

JISC



ERIS – Enhancing Repository Infrastructure in Scotland

WP2: Digital curation and preservation policies in  
Scottish HEIs

Survey results

**Version 1.0**

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## Executive Summary

Work package 2 of the ERIS project aims to enhance curation and preservation processes within institutions in order to build confidence amongst researchers in the longevity of repositories.

As a first step, a survey was designed to collect information on the status of digital curation and preservation policies in Scottish HEIs. A total of 40 questions (see Appendix) collected information on preservation policies at the institutional and repository levels, status and services of the repository and the planned future developments. The survey was distributed to senior repository, library and IT staff at 20 Scottish higher education institutions.

The nine completed responses to the survey represent all active institutional digital repositories at universities in Scotland, while other HEIs are still in the process of planning and designing their repositories. The repositories included in the survey can be described as typical institutional repositories that collect research output from across the entire university and provide open access to publications and theses.

The survey showed that repositories are still relatively young, and that preservation is not yet the highest priority for them. The situation with preservation policies also reflects the early stage of repository development, where the need to apply explicit curation policies is only beginning to be acknowledged.

The survey did not identify any institution level preservation policies, but given the heterogeneity of digital information across any higher education institution, it is not surprising that institution-wide preservation policies have yet to be formulated. Repository level policies were found to be in place at four institutions that also reported to be offering preservation services.

The survey reported a very low level of awareness of both existing preservation policies and digital preservation issues in general, especially amongst administrative and research staff. Enforcing preservation policies and making them effective are challenges that all HEIs face; at the same time, this formative period could be considered an opportunity for the ERIS project to develop supporting tools and guidance, especially since the prospect of additional guidance and the possibility of centralised services for preservation were welcomed by the respondents.

Based on the analysis of survey results, the report makes ten recommendations for the ERIS project. These include three significant strategic challenges for HEI managers:

- 1) Undertake a risk governance analysis of research outputs to establish the requirements for preservation policies at an institutional level.
- 2) In the context of policy recommendations for the management of research output, introduce preservation policies that cover publications, data and other digital materials.
- 3) Identify and promulgate at an institutional level the roles and responsibilities for preserving research output.

Recommendations that apply to repository managers and members of the ERIS consortium are given in Section 6.1.

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## 1. Introduction

### 1.1 Background

The ERIS (Enhancing Repository Infrastructure in Scotland) project,<sup>1</sup> funded by the JISC, seeks to develop:

- user-focused mechanisms that will motivate researchers to deposit their work in repositories;
- options for integrating repositories within the institutional research infrastructure;
- a cross-repository resource discovery service for Scottish higher education institutions (HEIs).

Work package 2 of the ERIS project aims to enhance curation and preservation processes within institutions in order to build confidence amongst researchers in the longevity of repositories. As a first step, a survey questionnaire was designed to gather information on the status of repositories and their preservation policies at Scottish HEIs.

This report is an analysis and summary of the survey findings.

### 1.2 Survey aims

A survey was designed to collect information on the status of digital curation and preservation policies in Scottish HEIs. A principal aim of work package 2 is to map existing tools and strategies into a model policy framework for the Scottish repository community, and the survey results feed directly into this process.

The survey was distributed to senior repository, library and IT staff at 20 Scottish higher education institutions.

### 1.3 Target audience of this report

This report is intended primarily for the ERIS community of Scottish HEIs and repository managers. Additionally, it will be made available through JISC to the wider UK HE community.

### 1.4 Acknowledgements and feedback

The ERIS project team would like to express their thanks to all participants who responded to (and tested) the survey.

Comments and feedback on this report should be forwarded to James Toon, ERIS Project Manager, at [James.Toon@ed.ac.uk](mailto:James.Toon@ed.ac.uk).

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<sup>1</sup> <http://eriscotland.wordpress.com/>

## 2. Survey design

The survey was designed in collaboration with the HEI repository managers:

- Survey scoping at a joint ERIS and DCC planning meeting on 1 July 2009
- SCURL (Scottish Confederation of University and Research Libraries) members' meeting in Edinburgh on 24 September 2009
- Repository managers (mainly from England, to avoid premature dissemination amongst the target population) were invited to provide feedback on the draft version of the survey. Two universities (University of Bristol, University of Oxford) tested the functionality of the on-line survey, two further (LSE, University of Strathclyde) provided detailed comments on the content of the survey prior to its launch.

The design of the questionnaire was also informed by similar surveys conducted earlier by the PARSE.Insight project<sup>2</sup> and the UK Research Data Service (UKRDS) project.<sup>3</sup>

The survey uses both closed and open questions, and offers a possibility to follow up through direct contact. A total of 40 questions (see Appendix) were divided into four sections:

- respondent's role and contact details
- preservation policies at the institutional and repository levels
- status and services of the repository
- planned future developments.

The Bristol Online Survey tool was used to collect responses to the survey questionnaire.<sup>4</sup>

### 2.1 Survey responses

The survey<sup>5</sup> was launched on November 3<sup>rd</sup> 2009 with the 20 Scottish higher education institutions as its targeted respondents:

- University of Aberdeen
- University of Abertay
- University of Dundee
- University of Edinburgh
- Edinburgh College of Art
- Edinburgh Napier University
- University of Glasgow
- Glasgow Caledonian University
- Glasgow School of Art
- Heriot Watt University
- Open University in Scotland.
- Queen Margaret University
- Robert Gordon University
- Royal Scottish Academy of Music & Drama
- Scottish Agricultural College
- UHI Millennium Institute

<sup>2</sup> <http://www.parse-insight.eu/>

<sup>3</sup> <http://www.ukrds.ac.uk/>

<sup>4</sup> <http://www.survey.bris.ac.uk/>

<sup>5</sup> [https://www.survey.ed.ac.uk/eris\\_rm](https://www.survey.ed.ac.uk/eris_rm)

- University of St Andrews
- University of Stirling
- University of Strathclyde
- University of the West of Scotland

A wide range of participants, including librarians, senior IT staff, repository managers and archivists, was invited to take the survey via the following mailing lists:

- Scottish Repository Managers list ([INSTREPMANSCOT@JISCMAIL.AC.UK](mailto:INSTREPMANSCOT@JISCMAIL.AC.UK))
- SCURL list ([SCURL@JISCMAIL.AC.UK](mailto:SCURL@JISCMAIL.AC.UK))
- HEIDS list ([HEIDS@JISCMAIL.AC.UK](mailto:HEIDS@JISCMAIL.AC.UK)).

A blog post containing an invitation to take part was also posted on the ERIS website.<sup>6</sup>

Following an initially low response rate, targeted requests to participate in the survey were sent to individuals at the end of November. When the survey closed on December 18<sup>th</sup>, nine responses had been received from the following institutions:

- University of Aberdeen
- University of Abertay
- University of Edinburgh (questionnaire completed off-line)
- University of Glasgow
- Glasgow School of Art
- Queen Margaret University
- Robert Gordon University
- University of Stirling
- University of Strathclyde.

The response rate may in part be explained by the early and developmental stage at which the preservation repositories in Scottish HEIs find themselves. The IRIScotland service lists eight universities with operational repositories in Scotland.<sup>7</sup> Evidence that many universities are only at the stage of planning to set up a repository was provided in an e-mail response from the University of Dundee, which declined to participate in the survey, advising that their repository is "...not at the appropriate stage of development with many of the items to be able to usefully or promptly provide information".

For the survey, a digital repository was defined as:

"an online locus for collecting, preserving, and disseminating, in digital form, the intellectual output of an institution. It typically provides a trusted collection of both born digital and digitised materials ranging from research publications (preprints and postprints) to theses and dissertations, research data, learning objects and other digital assets that record institutional business. It may function as an archive; alternatively, it may apply curatorial methods designed to add value to its content (e.g. through the assignment of sophisticated metadata, software migration and access management techniques)."<sup>8</sup>

Partly as a result of this definition being made explicit in the beginning of the questionnaire, the survey covers mostly institutional repositories that collect research output from the whole institution. Further

<sup>6</sup> <http://eriscotland.wordpress.com/2009/11/03/project-launches-survey-of-curation-and-preservation-policies/>

<sup>7</sup> <http://cdlr.strath.ac.uk/iriscotland/>

<sup>8</sup> Cf. the DCC definition of a digital repository: <http://www.dcc.ac.uk/resource/briefing-papers/digitalrepositories/>

repositories exist at a departmental level, often with a focus on research data, but these were not covered by answers to the questionnaire.

It was decided to proceed with an analysis of the results given that 50% of the target cohort of institutions had responded (nine filled in surveys and one had provided an explanation for abstaining). The fact that the majority of HEIs were not in a position to give an informed response to the survey because, it was assumed, they are still at a rudimentary stage of repository implementation does have an impact on the results from our analysis, since the conclusions reached in this report are based on the experience of the existing and developing repositories and their institutions, whereas the voice of those at the planning stage is not represented.

## 2.2 Survey respondents

Of the nine respondents to the survey, six individuals described their role as repository manager, one as research support staff, one as the University Librarian, and one as having responsibility for library and IT services combined with responsibility for the institutional information strategy. The job titles and areas of responsibility identified reveal the diversity and varying seniority of respondents:

Job title	Explanation of the role and its relevance
Cataloguing Manager	Responsible for the University's Institutional Repository
Director, IS and LRC	-
eLearning Developer	-
Head of Learning Resources	-
Information Specialist	Repository management is part of a wide remit, including responsibility for our Library Management System, cataloguing & classification, library performance statistics, monitoring FOI requests, Information Literacy teaching, enquiries
Repository Manager	-
Senior Information Adviser (Research)	Research support, library R&D, library service support for academic research staff
Senior Researcher/Programmer	-
Repository Manager	Repository manager/staff

Respondents were also asked to describe their own responsibilities with respect to digital preservation. Their answers demonstrate that many repository managers are not yet recognised as responsible for preservation services, but that many are acting in an advisory capacity.

Responsibility for curation and preservation
Responsible for migrating the repository to a new platform, establishing its collections and metadata and ensuring that it is populated with research outputs via the new research information system
Decisions on university strategy
Managing the Institutional Repository which has some responsibilities in this area
No formal role at present
Investigating policy requirements for the institutional repository
Providing advice to the University Librarian who is a member of the Digital Preservation Board chaired by the Vice Principal (Research)
General awareness raising - no specific responsibility in this area
Offer advice as necessary
Mediating discussions, trying to collect data from researchers and (temporarily) storing it on my machine

Consequently, despite the limited number of responses to this survey, the respondents embodied a representative spread of perspectives between information practitioners and those responsible for strategy and planning.

### 3. Analysis of results - Repositories

The following analysis of survey responses mirrors the design of the survey questionnaire (see Appendix, below). The information collected is presented here in reverse order, with the status of repository development given in section 3 to provide the background to the policies (section 4) that govern the work of the repositories.

#### 3.1 Status of repositories

The survey asked questions about digital preservation repositories at the respondents' institution and probed their stage of development. Five operational repositories are represented, plus one that is under development and expected to become operational soon, and three further repositories that are at the planning and organisational stage.

The survey responses refer specifically to the following named working repositories:

Name	University	Content type	URL
AURA	Aberdeen	research outputs	<a href="http://auraserv.abdn.ac.uk:9080/aura/">http://auraserv.abdn.ac.uk:9080/aura/</a>
Abertay Research Collections	Abertay	research outputs	<a href="https://repository.abertay.ac.uk/">https://repository.abertay.ac.uk/</a>
ERA	Edinburgh	open access research repository	<a href="http://www.era.lib.ed.ac.uk/">http://www.era.lib.ed.ac.uk/</a>
Enlighten	Glasgow	research outputs	<a href="http://eprints.gla.ac.uk">http://eprints.gla.ac.uk</a>
eResearch	QMU	publications	<a href="http://eresearch.qmu.ac.uk/">http://eresearch.qmu.ac.uk/</a>
Etheses	QMU	MSc and PhD theses	<a href="http://etheses.qmu.ac.uk/">http://etheses.qmu.ac.uk/</a>
eData	QMU	research data	<a href="http://edata.qmu.ac.uk/">http://edata.qmu.ac.uk/</a>
OpenAIR	RGU	full text publications, representations of artwork, etc.	<a href="https://openair.rgu.ac.uk/">https://openair.rgu.ac.uk/</a>
STORRE	Stirling	research outputs	<a href="http://storre.stir.ac.uk/">http://storre.stir.ac.uk/</a>
Strathprints	Strathclyde	research outputs	<a href="http://strathprints.strath.ac.uk/">http://strathprints.strath.ac.uk/</a>

In addition, the survey identified six other installed repositories; but they were not included directly in answers to the questionnaire:

Name	University	Content type	URL
DigiTool	Aberdeen	digitised historic material, theses and exam papers	<a href="http://digitool.abdn.ac.uk/">http://digitool.abdn.ac.uk/</a>
DataShare	Edinburgh	open access data repository	<a href="http://datashare.edina.ac.uk/dspace/">http://datashare.edina.ac.uk/dspace/</a>
Publications Repository	Edinburgh	closed access publications database	<a href="http://www.publications.lib.ed.ac.uk/">http://www.publications.lib.ed.ac.uk/</a>
Glasgow Theses Service	Glasgow	theses	<a href="http://theses.gla.ac.uk/">http://theses.gla.ac.uk/</a>
CREDO Online	RGU	research and knowledge transfer info	<a href="http://www.rgu.ac.uk/credo/aboutus/">http://www.rgu.ac.uk/credo/aboutus/</a>
Digital Resource Bank	Stirling	learning resources	<a href="http://sahel.stir.ac.uk/">http://sahel.stir.ac.uk/</a>

All of the repositories covered by the survey are run by the institutional library services, sometimes in partnership with the IT services, and in one case by the broader Information Services group. The emphasis of responses to the survey was on repositories that deal with published research output rather than data; others were also identified but were not covered in the responses.

Most repositories have explicit mandates to collect the institutional research output. The 'research output' can, however, be defined as theses only, or as peer-reviewed research results:

"[The mandate is] for theses only, while the deposit of other material is voluntary."

"Institutional mandate for all peer-reviewed research output of the university."

"It is the University's policy to establish a comprehensive database of research outputs, recording bibliographic information and, where permissible under publishers' copyright



policies, providing access to the full text of published research produced by University staff and research students. The University therefore requires that all staff and research students submit the following to the [repository]: Full text electronic copies and bibliographic details of peer-reviewed research published from 1 January 2010. Bibliographic details (including abstracts, where available) of peer-reviewed research published between 1 January 2001 and 31 December 2009. and that: The electronic version of theses accepted for research degrees after 10th July 2009 will be deposited in the repository on behalf of the students. Furthermore, the University strongly encourages submission of the following to the repository: Full text electronic copies of peer-reviewed research published prior to 2010. Bibliographic details of peer-reviewed research published prior to 2001 including abstracts where they are available. Theses accepted for the award of a research degree prior to 10th July 2009 where available in electronic format. Descriptive records of creative research outputs, such as films, audio recordings, exhibitions or performances, including supporting files where appropriate. Full text electronic copies and bibliographic records of non-peer-reviewed research publications.”

“From January 2010, following the implementation of the University’s new Research Publications Policy, researchers will be required to deposit all their research outputs in the [repository].”

“Staff are asked to deposit a copy of peer-reviewed, published journal articles and conference proceedings into [repository], where copyright allows, as soon as possible after publication. Other research outputs such as book chapters and books can also be deposited if desired by authors. Where a publisher has placed an embargo on making an item openly available, the item will not be made publicly visible until the embargo period has expired.”

“All successfully defended theses since Sept 2006 must be submitted to the [repository] before the paper copy can be handed in. All journal articles accepted for publication from January 2007 are to be self-archived in the repository.”

It is worth noting that an obligation to preserve the deposited materials is not explicit in these institutionally approved mandates.

## 3.2 Repository size

Statistical figures are available for eight functioning repositories covered by the survey (note that the data for the three QMU repositories have been collated); one institutional repository (at Glasgow School of Art) is only at the planning stage and its technical infrastructure is not yet in place.

Five of the eight are based on the DSpace software platform<sup>9</sup> and three are running ePrints version 3.1.<sup>10</sup> Significantly, Fedora<sup>11</sup> – which is often used for managing data – was not mentioned.

<sup>9</sup> <http://www.dspace.org/>

<sup>10</sup> <http://www.eprints.org/software/>

<sup>11</sup> <http://www.fedora-commons.org/>

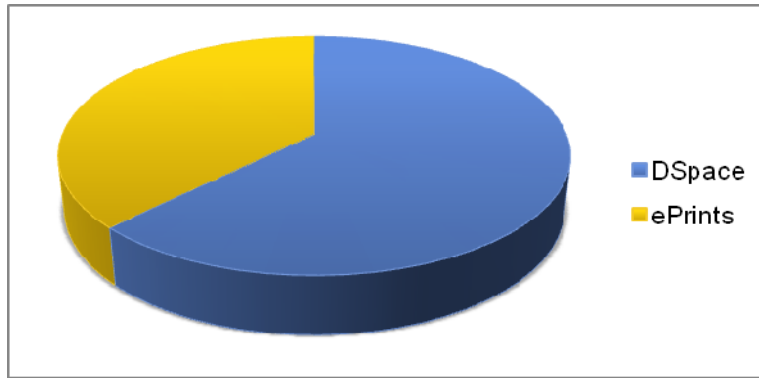


Figure 1. Repository software used.

Not all respondents could estimate the size of their repository in terms of storage volume and its expected growth over the next three years. The figures provided range from circa 1 Gb to 40 Gb for 2009 and the expected growth rate over the next three years ranges from 150% to 500%.

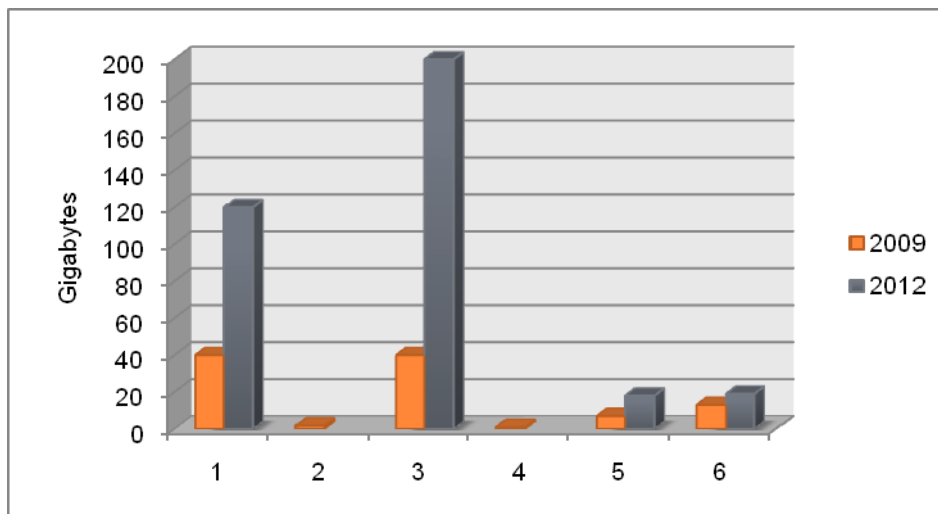


Figure 2. Current repository storage volume and its expected growth by 2012.

It was easier to estimate repository size in terms of items stored, although a distinction can be made between full-text items and referenced items in the repository. The questionnaire did not ask for separate estimates, and the diagram below represents figures as given by respondents, with the number of full-text items used where the distinction was possible. The repository sizes vary from circa 250 items to about 8,000 at present and the expected growth rate over the next three years ranges from 150% to 700%.

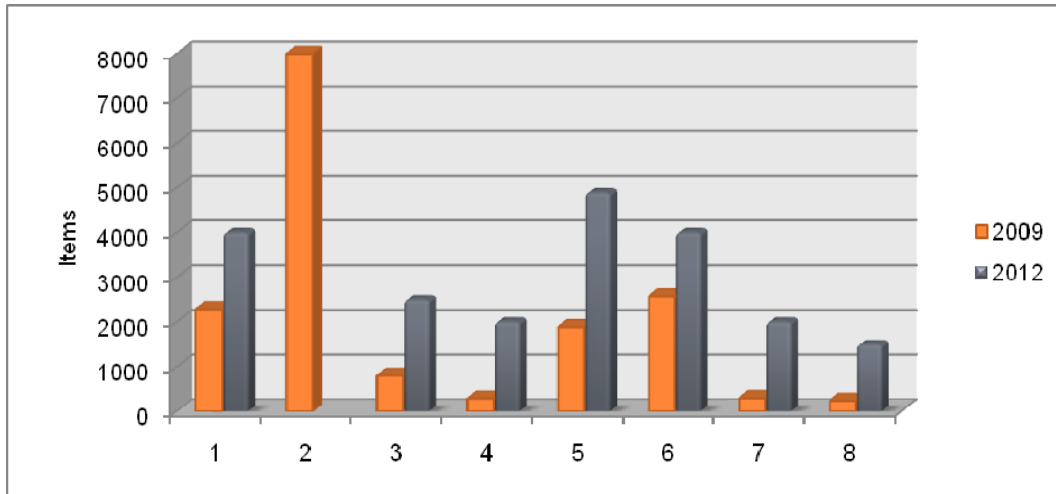


Figure 3. Current number of items in repositories and the expected growth by 2012.

In terms of content types present in repositories the textual material is prevalent; some images, data and audiovisual materials are also stored.

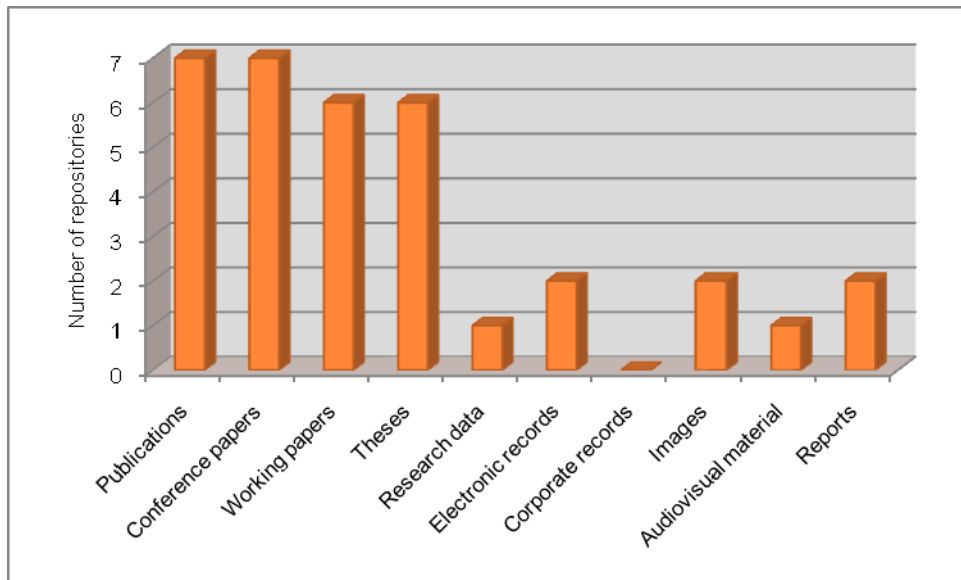


Figure 4. Content types present in repositories.

The surveyed repositories can be characterised as typical institutional repositories with mostly textual content in their collections. Half of the eight repositories already have sizeable collections, four are in the early stages of development, but all expect a significant growth over the next three years.

### 3.3 Repository services

The surveyed repositories each offer a variety of services, with a primary focus on access and self-archiving. Preservation and curation services are offered by less than a half of the repositories (see Figure 5 below).

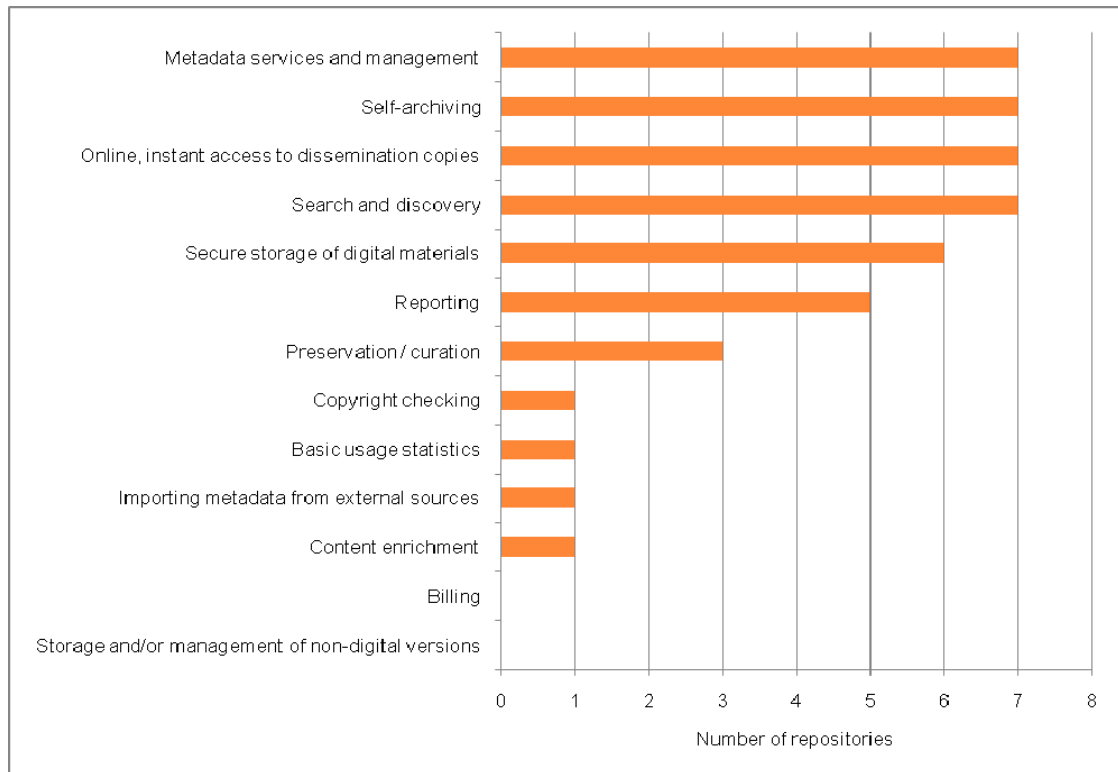


Figure 5. Services offered by repositories.

It was claimed that in three years' time, repositories expect to have developed some new and additional services. Preservation is among these, alongside reporting and integration with other services.

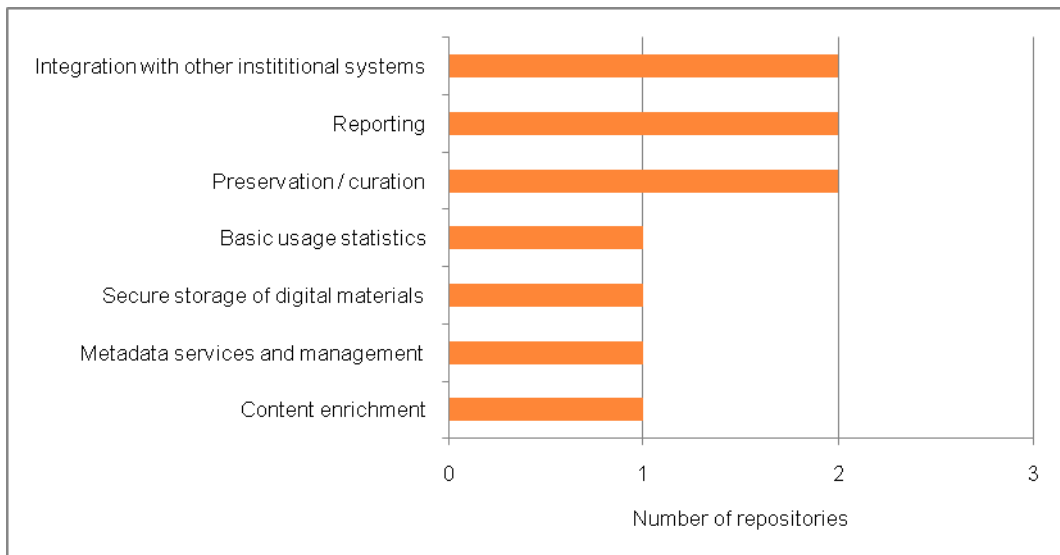


Figure 6. New repository services for development by 2012.

**Ingest** of material into repositories is reliant on self-archiving by academic staff but can be assisted, either by departmental or institutional support staff, or by institutional repository staff. The level of

harvesting and automation of ingest is low; reference databases like Reference Manager and EndNote are supported by just one repository.

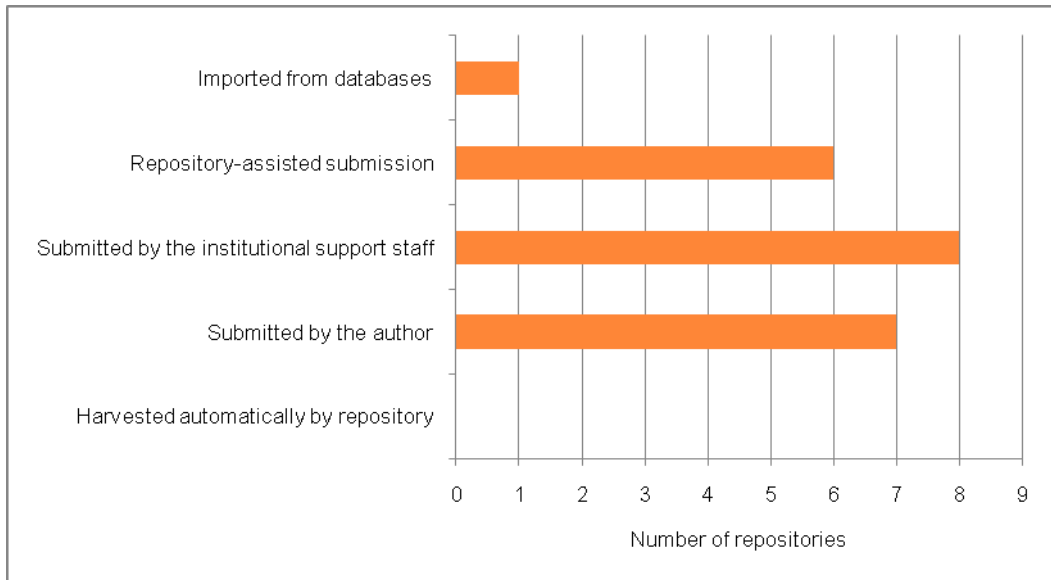


Figure 7. Types of ingest supported by repositories.

The range of content types that can be submitted to the repositories is quite open and includes more choices than have been deposited in the repositories so far (cf. Figure 4 above).

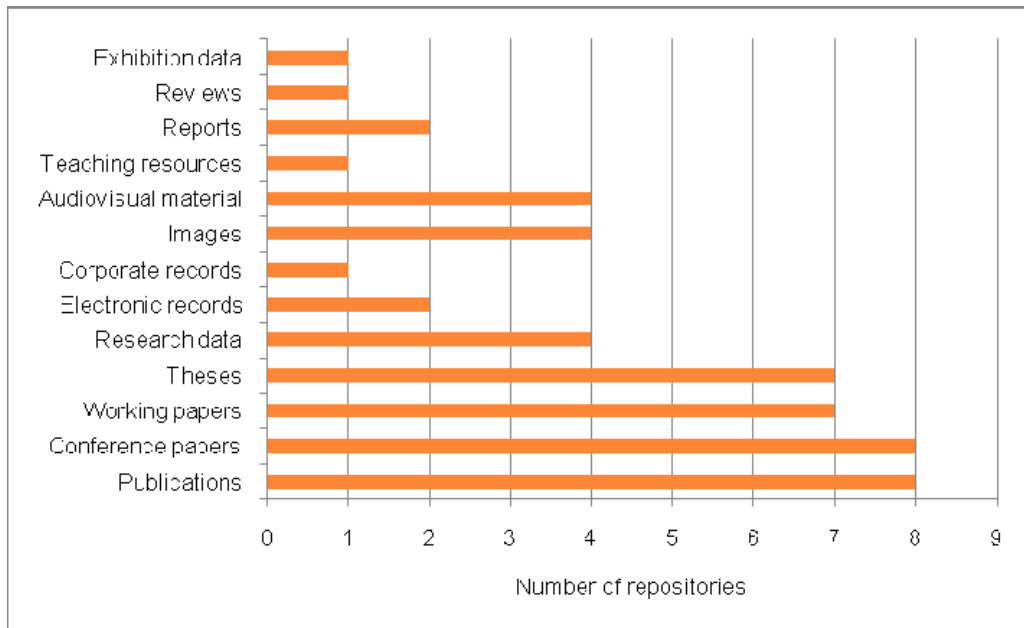


Figure 8. Content types accepted by repositories.

In terms of file formats that are accepted by repositories at ingest, the repositories appear to be equally split between allowing any file formats and restricting the list of file formats. Specific file formats that are supported include PDF and other open formats; in one case the repository relies on the DSpace software's default settings.

**Access** to the content in repositories is open to all, and some repositories also offer restricted access. Access is frequently governed by generic repository policies such as open access policies, institutional publications policy, self-archiving and repository policy (five out of eight repositories refer to these policies, whereas three have no access regulations). All of the respondents disseminate material in the

same file formats that are used for preservation. Only one repository reported a facility to combine multiple files into a single downloadable access version; this may be in a different format to the source files, and the conversion is done manually.

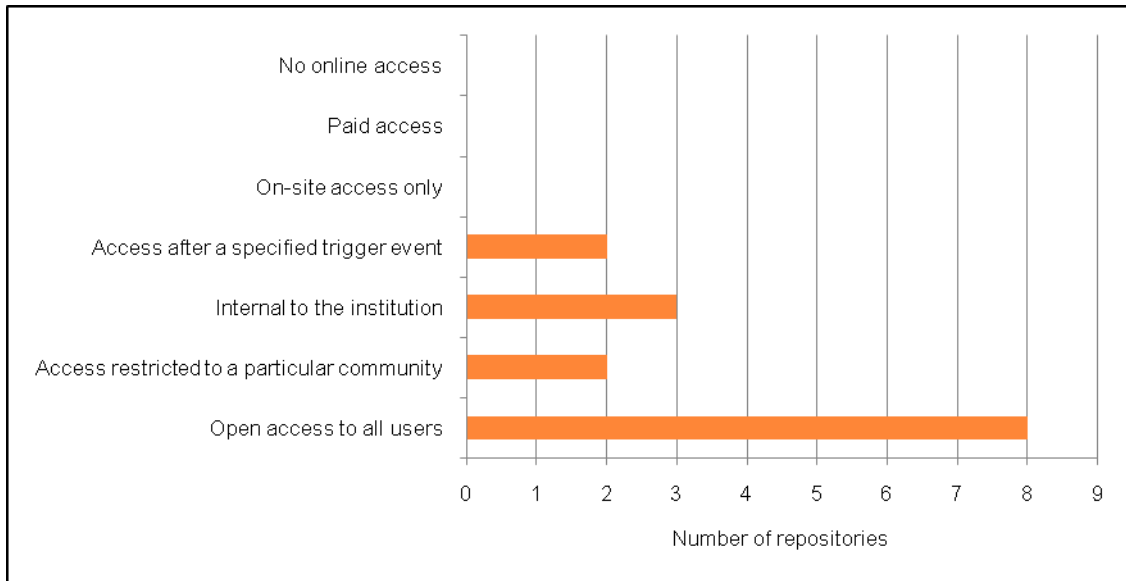


Figure 9. Types of access offered by the repositories.

The majority of repositories covered by this survey are OAI-PMH compliant and allow their content to be harvested by OAI-PMH **harvesting** services. A few other services are also featured: IRIScotland,<sup>12</sup> RePEC<sup>13</sup> and the British Library Electronic Thesis Service EThOS.<sup>14</sup>

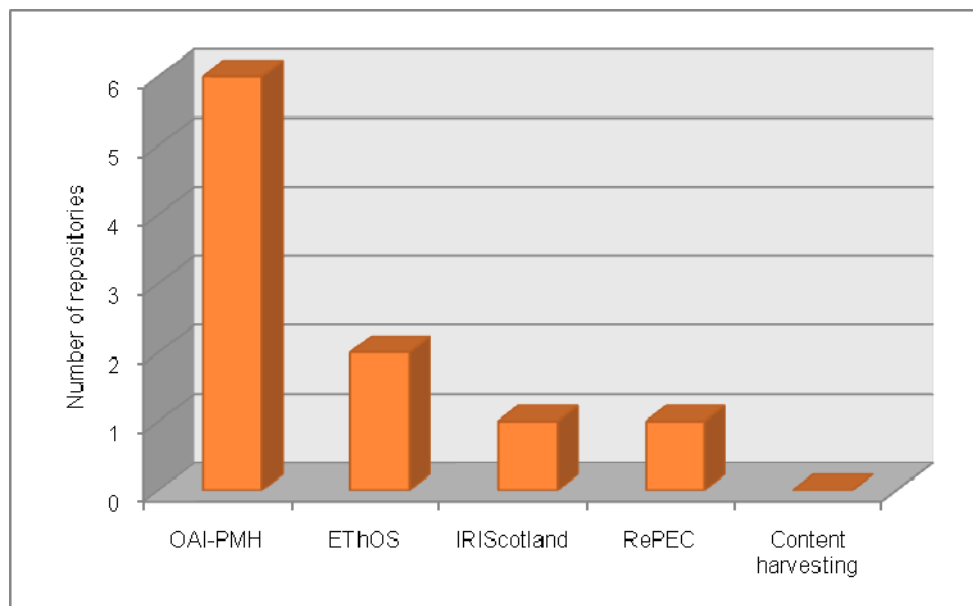


Figure 10. Harvesting services of repositories.

Not all repositories have a defined remit to provide any long-term **preservation** service. Three repositories have explicit statements promising to preserve the deposited material for the long term. Others aim to achieve this, and depositors implicitly assume it, but the repositories have no explicit statements of obligation:

<sup>12</sup> <http://cdlr.strath.ac.uk/iriscotland/>

<sup>13</sup> <http://econpapers.repec.org/>

<sup>14</sup> <http://ethos.bl.uk/>

“Implicitly but not explicitly. We are not expecting to throw the stuff away.”

“It aims to - but there is no stated 'claim' that it will achieve this.”

“Not explicitly but repository is now 5 years old (3rd server) and all material is still available.”

Most repositories have hard drive and server based storage solutions, but optical media are also used by a small minority, as well as outsourcing to a commercial storage provider.

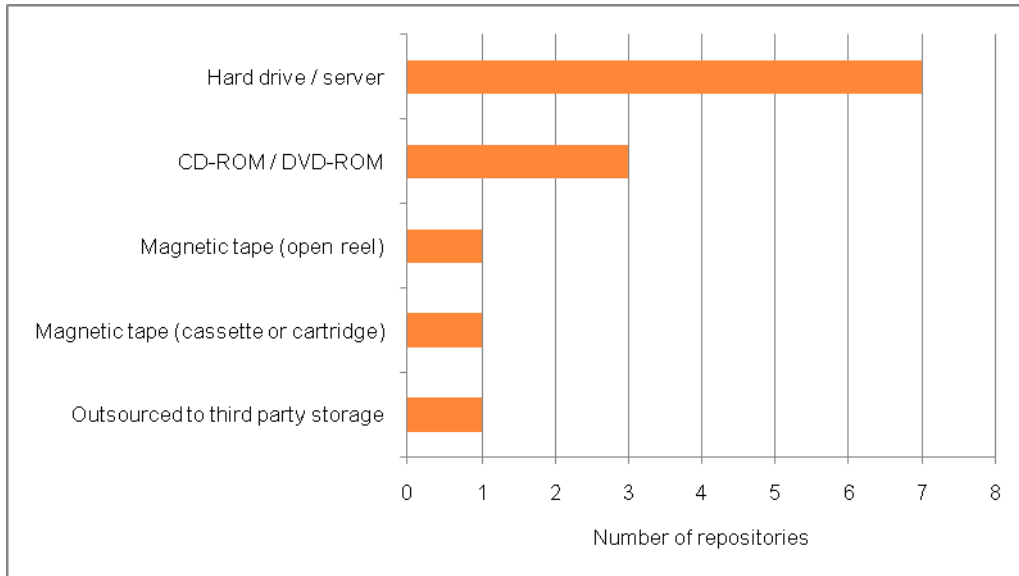


Figure 11. Storage solutions in repositories.

Typical digital curation methods are used, although most repositories have not been operational for long enough to experience any difficulties with obsolescence of digital objects.

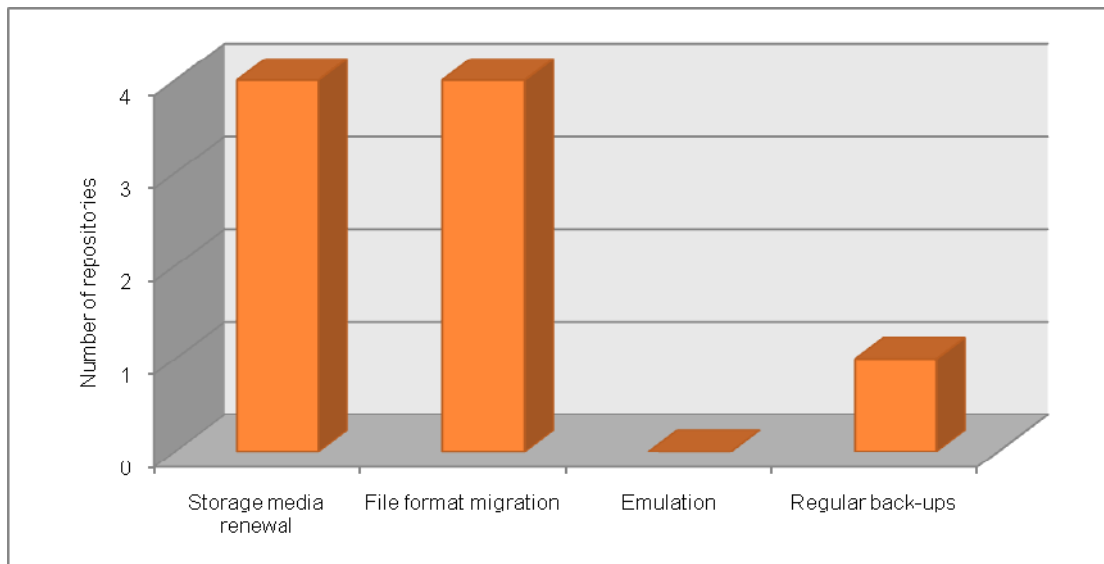


Figure 12. Digital curation services offered by repositories.

Half of the repositories have produced preservation guidelines for their staff or rely on externally available guidance (e.g. CDLR, university library, university records office).

Six respondents evaluated the current level of services offered by their repository as adequate, but several comments on the usage of repositories were added:

“The services are probably adequate but the usage isn't.”

“We provide minimum service required.”

“The repository is capable of allowing self-archiving - we need to provide training and encouragement to academic staff to take advantage of this facility.”

For smoother work processes, universities require better integration between their repository software and other institutional systems, like other library systems, research information systems, and systems supporting the RAE/REF. Two repositories have already developed a link to the library system holding bibliographic records that match full-text items stored in the repository.

The repositories that took part in the survey offer typical institutional repository services, and most have not been in existence for long enough to have significant preservation concerns. Content acquisition, ease of use (e.g. integration with other systems) and wider access provision are primary concerns for the repositories at this stage. The next section examines at the policy support for preservation services and their development.



## 4. Analysis of results – Policy support

The focus of this survey was to establish the condition and nature of existing or planned institutional preservation policies and the level of support they offer to the operational repositories. The policy support for preservation is examined on two levels: institutional and repository.

### 4.1 Institutional policies

At an institutional level the responsibility for digital academic output is divided between different departments and services. Hence the responsibility for preservation of different types of digital content is not covered by a single institution-wide preservation policy but is embedded in a multitude of policies. For example:

“Information Security Policy, Records Management Policy, Archiving Policy for Student Records, Data Protection Policy, IT and communications regulations, Self-archiving and repository policy.”

“IT Service is responsible for overall backups; Records Manager Officer has responsibility in relevant areas; Research and Knowledge Transfer Committee oversees arrangements for research data etc. Library deals with the Institutional Repository. Responsibility is split widely across different departments and the existence and detail of policies differs accordingly.”

“Info strategy, records retention policy, individual policies on our repositories, business continuity plans.”

“Individual colleges, schools and institutes may have their own policies but we are not aware of any central University-wide policies.”

A previous study into preservation policies funded by the JISC drew similar conclusions, and consequently investigated a wide-range of policies to uncover statements pertaining to or acting as an impetus for digital preservation.<sup>15</sup>

In some cases there is only limited coverage for preservation issues in institutional policies:

“IT Strategy in place but does not address curation/preservation.”

“Records Management, Records Management Strategy and Clinical Data.”

“Deposit mandate for staff research output currently being approved.”

“Outwith the explicit preservation section of the Repository policy, I don't know what other preservation policies or activities are ongoing.”

“We have a Research Policy but I'm not aware of any other existing policies – this doesn't mean there aren't any.”

Correspondingly, the development of policies happens according to principles determined by each responsible department, and varies according to which group is responsible for the policy and the type of information involved. For example:

“Research and Knowledge Transfer Committee considers research data aspects as new requirements emerge. Library IR group considers institutional repository matters at intervals.”

<sup>15</sup> Beagrie, Neil, et al., *Digital Preservation Policies Study*, (2008), available at: [http://www.jisc.ac.uk/media/documents/programmes/preservation/jiscpolicy\\_p1finalreport.pdf](http://www.jisc.ac.uk/media/documents/programmes/preservation/jiscpolicy_p1finalreport.pdf)

“Drafted by members of staff responsible for this area, reviewed and passed by committees as appropriate, approved by Court or Senate.”

“Developed in divisions and then ratified at committee, IS and LRC advisory group, Education Policy, Research committee.”

As a rule, policies are approved by a high-level decision-making body (e.g. Senate, Executive Team or Academic Council).

It should be acknowledged, too, that the national context for open access to research output, which often drives the rationale for institutional repositories, has been set by RCUK as applying to publications only;<sup>16</sup> this may explain the lack of urgency at an institutional level to tackle the more complex aspects pertaining to other digital objects. A few exceptions exist; for example the University of Oxford, which has formulated (but not yet ratified) a university-wide data preservation policy to be governed from the University Research Committee, based upon a federated institutional repository that will guarantee the management of data over the long term.

It is apparent from the survey that not all policies are mandatory, and that compliance with their preservation-related clauses is rarely measured. Compliance monitoring is most likely to happen at a departmental level, or to be included in the deposit workflow. For example:

“We are monitoring the approximate compliance rate with the IR policy by comparing our outputs listed in ISI against content in our repository (compliance currently around 38%). We also produce reports showing submission rates by each department and can produce reports on ISI items that are missing”

The roles and responsibilities for curation and preservation are rarely assigned directly within the institutional policies. Responsibility can be linked with the job role, e.g. research grants require a Principal Investigator to perform some curation and preservation role. The responsibility is usually shared, and no single service or individual is made responsible for preservation decisions. For example:

“The policy says things like the "Institutional Repository will try to ensure continued readability and accessibility" - so the Repository is explicitly responsible, but this implies Information Services (or other appropriate staff, perhaps from the research office) carrying out the actual activities etc. The "University" has final say on the deletion of items.”

Respondents were divided over whether there is a review cycle built into the policies: three answers were affirmative; others were unsure or did not know. Given the prevalent 'bottom-up' type of policy development process it is to be expected that the review of current policies will be triggered by initiatives begun by the department or library.

In some cases the policies are accompanied by operational procedures and strategies, but few of these are relevant to curation and preservation of different types of data and content, e.g. institutional backup strategies and procedures, or records management guidance including the vital records register. Generally, awareness of procedural guidelines from across all university is low, and they are hard to monitor.

<sup>16</sup> <http://www.rcuk.ac.uk/access/default.htm>

Overall, the repository managers that answered the questionnaire found it difficult to provide comprehensive answers about policies on curation and preservation of many types of information, records, data and publications by the many individuals, groups, departments and committees within a university. It is also evident that there is still much work in progress with institutional-level policies.

Given the heterogeneity and dispersed nature of digital information across any higher education institution, it is unsurprising that institution-wide preservation policies have yet to be formulated. The next section examines repository-level policies.

## 4.2 Repository level policies

Nearly half of the surveyed repositories have an effective policy which covers preservation and curation, although it could be said that in some cases the policy is only implicit and is being followed as a consequence of the workflows implemented in the repository. It emerges that the four repositories that offer preservation services (cf. Figure 12 above) are also the ones that have formulated preservation policies.

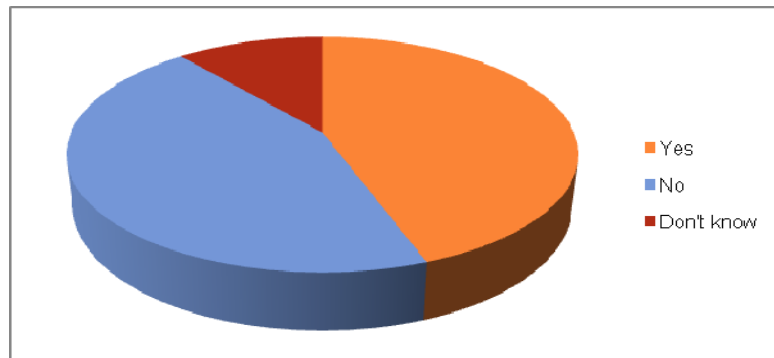


Figure 13. Repository preservation policies.

Three of the four preservation policies were assessed as adequately meeting the current needs of the institution and one poorly:

“Policy is not comprehensive for all types of content.”

“Policy is clear about retention but gives no guarantee of technical intervention such as data migration to maintain readability/accessibility.”

The repository policies cover a broad range of other services beyond preservation:

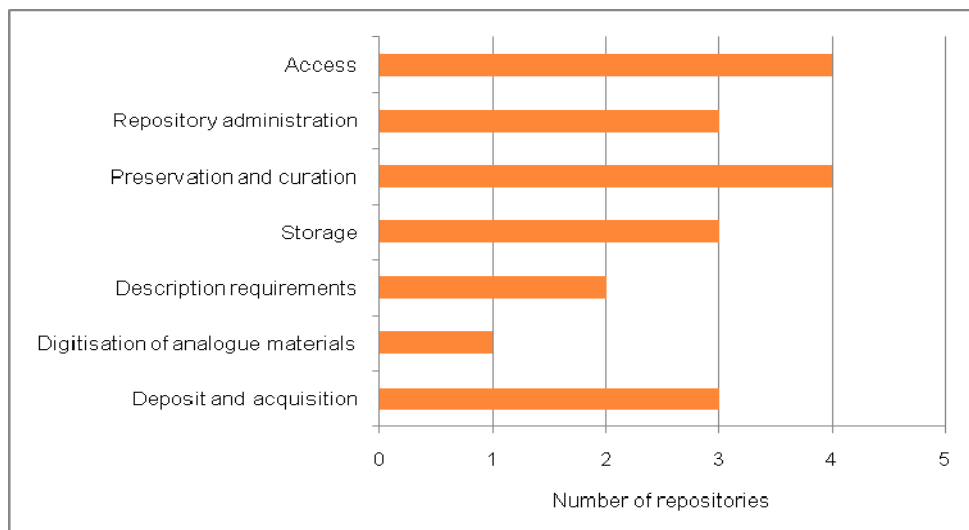


Figure 14. Services covered by repository policies.

The number of existing preservation policies is commensurate with the number of repositories that have explicit statements on long-term preservation of the deposited material (see Chapter 3.3 above). Further policy development is being planned (see chapter 4.4 below), as well as measures to improve on the awareness and effectiveness of the current policies that is analysed in the next section.

### 4.3 Awareness of policies

Respondents were asked to rate awareness of the preservation policy (or lack thereof) within their institution for different stakeholder groups. The results demonstrate a significant imbalance between repository employees and academics/administrative staff. Some of this can be explained by relatively new policies that are only beginning to be communicated to the staff. It is also likely that there are big discrepancies between different departments and individuals – those more involved with open access and who have used the institutional repository are more likely to be aware of the policy as well. A more sceptical response reflected the lack of effective communication between the repository and its depositor community:

“Staff are aware (generally) that we have a policy that mandates they deposit their publications in the IR, but they have probably never seen it, nor will they be aware that it explicitly discusses preservation.”

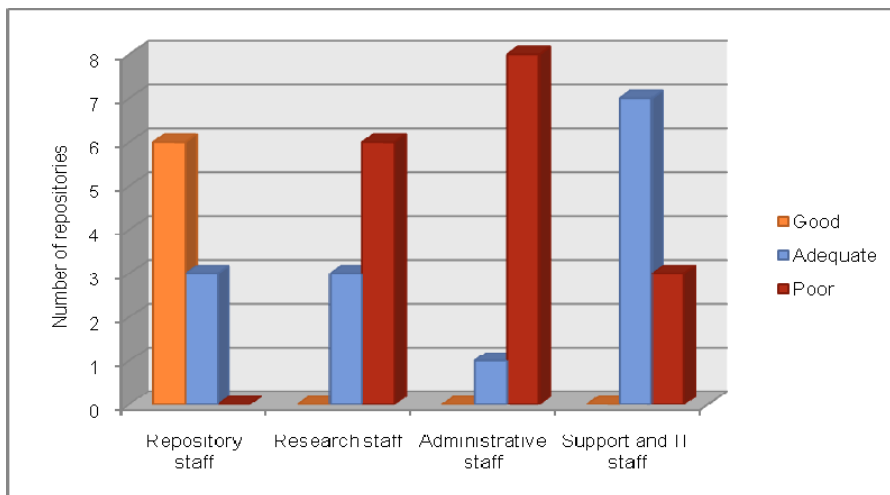


Figure 15. Stakeholder awareness of preservation policies.

Policy awareness is somewhat in contrast with the evaluation of awareness of digital preservation issues where both academic and administrative staff are thought to have an adequate grasp of the main issues.

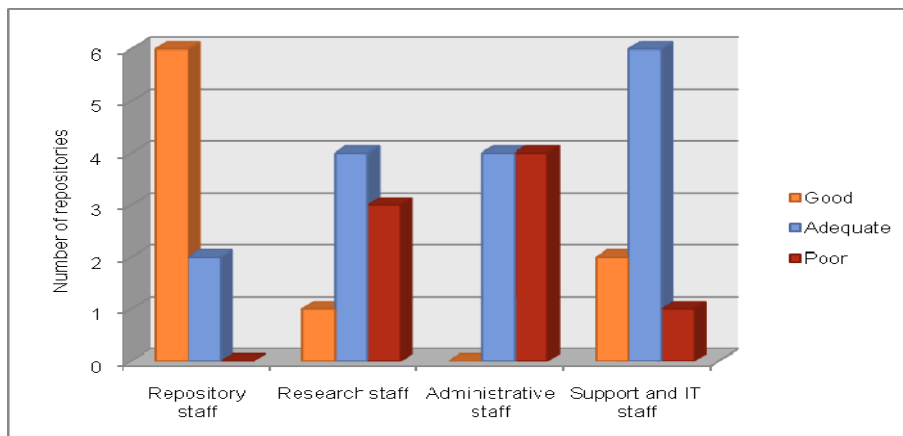


Figure 16. Stakeholder awareness of preservation issues.

#### 4.4 Planned preservation policies

The relatively small number of existing preservation policies will increase over the coming years as six out of nine respondents reported plans to create new policies or update existing ones with new elements covering preservation. Two out of the three who have no immediate plans for new policies foresee new policies or updates to existing ones within the next three years.

The main reasons for developing new policies, or updating current ones, are related to consolidating the existing policy statements, having a clearer scope for the policy and making an explicit commitment to preservation:

*“Take a more formal approach. At present we have individual elements incorporated in our procedures - but no comprehensive written policy.”*

*“A single policy covering all material within the research information system and the institutional repository.”*

*“Additional commitment to preservation.”*

*“To support the research process.”*

*“Look to longer term.”*

The main weaknesses of current policies are clearly understood, as are the opportunities for new policies to plug the existing gaps:

*“There is an opportunity now to formalise current good practice, fill gaps and ensure consistency when creating relevant policies.”*

*“Need to ensure that new policy dovetails with existing policies and workflow.”*

*“The vacuum must be filled. New and old policies should complete each other.”*

*“No explicit strategies for preservation. Commitment to maintaining access (repository) and retaining vital records (Records mgt.) should lead to development of supporting IT systems and explicit policy statements about migrating formats etc.”*

*“Self-archiving policy will consider preservation of Repository records and content. Records Management Policy already has objective: To ensure that University records worthy of indefinite retention are identified, secured, preserved and remain accessible. - Preservation element may become more explicit.”*

*“There is little or no awareness of the need for the preservation and curation of digital materials.”*

*“Gaps exist with researchers understanding of policies.”*

*“Document format is a big issue. PDF is not good for preservation but it seems to be all people want at present.”*

The main driver for updating the policy framework is to support the institutional repository and its role within the institution:

*“To maintain agreed standards and to achieve consistency and a reliable service.”*

*“Launch of the research information system and the relaunch of the institutional repository.”*

*“Compliance and the recognition of the importance of digital preservation.”*

*“Ensuring indefinite open access to data created with considerable investment of resources.”*

*“Changing technologies leading to potential loss of access.”*

“University and library goals, the necessity to curate and preserve the contents of our institutional repository.”

New policies are also expected to support a broader range of material that can currently be submitted to the repository, although a gradual growth is expected at most repositories:

“The intention is to produce an IR policy which would allow the inclusion of more content than is currently held (specifically research data).”

“Just research outputs at present but may be extended to cover research data.”

“Repository material including research outputs and higher degree theses.”

The reasons for updating the policy framework and expectations for what issues will be solved by new policies can be summarised as follows:

Issue	Number of respondents
Further commitment to long-term preservation	8
Extend the policy scope to cover a broader range of content types	6
Filling gaps and consolidating the existing policies into a comprehensive framework	5
Better integration with other services and systems	4
Awareness raising of preservation issues	3

The initiative for developing the new policies or initiating updates to existing ones is mostly seen as coming from the library, IT or information services:

“The Library Service will propose a policy which will be considered by the university-wide Research and Knowledge Transfer Committee.”

“Library & Historic Collections in consultation with academic staff and Policy & Governance.”

“Library in consultation with the wider University community.”

“Research Information Sub-group and Library.”

“Various sections within the university should consider aspects relevant to their specific areas (e.g. the Library will propose relevant policies for the IR).”

“Head of IT should lead.”

“Director, Head of Library Services, Repository manager, Research support librarian.”

“Head of Information Services.”

## 5. Future developments

An overall assessment of the adequacy of the existing policy framework and technical infrastructure demonstrates room for improvement both at a policy level and for repository management.

“There is scope for further development in our existing policy framework. We anticipate that further guidance from key community resources like the DCC and other bodies will enable us to develop and effectively implement appropriate preservation policies.”

“The existing policy framework is inadequate and the infrastructure is currently being revised.”

“It would be advisable to make various implicit policies explicit.”

“Not completely adequate, mainly down to awareness with researchers and academic staff. Advocacy is being undertaken to improve this.”

“More discussion and development in this area is planned.”

“Both are adequate.”

“Need to address file format migration.”

The next steps the repository managers are planning to take to improve this situation are:

“Get a repository established initially whilst taking account of curation and preservation issues.”

“Moving servers into central IT services.”

“More content into our data repository, raising awareness of data lifecycle.”

“Investigation by repository staff and internal consultation. Liaison with Records Manager.”

“Development of a Research Information System and integration with Repository.”

When asked to rank the main threat factors to the loss of digital materials at their institution within the next five years, the fact that not all research output ends up in a repository was ranked as the highest threat. Lack of resources and skills as well as technology obsolescence were also ranked high.

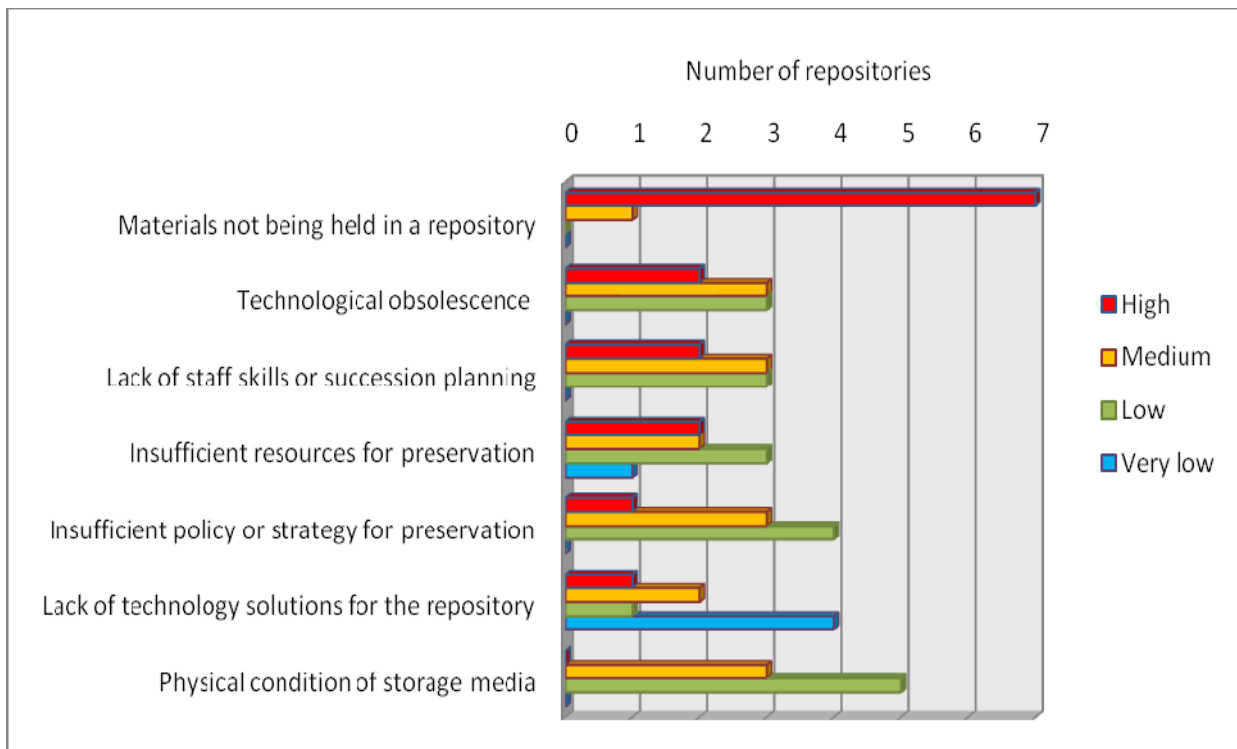


Figure 17. Perceived threats to the preservation of digital content.

## 5.1 Need for centralised support services

The main areas where repositories feel they need help are the following:

- “Raising awareness amongst the University community.”
- “Advocacy of preservation/curation.”
- “We have little in house expertise available so need assistance at all stages.”
- “Selection of material, costs and technology.”
- “Bulk PDF to XML conversion.”

In the respondents’ opinion these can be achieved with a combination of internal and external resources.

When asked whether there is a need for a centralised digital preservation service for Scottish HEIs, the majority thought it necessary.

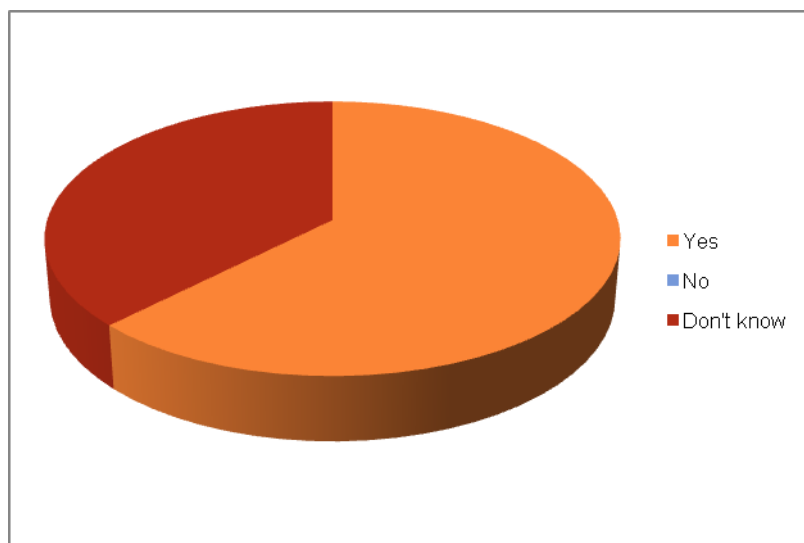


Figure 18. Need for a centralised preservation service.

The role of such a service and competence centre should be to:

- “Be a centre of expertise in developing standards and best practice.”
- “Technical infrastructure as well as advice for Scottish HEI's - for instance a preservation "Depot".”
- “For backup purposes copying content from institutional repositories.”
- “Advice and technical expertise advocacy.”

As the survey results demonstrate, repositories feel that some outside help would be welcome, and that a centralised storage and preservation service would provide extra security for them.



## 6. Conclusions

This report analysed the responses received to a survey questionnaire distributed to 20 Scottish HEIs. The questionnaire included 40 questions on the status and development plans of preservation policies and repositories.

The survey was distributed to repository managers, librarians and IT services to maximise the number of repositories covered. The nine completed responses to the survey represent all active *institutional* digital repositories at universities in Scotland, while other HEIs are still in the process of planning and designing their repositories. The repositories included in the survey can be described as typical institutional repositories that collect research output from across the entire university and provide open access to publications and theses.

Only one data repository was reported upon, but several others exist at Scottish HEIs, many hosted and managed at a departmental level. These were not included in responses to the survey, mainly because the survey respondents represented central services and are generally not embedded within academic structures (research teams or teaching programmes). Difficulty in reaching or establishing contact with department level repositories may be a potential problem for the ERIS project as a whole.

The survey showed that repositories are still relatively young, and that preservation is not yet the highest priority for them. Growth expectations demonstrate, though, that in three years' time there will be more preservation issues to tackle as the volume and diversity of content ingested into repositories rises. At the moment, all surveyed repositories disseminate material in the same file formats that are used for preservation, but this practice cannot be maintained into the longer term as file formats and technologies change over time. More careful consideration of preservation issues will also require the upgrading of policies to support digital curation services in the future.

The situation with preservation policies also reflects the early stage of repository development: the need to have explicit curation policies is only beginning to be acknowledged.

The survey did not find any institutional level preservation policies, but given the disparity of digital information across a higher education institution, it is not surprising that institution-wide preservation policies have yet to be formulated. There is often a view that preservation is a specialist affair that the experts should be left to resolve, and that unless the specialists themselves raise the policy issues at senior policy fora they will not be addressed.

Repository level policies are in place at four institutions that also reported to be offering preservation services. Existing policies follow closely the OpenDoar policy framework,<sup>17</sup> which has been developed as a simple tool for repository administrators to formulate and/or present their repository's policies, and cover other services in addition to preservation.

The survey reported a very low level of awareness of both existing preservation policies and digital preservation issues in general, especially amongst administrative and research staff. This view clearly represents that of repository staff, who would like to see digital preservation issues higher up the priority list of both decision-makers and depositors of content. Enforcing preservation policies and

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<sup>17</sup> <http://www.opendoar.org/tools/en/policies.php>

making them effective are challenges that all HEIs face; at the same time, it could be considered an opportunity for the ERIS project to develop supporting tools and guidance.

Further new policies and updates to existing ones are planned by all of the HEIs that responded to the survey, with the principal targets being preservation issues and the consolidation of separate policies into comprehensive frameworks. The prospect of additional guidance and centralised services for preservation were welcomed by the respondents.

A DCC report on curation policies suggested a suite of complementary policies (ranging from data management plans to repository policies and institutional statements) is needed to ensure data are appropriately managed across the lifecycle by all stakeholders involved.<sup>18</sup> The ERIS survey findings suggest Scottish HEIs are keen to expand on existing policies in this way.

## 6.1 Recommendations

Based on the analysis of survey results, the following recommendations can be made for the ERIS project:

- 1) HEIs should be encouraged to broaden the scope of their preservation policies to cover all academic output, including research data and other digital materials. This might best be addressed in the context of institutional policy recommendations for research data management.
- 2) HEIs should be encouraged to undertake a risk based analysis of research outputs to establish the requirements for preservation policies at an institutional level.
- 3) Whereas repository level policies may be effective for the content that is already in an institutional repository, this represents only a fraction of the total digital content at an HEI that may need preservation action. Roles and responsibilities for preservation should therefore be assigned in a policy document that applies at the institutional level.
- 4) In order to enhance the profile of preservation and curation processes within institutions, institutional members of the ERIS project should organise their repositories as bundles of services, including advice on preservation, curation, data policy and compliance, the provision of assistance in undertaking data audits, and the delivery of data management training.
- 5) Institutional members of the ERIS project should consider the provision of advice and guidance on data management planning (a recently introduced component of research grant proposals) as an opportunity to engage research staff interest in tackling their data management lifecycle obligations. Use of the DCC's new *DMP Online* tool should be considered in this context.
- 6) The ERIS project should support the provision of guidance documents, training and tools to repositories to help in raising the awareness of the need for policies, the development of policies and their effective implementation.
- 7) The ERIS project should support institutional repositories in the achievement of a stronger identity with the research project lifecycle to produce a more compelling sense of relevance. This in turn

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<sup>18</sup> Jones, Sarah, *A report on the range of policies required for and related to digital curation*, (2009), pp 27-28, available at: [http://www.dcc.ac.uk/sites/default/files/documents/reports/DCC\\_Curation\\_Policies\\_Report.pdf](http://www.dcc.ac.uk/sites/default/files/documents/reports/DCC_Curation_Policies_Report.pdf)

should lead to the easier acceptance of a need for institutional strategies/policies for managing research output.

- 8) The ERIS project should focus its advocacy function on the issues that drive the policy development in repositories, taking into account the need to incorporate and consolidate existing policies and regulations as well as to embed good practice for long-term preservation.
- 9) The ERIS project should be active in sustaining an advocacy role that will help promote the development of preservation policies in support of institutional advocacy and strategy programmes.
- 10) The ERIS project should undertake further study of both the feasibility and the demand for a centralised storage and preservation service for Scottish HEIs. This study should engage research staff and management at Scottish institutions, and should not be limited to the aspirations of repository staff.

## Appendix: Survey questionnaire

# ERIS - Repository Managers - Final



## Welcome

The ERIS (**Enhancing Repository Infrastructure in Scotland**) project, funded by the JISC, seeks to develop:

- user-focused mechanisms that will motivate researchers to deposit their work in repositories;
- options for integrating repositories within the institutional research infrastructure;
- a cross-repository resource discovery service for Scottish HEIs.

This survey is designed to collect information on the status of digital curation and preservation policies in Scottish HEIs. It is being distributed to senior repository, library and IT staff, as well as other stakeholders with a role in determining curation and preservation policy at an institutional or service level.

By completing the survey you will help us to map existing curation and preservation policies into a model policy framework for the Scottish repository community.

For this survey, a Digital Repository is defined as an online locus for collecting, preserving, and disseminating, in digital form, the intellectual output of an institution. It typically provides a trusted collection of both born digital and digitised materials ranging from research publications (preprints and postprints) to theses and dissertations, research data, learning objects and other digital assets that record institutional business. It may function as an archive; alternatively, it may apply curatorial methods designed to add value to its content (e.g. through the assignment of sophisticated metadata, software migration and access management techniques).

See also the DCC definition of a digital repository: <http://www.dcc.ac.uk/resource/briefing-papers/digital-repositories/>

The survey has four main sections covering 40 questions. You can save your answers at any stage, and it should take around 45 minutes to complete.

## Data Protection

This survey is being carried out by the Digital Curation Centre in support of the ERIS project. Please note that no data identifying you personally or your organisation will be used to analyse your responses, nor will any be disclosed to any third party or used without your permission for any other purpose.

All data collected in this survey will be held anonymously and securely. Survey results and feedback will be reviewed within the ERIS project only.

Cookies, personal data stored by your Web browser, are not used in this survey.

## Section 1 - About You

Please note that questions are mandatory unless marked 'Optional', and that once you have clicked the CONTINUE button your answers are submitted, and you cannot return to review or amend that page.

**About You**

The information provided in this section helps us to connect the answers provided by you with the correct HEI.

1. Which university / higher education institution do you represent?

Select an answer 

If you selected Other, please specify:

2. What is your job title?

3. What is your main information/data management role? (select all that apply)

- Repository manager/staff
- University Librarian/Director of Libraries
- Head of the University's IT services
- University Archivist
- Responsible for institutional information strategy
- Specialist with responsibility for preservation
- Other (please specify):

If you would like to explain your role / function further, then please do: (Optional)

4. What role do you play in terms of your institution's approach to curation and preservation?

5. I am willing to be contacted for further information to advance the purposes of this study.

Yes  No

a. Name:

b. E-mail:

c. Telephone:

Thank you for completing Section 1.

The next section is about the preservation policy at your institution.

Please press **Continue** below.

## Section 2 - Preservation Policies

This section covers issues related to the curation and/or preservation policy or policies at your institution. Answers to these questions will help us to define the requirements for a common policy framework for all Scottish HEIs.

Please note that questions are mandatory unless marked 'Optional', and that once you have clicked the CONTINUE button your answers are submitted, and you cannot return to review or amend that page.

### Institutional policies

The first set of questions in this section are concerned with institution-wide policies, while the second set looks at repository policy specifically.

Please provide as much detail as possible on the coverage of these policies and the strategy adopted by your institution with respect to curation and preservation.

**6. What policies within your institution cover the curation and preservation of information/data?**

Note: These may include information strategies, repository policies, records management guidelines, research data processing guidelines, computing service policies etc.

**a. When and how were these policies developed?**

Please record any process of formalisation/ratification via, for example, internal committees.

**b. If the policies are available electronically, please provide a URL or copy and paste the policies below. (Optional)**

**c. Are the policies mandatory, and how is compliance monitored?**

**d. How are roles and responsibilities for curation and preservation assigned within the policies? (e.g. explicitly, indirectly)**

**e. Is there a review cycle built into the policies?**

**f. Are the policies accompanied by operational procedures and/or strategies?**

Yes  No

Which procedures and strategies?

**g.** Do you have any other comments to make about the policies? (Optional)

### Repository preservation policy

**7.** Does your repository have a policy that covers curation and preservation?

Yes  No  Don't know

If you answered No to question 7, please go to question 8 below. If you are not involved in your institution's repository, please go directly to question 9.

**a.** What processes does the preservation policy cover? (select all that apply)

- Deposit and acquisition
- Digitisation of analogue materials
- Description requirements
- Storage
- Preservation and curation
- Repository administration
- Access
- Other (please specify):

**b.** What types of academic output does the preservation policy cover? (select all that apply)

- Publications
- Conference papers
- Working papers
- Theses
- Research data
- Electronic records
- Corporate records
- Images
- Audiovisual material

Other (please specify):

c. In your opinion, how well does the preservation policy meet the current needs of your institution? (select all that apply)

Well  Adequately  Poorly

Comments (Optional)

d. Do you have any other comments to make about the policy? (Optional)

### Planned policies

Please answer the following question only if your repository does not have a policy or one that covers preservation as yet. Otherwise please proceed to question 9.

8. Are you hoping to develop a repository preservation policy or add elements on preservation to existing policies?

Yes  No

a. What kind of policy is planned?

b. What is the main driver for developing the policy?

c. What is the focus/coverage of this policy?

d. Is it expected to cover all electronic output of the university (e.g., electronic records,



publications, data) or just some categories?

e. Who / what unit is responsible for developing the policy?

f. Do you have any other comments to make about the planned policies? *(Optional)*

**Awareness of policies**

9. How would you rate awareness of a preservation policy (or lack thereof) within your institution?

	Good	Adequate	Poor	Comments
a. Repository staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
b. Research staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
c. Administrative staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
d. Support and IT staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

10. How would you rate the level of awareness of digital curation and preservation issues at your institution?

	Good	Adequate	Poor	Comments
a. Repository staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
b. Research staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
c. Administrative staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
d. Support and IT staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

11. Do you anticipate developing new policies for the preservation and curation of digital materials within the next three years?

Yes  No

a. What is the focus / scope of the new policy(-ies)?

**b. Who is taking (or who should take) the lead in developing this policy/these policies?**

**c. Where are the potential gaps in the current policy framework? How do you see the existing policies and the new policies fitting together?**

Thank you for completing Section 2.  
 The next section is about the services your preservation repository offers.  
 Please press **Continue** below.

### Section 3 - Repository Specifics

This section addresses repository condition, functions and services.

If you are not working for / involved with a repository at your institution and feel unable to answer the specific questions in this section, please fill the mandatory questions in with dashes and continue directly on to Section 4.

Please note that questions are mandatory unless marked 'Optional', and that once you have clicked the CONTINUE button your answers are submitted, and you cannot return to review or amend that page.

#### Status of the repository

Answers in this section help us form a picture of your current repository functions and services, and how they will be developing.

**12. Does your institution have a repository / repositories? Please provide some details of the repositories.**

**13. On which repository are you basing your answers to questions in this section?**

**14. If relevant, how does the 'official' institutional repository interface with other local repositories e.g. image libraries or learning object repositories? (Optional)**

15. What is the operational status of the preservation repository of your institution?

- Operational  
  In development  
  At the planning and organisational stage

a. If not yet fully operational, when is it anticipated that this will happen?

b. Does the repository have a mandate?

- Yes  
  No

If Yes, what is it?

c. What department or unit is responsible for managing the repository?

### Technical details

16. What repository software do you use?

17. What is the approximate current size of the repository?

	Number
a. Items	<input style="width: 100%;" type="text"/>
b. Gigabytes	<input style="width: 100%;" type="text"/>

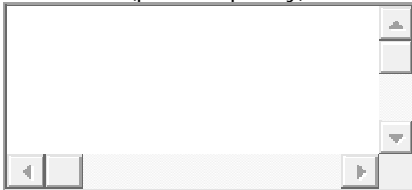
18. What is the predicted size in 3 years' time?

	Number
a. Items	<input style="width: 100%;" type="text"/>
b. Gigabytes	<input style="width: 100%;" type="text"/>

19. What types of material constitute the repository collection at the moment? (select all that apply)

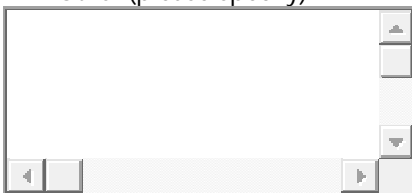
- Publications  
 Conference papers

- Working papers
- Theses
- Research data
- Electronic records
- Corporate records
- Images
- Audiovisual material
- Other (please specify):



**20.** Which services does your repository currently provide? (select all that apply)

- Search and discovery
- Online, instant access to dissemination copies
- Self-archiving
- Content enrichment
- Metadata services and management
- Secure storage of digital materials
- Storage and/or management of non-digital versions
- Preservation / curation
- Reporting
- Billing
- Other (please specify):



**21.** Which services does your repository plan to provide within the next three years? (select all that apply)

- Search and discovery
- Online, instant access to dissemination copies
- Self-archiving
- Content enrichment
- Metadata services and management
- Secure storage of digital materials

- Storage and/or management of non-digital versions
- Preservation / curation
- Reporting
- Billing
- Other (please specify):

22. In your opinion, does the repository currently offer an adequate level and range of services?

In your opinion, is the proposed level and range of services that the repository plans to offer within the next 3 years adequate? (Optional)

### Acquisition and ingest

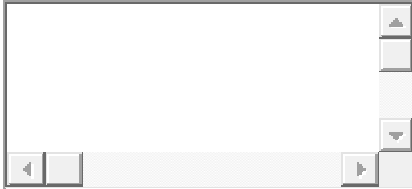
23. How are materials obtained by the repository? (select all that apply)

- Harvested automatically by repository
- Submitted by the author
- Submitted by the departmental/institutional support staff
- Repository-assisted submission
- Other (please specify):

24. What types of material are accepted as deposits? (select all that apply)

- Publications
- Conference papers
- Working papers
- Theses

- Research data
- Electronic records
- Corporate records
- Images
- Audiovisual material
- Other (please specify):



25. Do you accept material in any file format, or only in specified formats? (Optional)

- Any  Specified only

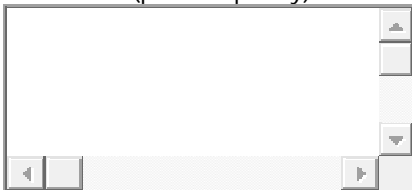
Which file formats are accepted/supported, and what drove the decision to support these formats?



### Preservation

26. What media do you use to store digital materials? (select all that apply)

- Hard drive / server
- Magnetic tape (open reel)
- Magnetic tape (cassette or cartridge)
- CD-ROM / DVD-ROM
- Outsourced to third party storage
- Other (please specify):



27. Does the repository claim to preserve deposited materials for the long term (i.e. longer than 10 years)?



28. What services do you offer to support digital preservation and curation? (Optional) (select all that apply)

- Storage media renewal
- File format migration

Emulation

Other (please specify):

**29.** Are there items in the collection that you are unable to make accessible? e.g. due to obsolete / specialised formats, lack of media players etc

Yes  No

What types of materials are these?

**30.** Are preservation guidelines available to staff, or are there other sources where people can get preservation advice within the institution?

Yes  No

Which guidelines or sources are these?

**31.** Does your institution currently use outside sources of expertise for preservation of digital materials? (e.g. consultants, contractors.)

Yes  No

What kind of expertise or services are these?

## Access

**32.** Is there a policy which covers access to repository content?

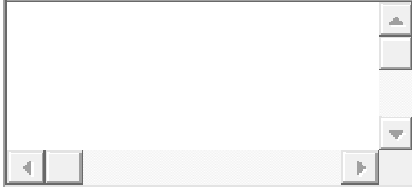
Yes  No

What policy or policies are these?

**33.** How is access to the materials offered? (select all that apply)

- Open access to all users
- Access restricted to a particular community

- Internal to the institution
- Access after a specified trigger event
- On-site access only
- Paid access
- No online access
- Other (please specify):

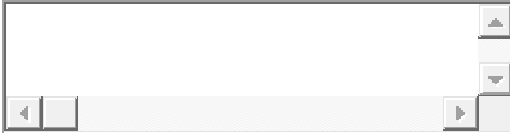
34. Are the access formats provided different from the archived formats of content?

- Yes  No

a. Are the formats for access converted automatically or manually?

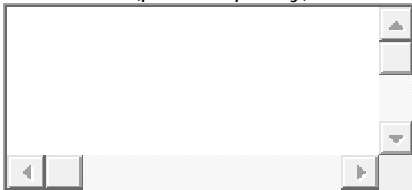
  


b. Are the dissemination formats stored on the server or created 'on the fly' following a user request?

35. Do you provide any metadata or content harvesting services from your repository? (select all that apply)

- No harvesting
- OAI-PMH
- Content harvesting
- Other (please specify):

Thank you for completing Section 3.  
The next section covers future developments of your repository.  
Please press **Continue** below.

## Section 4 - Planned Future Developments

Please note that questions are mandatory unless marked 'Optional', and that once you have clicked the CONTINUE button your answers are submitted, and you cannot return to review or amend that page.



**36.** In your opinion, is the existing policy framework and any infrastructure you have in place for curation (e.g. repositories) adequate and appropriate? Which areas might be improved and how?

**37.** How would you rank the following factors as threats to the loss of digital materials at your institution within the next five years?

1 = greatest threat, 4 = smallest threat

	1	2	3	4	Comment
a. Physical condition of storage media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
b. Technological obsolescence (e.g. format drift)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
c. Insufficient policy or strategy for preservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
d. Insufficient resources for preservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
e. Lack of technology solutions for the repository	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
f. Lack of staff skills or succession planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
g. Materials not being held in a repository	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
h. Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

**38.** In which areas of digital curation do you feel your institution needs most support? (Optional)

Could these be achieved with current internal resources, or would you need to turn to external help? (Optional)

**39.** In your opinion, is there a need for a centralised digital preservation service for Scottish HEIs?

Yes  No  Don't know

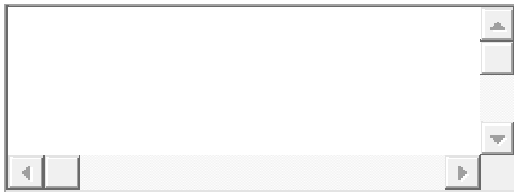
What services should such a centralised service offer?

**40.** And finally, what are the next development steps planned at your institution in terms of curation and preservation, specifically in terms of repository developments? (Optional)



Thank you for completing this survey. If you would like to add anything, please use the free-text field below to do so.

**41.** Other comments, thoughts and suggestions (Optional)



### **Final Page**

Thank you for completing this survey! Please check <http://eriscotland.wordpress.com/> to see the analysis of survey results.