year. This gets projects together face to face, but the down side is that it takes time to set up meetings, and time and costs to attend. And where clusters are meetings-driven, things can lose momentum between meetings. The interviews suggest that there could be some value in focusing more on the collaboration and sharing than the meetings. For example, it could be useful to explore discussion lists or electronic meetings rather than physical meetings.

Another suggestion was to explore how JISC could develop cross-programme clusters. These might be analogous to the CETIS SIGs in that there would be a master plan for the cluster topics and they would persist over time. When a new programme starts, projects would join the relevant cross-programme cluster. This approach could have several advantages. With clusters on a wide range of issues, there might be fewer square pegs in round holes. It would be possible to develop critical mass in niche areas. New projects would be joining an ongoing cluster, so there would already be issues on the table and people to learn from. Possibly it would be more cost effective to manage one group of cluster centrally than have each programme set them up separately. It merits some thought.

2.5 Programme Events

Summary of Lessons Learned

- Programme meetings were valued by all.
- Initially not all projects were enthused about joint IE programme meetings, but the JISC Joint Programmes meeting in Brighton seems to have been a success.
- For FAIR, one programme meeting per year was sufficient.
- Announce programme meetings well in advance.
- Projects valued the workshops held on evaluation, IPR, sustainability, and QA.

2.5.1 Programme Meetings

FAIR held three programme meetings:

- Nottingham, 31 October – 1 November 2002 – An IE Joint Programme meeting (http://www.jisc.ac.uk/index.cfm?name=project_event_ieprogrammemeetingoctnov2002)
- Warwick, June 2003 – A joint meeting with X4L (http://www.jisc.ac.uk/index.cfm?name=project_event_fairandx4programmemeeting)
- Brighton, July 2004 – the JISC Joint Programmes meeting (http://www.jisc.ac.uk/event_jpm0704.html)

Each of the meetings was different. The first was an IE Joint Programme meeting including the FAIR, X4L, 5/99, Portals, Presentation, and Shared Services programmes. This was a kick-off meeting for FAIR and X4L, so they got an introduction to their programmes and JISC, and had their first cluster meetings. The second programme meeting was joint with X4L. The final programme meeting was held at the JISC Joint Programmes meeting for all development projects.

Interviews and reports indicate that all associated with the programme valued these meetings. For projects they were an opportunity to learn and network. They found out about the programme and what JISC expected of them. They learned from other projects and from the expert speakers. They made contacts and networked. Several projects mentioned that getting out is important. Back in the office it's easy to get depressed about problems you've encountered. At a programme meeting, you may discover that other projects have encountered the same problems, and you may get ideas for solutions.

There were mixed views on joint programme meetings. Initially projects didn't like the idea of joint programme meetings, as they didn't feel they had much in common with the other IE programmes. There was more praise for the Joint Programmes meeting in Brighton. This may have been partly

because projects were further on in their work and found more common ground. There were presentations on JISC strategy, and some commented that this gave context to their project work and a sense of how the development programmes all fit together. Overall they seemed more receptive to programme meetings that all projects attended rather than just those that JISC assumed would have something in common.

Most JISC programmes tend to have two programme meetings per year. In the case of FAIR, one per year seemed to be sufficient. However, the programme also held workshops (see below) and cluster meetings, so projects had other opportunities to learn and share. No one commented that they felt there should have been more programme meetings.

There were a couple of comments on the logistics for joint programme meetings. Firstly, they have to be announced well in advance so projects (and advisory boards) can get them into their diaries. Also, it's important to plan sufficient sessions at the meeting that are relevant to each individual programme. Finally, pick-and-mix is fine, but it might be useful to give projects some guidance about which sessions to attend.

2.5.2 Workshops

At the IE programme meeting in November 2002, a questionnaire was circulated to find out topics where projects would like further guidance. As a result a number of events were planned for projects in IE programmes, including FAIR:

- Evaluation workshop (EFX), Manchester, 26 February 2003
- IPR workshop, London, 29 May 2003
(http://www.jisc.ac.uk/index.cfm?name=project_event_ipr_may_03)
- Sustainability workshop, London, 28-29 October 2003
- Usability and QA workshop, London, 24 November 2003
- IPR workshop, Strathclyde, 26 January 2004

The audience for each workshop varied. EFX evaluation support was for the FAIR and X4L programmes, so only projects in these programmes were invited to the evaluation workshop. The first IPR and sustainability workshops were for FAIR, X4L, and 5/99 projects. The other two workshops seemed to be open to all JISC projects.

Overall projects found them useful. As one project put it, "All the time and effort putting them together was worthwhile. These, together with the programme meetings, meant there were many opportunities to learn. You get more from meeting an expert than reading a book".

2.6 Progress Monitoring

Summary of Lessons Learned

- Projects must be disciplined and submit their reports on time. Similarly JISC needs to be disciplined and chase reports effectively.
- Projects need to keep their web sites up to date and make their outputs available to the community, e.g. via their web sites or institutional repositories.
- Programme managers should probably be cautious about introducing new reporting templates mid-way through a programme.

2.6.1 Submitting Reports

Getting FAIR projects to submit their reports on time has been a problem, particularly since Chris Awre left in June 2004. Submitting reports promptly is a requirement of JISC funding. The programme manager obviously needs progress reports so s/he knows the status of all projects and any problems they are having. Advisory boards need to know what the programme is achieving in order to steer it. Final reports are needed for dissemination activities (e.g. the FAIR Synthesis), and so that the programme can be closed down in a well-managed way. FAB in particular felt that projects need to be more disciplined and submit reports on time.

Many FAIR projects have had staffing problems. This can cause delays in the project work, and it can be a particular problem when the person who writes the reports is the one who leaves. However, staff leaving is a risk that needs to be managed, and JISC is still entitled to get reports on time. If necessary the project should ask for an extension and not simply fail to deliver reports. On the other hand, JISC admits that it should have been more robust in following up on reports after Chris Awre left. This regular follow up with projects was one thing that 'fell through the cracks' in the timeframe before a new programme manager was appointed in 2005.

2.6.2 Making Outputs Available

Similarly it's a requirement of JISC funding that projects make their outputs available to the community. The programme manager encouraged projects to keep their web sites up to date, provide links to their reports and other outputs, and where possible deposit reports in their institutional repositories. Some projects have done better than others in this area. It did present a problem for the FAIR Synthesis. A project may list the outputs it's created in a progress report. However, unless they're available via the web, the community can't get access. And the people commissioned to write up the Synthesis need access to the outputs in order to describe them accurately.

2.6.3 Reporting Templates

JISC supplies guidelines for projects and templates for plans and reports. When the FAIR programme started in 2002, projects were asked to use the IE Protocol and templates posted on the JISC web site (http://www.jisc.ac.uk/index.cfm?name=projects_projsupp). In 2004, JISC developed the new Programme Management Framework and posted new guidelines and templates (http://www.jisc.ac.uk/prof_info.html). The idea was that the new guidelines and templates would apply to all new JISC programmes starting from 2004. They would not be applied retrospectively to ongoing programmes, but programme managers could use their own discretion.

FAIR projects used the IE templates for the project plan and first two biannual reports. From July 2004, they were asked to use the new templates. The new biannual report template had different headings, in a different order, and asked different questions. Some projects found it difficult to adapt to the new style of reporting. Others adapted more easily and felt that the new template made them think more about their work. Perhaps there will always be teething problems doing things in a new way and future programmes will need to think through the tradeoffs. Introducing the new templates for final and completion reports was easier in that there were no templates previously.

2.7 Perceptions of FAIR

Summary of Lessons Learned

Those interviewed for this study were asked about their perceptions of FAIR and its success as a programme. There were only a small number of interviews, so it's difficult to say there are definitive lessons learned. However, some of the observations made seem valuable.

- FAIR seems to be on track to be a successful programme, but it will take time to assess the legacy.
- FAIR may be perceived by some as 'the e-prints programme'. FAIR is about sharing resources, so it's important to keep this in mind in publicity.
- Be creative in thinking about how to develop a profile for JISC programmes.

2.7.1 Success of FAIR

Overall interviewees felt that FAIR is on track to be a successful programme. It's developed a wide range of pilots, tackled difficult technical and cultural issues, and shown how institutions can make their digital assets more widely available. It's raised the profile of institutional repositories both nationally and internationally. It hasn't answered all questions, and in a sense one measure of success is that it's identified issues significant enough to be carried forward to new initiatives like the Digital Repositories programme, EThOS, and the OAI-rights Technical Working Group. It's a stepping stone towards success in these areas.

Several made the point that it's too soon to judge success. FAIR isn't finished, so there's more work to be completed. Even when the programme does end, it may take some time to evaluate success. This is something for JISC to think through – how to define success, how to measure it, and the right time. FAIR included a wide range of projects. How you measure the success of an e-prints repository will be different from how you measure the success of a new method of disclosing museum objects. In some cases the sustainability of project outputs will be important, but in other cases how their models become embedded in practice.

2.7.2 Profile of FAIR

Overall interviewees felt that FAIR has achieved a good profile. Inevitably the landscape influences how a programme is perceived, and to some extent this is a chicken-and-egg scenario. Open access, institutional repositories, and sharing digital assets are all topical issues, and FAIR probably benefited from this. However, they weren't topical issues when FAIR started – FAIR made some of the first steps, and FAIR helped to put them on the national and international agenda. The House of Commons Science and Technology Committee enquiry on scientific publications called attention to open access, and the testimony given by SHERPA was beneficial to FAIR.

Perhaps because open access and e-prints are topical issues, some of the e-prints projects have developed a higher profile than other FAIR projects. One interviewee had the view that FAIR is perceived by some as 'the e-prints programme'. FAIR is about sharing, and all projects have contributed. Another commented that projects like RoMEO that ended early fell into the shadow as the programme progressed. RoMEO did excellent work and it's been taken forward by the OAI-rights Technical Working Group. JISC can't 'control' the profile that projects achieve, but they can ensure balance when disseminating outcomes.

2.7.3 Developing a Profile

It's important for a programme to develop a profile, but how to achieve this merits thought. Steve Hitchcock made an interesting suggestion during the interviews. There's information about JISC programmes on the JISC web site and more information on project web sites. But why would you visit these sites and what would you learn? If you visit a project web site, you have to dig to find out what they're doing. There may be biannual reports, but these focus on accountability, not what the community wants to know. Often projects don't have (or make) time to keep the site up to date. You don't get a sense of what they're doing. The programme web pages are fairly static, so you don't get a sense of what progress has been made and what it's achieving.

JISC might want to consider new approaches like blogging. Projects could report in an informal way on smaller issues, e.g. what's new, what they're doing, what they learned at a conference, etc. This could be a way to get projects to share what they're doing in a way that doesn't take much time. There could be blogs at different levels, e.g. project blogs could feed into a programme blog, the programme manager could blog, or there could be a JISC forum blog. The idea would be to focus on topical issues that engage the community, and this could raise the profile of JISC programmes. There would always be new information, encouraging users to stay in touch with the programme. A very interesting idea!

3. Lessons Learned at Project Level

3.1 Project Planning

A point made by several projects is that **flexibility is important**. The whole area of repositories, open access, and sharing information is fast moving. It's obviously important to have a project plan, but you also need to be flexible and able to change the plan. For example, the landscape may change during the project, new issues may arise that weren't budgeted for, or the overall approach may not work out exactly as envisaged. The project's aims and objectives may not change, but how they achieve them may have to. Project staff need to be flexible and adapt the plan.

A few projects made the point that **it's important to think through dependencies at the start of the project**. For example, if you need X in order to start Y, what happens if X doesn't materialise on schedule or indeed at all? Thinking about dependencies is an important part of the risk analysis, and **for really important dependencies you need a 'Plan B'**. This is particularly important where you're depending on an external partner, e.g. they need to develop software before you can use it, or they need to create metadata before you can harvest it. That means working closely with partners so they understand what you need, when, and why it's important. Another tip is to **start any work involving dependencies early in the project**. If you leave it too late and there are problems, there may not be time to implement 'Plan B'.

Another point mentioned by some projects was along the lines of **don't be over-ambitious – do a few things well**. For example, a project developing a repository may plan to include many types of content and target all academic departments. In the end, it may be helpful to focus, e.g. on particular types of content or particular departments. In an ideal world you might like to do everything, but in a development project it may be helpful to focus and get critical mass in some areas.

The three projects working on e-theses worked closely to ensure a coordinated approach and minimise duplication of effort. However, **planned duplication of work can be useful where independent approaches could result in different solutions**. For example, the e-theses projects independently evaluated potential software. Their findings were broadly similar, adding weight to the final recommendation.

Flexibility is important, and projects will have to address new issues as they arise. One project noted that they **put a time limit on some aspects of the work** to make sure they stayed on schedule. This could be a useful tip for other projects.

3.2 Project Staffing

A number of projects had problems with staff leaving. When staff leave, they take their skills with them. It takes time to recruit new staff, and if they leave near the end of the project, this may not be an option. Other staff within the project may end up taking on the work. It's a particular problem when a key member of staff leaves, e.g. the project manager or the key technical person. In most cases staff leaving delayed the project work, and in some cases projects needed extensions to finish.

Perhaps one lesson learned is to **think through the issue of staff leaving in the risk analysis** and plan what precisely you would do in the event. Plan for staff turnover and ideally make sure that the project isn't dependent on any one person. One project mentioned a compromise they reached when a key staff member left – they were required to complete important tasks before they left, and to do a specified number of contract days for the project after leaving.

Another problem is getting qualified staff in the first place. Staff with specialist skills may take time to find. When new staff join an existing team, they will need time to learn the ropes and new skills. One project said a lesson learned was to think carefully about staffing requirements and if necessary, **build in time for training of new staff**. This is likely to require time from existing staff with the necessary skills and expertise, and projects should consider buying out some of their time to undertake training. In retrospect they might have lengthened the timescale of the project to allow for this.

3.3 Project Partners

Some projects noted that it's important to **define the roles and responsibilities of project partners at the start of the project**. Where partners receive project funding, this would normally be done via a consortium agreement. But whether or not partners are funded, roles and responsibilities still need to get sorted out. One project with unfunded partners (and therefore no consortium agreement) said that a lesson learned was that aims and objectives and the responsibilities of each partner should be made clear at the start of the project and formalised in some way.

Two projects noted that **the participation of unfunded project partners depends on 'goodwill'**. This may work out if the project has a good fit with their own institutional objectives and they will derive benefits. If not, it can be difficult to maintain their commitment. Participation on a 'best efforts' basis can mean that the project suffers if the partner's other priorities take precedence. Overall this didn't present great problems, but it could be useful for future projects to keep this in mind when planning their budgets.

3.4 Institutional Buy-in

Many projects mentioned the importance of institutional buy-in. This is important for all JISC projects, but especially important for projects related to developing repositories and sharing resources. Various points about getting buy-in were made:

- The project needs a **good fit with institutional objectives**, those of the lead institution and all partners.
- It also needs a **good fit with the institution's information strategy**.
- It's important to **involve stakeholders**.
- **Make a good business case**.
- **Demonstrate the value**.

In the end, **getting buy-in may change the project**. When FAIR started, many projects thought that the main benefits of institutional repositories would be increased accessibility and visibility of research output to the community. As FAIR has progressed, some projects have found that the internal benefits of having a multidisciplinary repository of research output are as important as (or more important than) external benefits like visibility to the community. Projects need to make a good business case for their institutions to buy in. As some projects have found, if the business case turns out to be reducing time and costs for the Research Assessment Exercise, this can change the project somewhat. But the important point is to get buy-in.

When a project becomes an official live service, evaluation and quality assurance will become even more important. A project may find that the institution is 'looking over its shoulder' and paying much more attention to the quality of metadata, searching and other features, and the user interface. A service is very visible, and there will probably be need for a transition from 'project' to 'service' quality.

3.5 Collaboration

One point that came across strongly is that **projects value collaboration**, and JISC programmes encourage it. One way that JISC encourages collaboration is by asking for bids from consortia, i.e. projects with multiple partners. Several projects commented that they learned a lot from their partners and developed better solutions that if they had been working as a single institution. Clusters also encourage collaboration. Projects may or may not have liked the particular FAIR clusters, but they valued the cluster concept. This seems to be particularly important for small projects, where collaboration isn't built in by virtue of a consortium. It's important to test out your ideas, and clusters provide a forum.

3.6 Cultural Change

There are many dimensions to cultural change. At a personal level it involves influencing people's attitudes, how they behave, and their working practices. At an institutional level, it involves influencing policies, practice, and decisions. All FAIR projects had to address cultural change in one way or another.

The point made most frequently is that **cultural change takes time**. Most projects included advocacy as part of their work. But as some noted, it's easy to explain issues like open access or make a rational case for using repositories. The cultural change needed to make repositories a reality is more difficult to achieve. It takes time to change practice and get buy-in. As one project put it, "cultural change for FAIR projects can be measured in years, not months". But as the landscape changes and sharing resources becomes embedded, the time needed for cultural change for future programmes may decrease.

Most of the projects with an advocacy component noted that **advocacy pays off**, but it takes time. Within an institution there are different audiences, e.g. librarians, academics, management, and students. It's important to understand how each audience is different and helpful to **target advocacy to each audience**.

Another perhaps obvious point is that you have to **engage with users**. You have to understand how they work, what their needs are, and design a system (repository, portal, etc) so it meets those needs and integrates with how they work. An important message that came across is to **make it easy**. For example, the more barriers there are, the less likely academics will be to deposit their e-prints. DAEDALUS and TARDIS are both using mediated archiving, where academics are assisted by staff to archive their e-prints. This won't necessarily be sustainable in the long term, but 'making it easy' can get academics accustomed to something new.

The cultural change needed for e-theses is probably greater than for e-prints. In both cases institutional buy-in is important and you need to demonstrate the value. But **cultural change for e-theses involves changes in institutional practice and regulations** for students. One project made a useful tip for cultural change – catch students early so they understand the issues and can address them as they progress.

3.7 Intellectual Property

IPR has been a difficult issue for many projects. Some of the lessons learned are that **it's important to raise awareness of IPR within institutions**, and **institutions need policies on copyright and IPR**.

RoMEO made an important contribution to FAIR in documenting publisher policies on self-archiving, and this is now a searchable database hosted by SHERPA. However, one project noted that publisher policies are complex and change. The RoMEO/SHERPA database may indicate that a publisher's policies are 'green', but you still need to **check the agreement the author signed with the publisher before posting an e-print**. Policies may vary per journal, and publishers can change their policies.

3.8 Repository Content

Projects that created institutional repositories generally found that **it takes time to populate a repository**, and generally much longer than they had thought. Advocacy was an important part of these projects, and it paid off, but perhaps later than expected. One mentioned that it had taken two years to start getting a substantial amount of content.

Some projects made estimates at the start about the number of e-prints or e-theses they hoped to deposit. Typically these were back of the envelope estimates, as there wasn't any scientific basis for predicting accurately. Inevitably there was concern from time to time from the advisory board about meeting targets. A lesson learned noted at both project and advisory board level is **don't worry too much about the numbers**. Focus on getting the repository right, institutional support, and advocacy. In the end the content will come, but it may take time.

3.9 Technical Issues

An encouraging point made by several projects was along the lines of **we built a repository and it works**. It's not rocket science. There is open source software to use and standards are in place. We didn't need commercial products or expertise. If we did it, you can do it. When the FAIR programme started, there wasn't much collective experience for building repositories. FAIR projects built

repositories and developed a wealth of experience that should make it easier for those starting to build a repository now.

Some projects commented that **selecting the right software is important**. There needs to be a good match between what users (and departments and the institution) want to do and what the repository can provide. Choose the software so it does what they want.

When the FAIR Synthesis was undertaken, the RoMEO project made an interesting observation about technical standards. If standards are too specific, no one will use them. If they're too general, they may not be useful. OAI-PMH and Dublin Core were important standards for FAIR, but Dublin Core in particular has limitations. RoMEO made the same point about Creative Commons. It didn't cover all the rights that authors wanted, but it was a step along the way. Arguably **an imperfect standard is better than no standard at all, and improving an existing standard is much easier than writing a standard from scratch**.

Most projects found that **the quality and consistency of metadata is important**. It's important within a repository and even more important to enable harvesting and searching across repositories. Dublin Core is simple and flexible, but it wasn't designed for repositories. Guidelines are needed so it can be used in a consistent way. ePrints UK developed guidelines for using it for e-prints, and the e-theses projects developed guidelines for e-theses. As Dublin Core was designed for text documents, it has even more limitations when used to describe images and cultural objects, particularly where the metadata will be used for searching. The museums and images cluster explored these limitations in an issues paper and recommended that consideration be given to collection level descriptions, leading users to the collection where the more detailed item records can be accessed.