UK Research Reserve – A Sustainable Model from Print to E?

Abstract: This paper aims to provide a case study of the development of UK Research Reserve (UKRR): a partnership between the UK higher education sector and the British Library. The first of its kind in the UK as well as internationally, UK Research Reserve has helped its members de-duplicate low-use journals and release shelf space, as well as retain access to research material. UKRR is currently under review to determine a sustainable model if public funding becomes unavailable. This paper describes the journey UKRR has taken so far.

1. Introduction

On 14 March 2012, one of the oldest and most famous publications stopped publishing its print edition. After 244 years, the Encyclopaedia Britannica announced that no new editions will be put to paper and future editions will be available in digital format only. Some viewed it as a heartfelt announcement,¹ while others think it’s a good opportunity to embrace the future.² The latest and final print of edition of the publication is available for £1,195 (or £2,495 for limited edition), whilst one can also subscribe to Encyclopaedia’s online access for £49.95 a year or £6.99 a month.³

For the general public, news like this can be sentimental as it may have touched on some personal memories; it can also be a piece of indifferent news for some as their questions have been answered by service providers such as Wikipedia and Google for such a long time, and they cannot even remember when was the last time they actually held and looked into a print copy of Encyclopaedia. However, for librarians and professionals who work in the information sector, news like this reflect and resonate the wide range of issues and challenges they have faced for decades – technology advancement, (permanent) access to information, customer expectation and quality of services they receive/perceive, resources and subscription models, to name a few.

¹ “There was something so wonderfully concrete about the print version, and I loved the idea that all the world’s knowledge could be contained in those pages.” Explorer Ernest Shackleton took some volumes on his doomed expedition to Antarctica, and is said to have burned them page by page to keep warm. “You can’t do that with the internet”, said AJ Jacobs, author of The-Know-It-All. David Gelles. ‘Encyclopaedia Britannica to cease print edition’, Financial Times, 13 March 2012, http://www.ft.com/cms/s/0/7382302e-6d1f-11e1-ab1a-00144feab49a.html#axzz1v32YWvOry [accessed 16 May 2012].

² “A printed encyclopedia is obsolete the minute that you print it. Whereas our online edition is updated continuously,” said Jorge Cauz, president of the Encyclopaedia Britannica Company. 'Encyclopaedia Britannica stops printing after more than 200 years', The Telegraph, 14 March 2012, http://www.telegraph.co.uk/culture/books/9142412/Encyclopaedia-Britannica-stops-printing-after-more-than-200-years.html [accessed 16 May 2012].

³ Encyclopedia Britannica http://www.britannica.co.uk [accessed 6 June 2012].
The digital revolution, or the third industrial revolution, has continuously affected and changed the way libraries operate and how people within (and without) this sector think and work. According to the Merriam-Webster online dictionary, revolution is a sudden, radical, or complete change. If we examine the history of men, we see sudden, radical, or complete changes taking place at a particular point of time; however, their impact and influence linger on for years, decades, even centuries. Just like any other kind of revolution, the digital revolution has fundamentally, and continually, changed our daily life and the work place. For librarians, it represents challenges not only about how to move forward, but also about how to deal with the past.

For decades, librarians in the UK have been carefully balancing the past and the future. They evaluate and manage what their institutions have collected, but at the same time, adopt new technologies and upgrade services they provide to their users on various fronts and levels. It is a fine balance to keep, and has become more and more difficult as many have found out throughout the years. There was a time that almost everyone in the library sector agreed that a positive correlation existed between the status of a library and the size of its collection: ‘the bigger, the better’ has been a key principle that underpinned many libraries’ development and big numbers have been used by many to show off their prestigious status. However, while some are still building bigger and better stores to keep their collections, many have started to realise that that may not be the best (and sustainable) solution to manage their gigantic and ever-growing print holdings, especially when space is getting scarce and resources are becoming less available.

A review conducted in 2005 shows that a library was charged £63 per square metre per annum by its institution for all space they used, including storage (CHEMS Consulting 2005). This is not unique just to the UK. On 1 January 2012, the William H. Welch Medical Library at John Hopkins University, one of the largest medical libraries in the US, ceased its physical presence and became an e-only library. Association of Research Libraries (ARL), a not-for-profit organisation of leading research libraries in North America, have been reviewing their criteria and there seems to be a trend of reducing the weight of a library’s physical holdings. Indeed, when considering how quickly technologies evolve and the ever-changing users’ demands, more and more librarians started to recognise that it was simply too risky if they continued focusing on developing physical collections only.

It was during this time of change that the concept of a UK Research Reserve started to be formed and shaped. As people started to ask questions within their institutions (e.g. why do

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we need to keep those materials when no one has borrowed them for years? How much does it cost for us to keep the same title in print as well as in E?), they also began to realise that these issues were not unique to their institutions but were faced by many others. It then became evident that challenges of such a scale required a collaborative and sector-wide approach that involved as many players as possible. It was also apparent that libraries need to figure out the best way possible to preserve (and to weed) the past; otherwise their future development will always be hindered by related and/or hidden problems.

UKRR was established in 2007 and was set up as a response to changing demands faced by the Higher Education (HE) sector. By providing a collaborative and coordinated approach to de-duplicate low-use print journals, UKRR aims to establish a distributed national research reserve which ensures access to low-use material is maintained and the responsibility of retaining it is shared amongst its members. UKRR is a partnership between the HE sector and the British Library and by taking part in the de-duplication process, participating institutions are thus able to dispose of low-use journals and release space. UKRR’s pilot phase ran from January 2007 to August 2008 and was funded by the Higher Education Funding Council for England (HEFCE), an organisation distributing public money to universities and colleges in England. During Phase One, over 11,000 metres of shelf space were released. The success of the pilot phase encouraged the HEFCE to further fund the project for another five years (until 2014). With nearly £10m being awarded by HEFCE, UKRR Phase Two started in 2009 and attracted 29 members to join.

2. Challenges facing UK HE sector

Many Higher Education Institutions (HEIs) in the UK are facing severe space pressure, but it certainly is not the only issue institutions have to deal with operationally and strategically. In the last decade, we have seen a range of events and policies that have fundamentally changed and challenged how universities operate and position themselves, as well as the services they provide.

In August 2011, Deloitte, a professional services firm, published a report ‘Making the grade 2011’ which analysed the HE sector and identified 10 key challenges faced by universities in the UK, which resonate well with those faced by institutions around the

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8 29 members are: University of Aberdeen, Aberystwyth University, University of Birmingham, Cambridge University Library, Cardiff University, Durham University, University of Edinburgh, University of Glasgow, Imperial College London, King’s College London, Kingston university, University of Leeds, University of Liverpool, London School of Economics and Political Science, University of Manchester, Newcastle University, University of Nottingham, Northumbria university, Open University, Bodleian Libraries of the University of Oxford, Queen Mary University of London, University of Reading, Royal Holloway University of London, University of St. Andrews, University of Sheffield, University of Southampton, University of Sussex, University College London, and Senate House Libraries University of London.
globe. All ten challenges listed have direct impact on libraries’ operations and development, while libraries’ performances and efficiency reflect and feed back into its own institution’s ability to adopt and to stand out from competitors. Combining those challenges identified in the Deloitte report and what we have gathered from UKRR members, we have seen the following challenges that are particularly crucial to library management:

- Tricky combination of decreased funding and increased costs
  UKRR Phase Two started at a time when the world was swamped by the worst financial crisis since the Great Depression. Although the scheme was open to all HEIs in the UK, some was deterred from joining due to financial uncertainties. At the moment, the economic outlook still remains unstable.

- Ever growing shortage of space
  In the ‘Making the grade 2011’ report, Deloitte pointed out the importance of ‘asset optimisation’. Infrastructure is essential for an institution to achieve its strategic goals. It has also become more and more influential in (prospective) students’ assessment and decision-making, and their expectation of infrastructure that meets their needs and demands has increased. A quick search on line shows a range of issues regarding the shortage of space and how it affects libraries across the HE sector. For instance, there are facebook pages urging libraries to provide more study space, blogs and journal papers discussing this particular issue, and plenty of case studies demonstrating how HEIs deal with, or their inability to, relevant challenges.

- Support for the best and the brightest
  HEIs need to attract talent (both staff and students) as brainpower and the potential it can create is core to the services and values this sector provides. Libraries play a key role in supporting faculty and students and in meeting their research, teaching, and learning needs.

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9 'Higher education must adapt to avoid “perfect storm”', Deloitte LLP, 4 August 2011
http://www.deloitte.com/view/en_GB/uk/08e83fa10e491310VgnVCM1000001a56f00aRCRD.htm [accessed 30 May 2012].

10 ‘Making the grade 2011’, Deloitte LLP, London, August 2011. In this report, Deloitte identified the following 10 key challenges: funding, rivalry, set priorities, technology, infrastructure, link to outcomes, attracting talent, sustainability, widening access, and regulation.

11 ‘Three Top Economists Agree 2009 Worst Financial Crisis Since Great Depression; Risks Increase if Right Steps are Not Taken’, BusinessWire, 13 February 2009,

12 Alasdair Drennan. ‘End in sight for study space shortage’, The Student Newspaper Online, 22 November 2011,
Technology upgrades
It is the advancement of technologies that triggered and further accelerate libraries’ transition from print to E. The development of technology leaps in such a speed that opportunities and options thus presented to librarians are dazzling. Adopting and implementing new technologies are resource-intensive and involve strategic and comprehensive analysis and decision-making. However, without solving legacy problems associated with print collection first; librarians’ hands are half-tied when planning for its future.

Competition
Universities’ ranking and how well they achieve in students surveys have significant influence and impact on attracting talent and funding (directly and indirectly). For example, one of the key questions in the National Student Survey\(^\text{13}\) is about learning resources where students are asked to evaluate how well resources and services provided by their libraries meet their needs. As more and more students are demanding spaces for quiet study zones and/or group discussion areas and as libraries’ budgets are being squeezed, how to stand out from their competitors (public-funded as well as private/market-driven, UK and abroad) has become a top priority for many senior managers in the HE sector.

Apart from what has been mentioned in this section, UK HEIs have further faced uncertainties such as the increase of tuition fees and the joining of new players (e.g. New College of the Humanities, BPP University College) who have different business models and offerings. Their potential impact on the higher education market remains to be seen, but it’s certain that the landscape of the UK HE is changing drastically and institutions have to act and react quickly and flexibly.

UKRR member libraries operate in such an ever changing environment; it therefore influences UKRR’s operations, the services we provide, and our future planning. Regardless of those variables, libraries’ needs to de-duplicate holdings and release space, as well as to preserve resources for researchers, continue to exist whilst their transition from print to E widens and broadens. Given the financial constraints and the environmental uncertainties, can UKRR continue providing what libraries need and turn from a top-down public-funded initiative into a grass-root, self-sustained structure if HEFCE funding ceases in 2014? We are in the process of looking for the answer.

\(^{13}\) The National Student Survey is a survey conducted across the UK. It gives final-year undergraduates an opportunity to provide feedback on their academic experience. More details about the survey can be found via its website: [http://www.thestudentsurvey.com](http://www.thestudentsurvey.com) [accessed 09 July 2012]
3. Release Space and Realise Savings

One of the key reasons why libraries joined UKRR is the savings they can materialise through de-duplicating their holdings. According to another CHEMS report published in February 2008 (An Evaluation of Phase One of the UK Research Reserve), CHEMS Consulting estimated the release of 11,000 metres of shelf space during UKRR Phase One created capital savings of more than £3m and recurrent annual estates savings of £318,333 for participating members. Their calculations were based on a National Library of Wales’ survey as well as reports and toolkit regarding HE estates management and construction costs. They used the following assumptions:

- 6.6 linear metres of shelving can be translated into 1 square metre of floor space
- The recurrent estates management costs for HE non-residential space are £191 per square metre per annum
- The average rebuild cost (HE sector) is £2,000 per square metre.

Since the pilot phase, we have seen some members repurpose the newly available space and turn it into study areas, social space (e.g. cafes), PC rooms, and other purposes for their institution’s teaching, training, and learning needs. By participating in the scheme, some members are therefore able to cancel commercial storage and reduce expenditures; whilst others find a solution to their problems as previously-available space is no longer available. In other words, UKRR provides participating members an opportunity to manoeuvre, to reflect and to rethink their current practices, to adjust themselves and be ready for their next big challenges.

Since the inception of UKRR Phase Two, UKRR has processed more than 60,000m of material. The shelf space those low-use journals once occupied can be converted into 9,249 square metres. The release of such space has realised an impressive amount of savings for the whole membership – more than £18m in terms of capital savings, and more than £5m in terms of recurrent estate management costs. The following section gives a brief summary about what we do at UKRR and the services we provide to our members.

4. UKRR Processes and Data

For UKRR members, release space and realise savings are vital, but at the same time, so is to maintain access to research material for the research community they serve. In this section, the author aims to guide readers through the processes UKRR has adopted and how they help libraries de-duplicate print collections, as well as retain access to de-duplicated materials.

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14 As of 7 June 2012, UKRR has received approx. 61,041m of material from 29 members.
UK HEIs pay annual subscription fees to join the scheme. As UKRR members, libraries evaluate their print holdings and offer material to UKRR to be considered for de-duplication. Our approach is to view the collective holdings of all members as the pool of UKRR holdings and by managing and coordinating de-duplication/disposal centrally, we remove duplicated holdings and leave a core collection that provides valuable resources for the research community. In other words, the scheme provides a platform where a collaborative collection can be built and developed.

As mentioned, UKRR’s key objective is to retain print research materials and maintain access to them for researchers, but at the same time, to release scarce shelf space and realise savings for its members. We work closely with the British Library (BL), UKRR’s key partner, and by cross-matching members’ offered items with the BL’s holdings, we seek to achieve these seemingly different objectives.

Amongst UKRR members and the BL, we seek to identify the last three copies – one is held by the BL as the access copy and can be requested via BL’s document supply services; the other two are retained by member libraries. By doing so, all other duplicates held by UKRR members can then be disposed of and enable libraries to clear up their shelves and put available space into better use. It also helps fill gaps and complete the BL’s collections.

UKRR have processed more than 66,000 metres of material, comprising more than 50,000 holdings since Phase One (as of June 2012). We have received more than 15,700 titles and out of these, approx. 8,600 titles have been offered to UKRR only once. The table below shows the five most offered titles, the number of times they have been offered to UKRR, and their varying titles as submitted by our members:

<table>
<thead>
<tr>
<th>Titles (and varying titles)</th>
<th>Number of Times Offered</th>
<th>Number of Varying Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBA-Molecular Basis of Disease</td>
<td>58</td>
<td>44</td>
</tr>
<tr>
<td>Journal of the Chemical Society</td>
<td>43</td>
<td>19</td>
</tr>
<tr>
<td>Journal of the Royal Statistical Society Faraday transactions</td>
<td>40</td>
<td>26</td>
</tr>
<tr>
<td>Journal of the Chemical Society</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>British journal of applied physics</td>
<td>33</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 1. UKRR Top 5 offerings

When looking into the data, we have found that member libraries tend to offer more journals in the STM disciplines than in the Arts and Humanities. This is most likely due to the researchers’ behaviours in the STM disciplines and how they collect information and conduct research are very different from those in the Arts and Humanities. The consultation process that most of our members go through in order to determine what material to offer...
also reflects such difference. However, generalising the sector’s de-duplication activities and researchers’ perception about journal disposal can be risky as we have also observed opposite cases. Overall, organisational cultures and the people factor have a big impact on what actually flows into the UKRR’s system and being processed for de-duplication.

Dealing with a large quantity of data, we have developed and implemented processes to ensure the right decisions are made for all items our members submit to UKRR. The diagram below summarises the UKRR processes:

Fig.1 UKRR Process Overview.  

15 Created by former UKRR coordinator Chris Brown.
As shown above, a UKRR member selects low-use material from their collection and submits their offerings to UKRR. Two separate processes will then follow to check if those titles being offered are held by the BL and other members. The matching conducted against the BL’s holdings requires shelf checking and aims to find out if there is any gap in their collection that can be filled by the member’s offerings. The matching conducted against other member libraries’ collections, a process that is called scarcity checking, is to identify how many more copies are held within the membership. Data from both matching processes (i.e. regarding BL’s holdings and scarcity) are centrally analysed and a retention decision for each offered item is made. A final retention report will then be produced which enables the member library to act upon those decisions accordingly.

To handle UKRR data in a more effective and efficient manner, a bespoke IT system was developed and adopted across the membership in 2010/11. LARCH, Linked Automated Register of Collaborative Holdings, is a system that co-ordinates the de-duplication process and stores all UKRR offered holdings data. It supports the activities of UKRR members, project team, and the BL and provides a single point for accessing data. It also produces reports that assist all parties involved in the process to gain a better understanding about progress and members’ activities. LARCH users can request reports about a list, a cycle, an institution, or the project’s development.

The figure below shows the workflow within LARCH and how it assists the retention decision making process:

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16 UKRR collaborates with EDINA when conducting the scarcity checking process. Through a search of EDINA’s SUNCAT service, a union catalogue, UKRR obtains information regarding parallel holdings in member’s collections.
By centralising the scarcity checking and the introduction of LARCH, UKRR processes have improved in terms of quality and efficiency. We are continuing enhancing functions LARCH provides to suit our members and stakeholders’ needs, and to explore collaborative opportunities with external bodies.

5. UKRR Survey

As mentioned in Section 2, the environment that UKRR operates in has changed significantly since the beginning of Phase Two. Some institutions decided not to join the scheme due to financial uncertainty; whilst those who did join (as well as our partners) have experienced a range of changes – structure, funding, staff, to name a few. It is therefore very important to evaluate the scheme regularly to ensure the right services have been provided as needed, and at the right time. With this aim in mind, we conducted a survey in March 2011 in order to understand our members’ views and visions, and to translate their needs into the development of LARCH and future planning.\(^{18}\)

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\(^{17}\) Created by former UKRR coordinator Chris Brown and re-drawn by current coordinator Dan Crane.

\(^{18}\) Surveys were conducted by former UKRR Manager Frances Boyle.
We gathered some interesting findings and here are some examples:

5.1. Costs

We asked our members if they know the cost of holding print stock in their libraries: 60% responded no, while less than 7% said yes. We also asked our members if they know the costs of de-accessioning their material via UKRR and outside the UKRR process: more than 70% responded saying that they did not know the figures. As HE funding is one of the most discussed topics at the moment in the UK, we think librarians ought to look into this issue quickly and carefully. If more libraries are willing to compile data in this area and share relevant information with the community, it would provide a broader picture about the cost structure and a foundation for benchmarking. It will also give librarians useful information to weigh pros and cons of keeping/de-duplicating print material in financial terms, especially when libraries are being requested by their parent institutions to justify resources and to play a part in improving students’ experience.

![Pie chart showing member's response regarding the cost of holding print stock](image)

**Fig. 3 Members’ response regarding the cost of holding print stock**

5.2. De-duplication needs

The current UKRR model allows members to recoup costs associated with their de-duplication activities via claiming funding from UK funding councils. When asked if the availability of funding encourages them to offer more material to UKRR, 60% of those who took part in the survey responded ‘no’. Although funding has been

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19 A quick Google search on the topic ‘HE funding cuts, UK’ produces nearly 75 million results [15 June 2012].

20 UKRR members receive £26.16 for every metre of in-scope material they submit to UKRR.
useful in terms of local consultation (i.e. as catalysts for institutional cultural change), key drivers for submissions stated by many were shortage of space and their collection needs.

![Pie chart showing member's response regarding offered holdings and access to funding](chart.png)

**Fig. 4** Members’ response regarding their offered holdings and the access to funding

### 5.3. Holdings yet to be offered

We asked members how much more material they are considering offering to UKRR has not yet been submitted: about a quarter of those responded stating that they are ‘always finding new material to offer’. Less than 11% said that they have less than 50% left to offer; while nearly 30% said they still have more than 50% of material that they intend to submit to UKRR. About 36% of our members stated that they do not know how much more material they have left to offer.

‘Don’t know’ is a very common answer we have gathered from libraries (UKRR members as well as non-members) when inquiring about physical holdings. As described in section 4, one of the processes is to request UKRR members to transfer holdings to the British Library in order to fill their collection gaps. During this process, we find some requested items cannot be transferred to the BL as they cannot be found on the shelf due to various (sometimes unknown) reasons. In fact, some UKRR members have expressed that one of the benefits, which they did not anticipate when they joined, is the opportunity to tidy up their catalogue records and match those with their physical holdings.
5.4. UKRR beyond Phase Two

The current scheme is scheduled to run until 2014, and we were interested in finding out what our existing members’ views are regarding the future of this scheme. We asked: if UKRR were to continue in some form beyond phase 2, do you think your institution would be likely to participate? 68% of those who answered this question gave a positive response (about 14% answered definitely and 54% said possibly). Although some reserved their opinion until they have more information about the business model and/or when the time is nearer to the end of Phase Two, none of them selected no as an answer to this question.

Fig. 5 Members’ response regarding material yet to be submitted to UKRR

Fig. 6 Members’ response regarding UKRR beyond 2014
Taking 5.1 and 5.2 into consideration, it seems that although fiscal elements have an impact on libraries’ de-duplication activities, the key forces behind their decisions to dispose of print material resonates with UKRR’s objectives - to release space that libraries desperately need as well as ensure access to material for researchers. 5.3 shows a library’s print collection can be difficult to measure as catalogue records may not be as accurate as it needs to be to reflect what they truly keep.\(^{21}\) Finally, we know members would like to see UKRR continuing after 2014. It sends a key message across the membership and shows the needs and support for UKRR services; it also encourages future planning to commence.

6. What next

As Figure 6 shows, 68% responded positively and none of UKRR members hold a negative view about taking part in post-2014 UKRR. This shows that the benefits of being part of UKRR (and the risks of doing it alone) have been demonstrated and well received by our members. Benefits to individual institutions and to the HE sector as a whole are evident; for example, a coordinated and collaborative approach to weed collections (i.e. support are available if a wrong decision was accidently made), preservation of research material (i.e. less random disposals and lower risks of losing research resources), a platform to share best practices, and the opportunity to release and repurpose space in a cost-effective way as pointed out in section 3. However, libraries are also facing challenges and uncertainties as discussed in section 2. When considering if there is a need for UKRR to go further beyond 2014, and if so, under what model, we think it’s equally important to evaluate the scheme’s impact on the sector as well as its commercial potential.

UKRR is asking the following key questions:

- What was the UKRR set up to achieve? Why did member libraries decide to sign up to the UKRR Project? What were/have been the business drivers that underpin UKRR’s strategies and operations?

- Comparing the above, where is the UKRR positioned today? Are all of the business drivers still relevant? Have any of these business drivers changed since the creation of UKRR, and if so what are the new business drivers? Has UKRR succeeded in meeting all of these objectives?

- Since the inception of UKRR, what changes (both cultural and organisational) have occurred within member organisations? Has UKRR created a wider impact on non-member organisations and the HEI sector than envisaged? If so, is it possible to detail and quantify how these impacts have/can deliver greater value?

\(^{21}\) Data accuracy has been a key issue faced by UKRR and processing and matching data from 30 organisations have been a challenging task. This paper does not aim to present those issues but if you are interested in finding out more, please contact the author.
• Are there strategic and valid reasons for UKRR to continue after 2014?

• Will UKRR partners (e.g. the British Library) be willing to take part in a post-2014 UKRR? Will UKRR members continue participating in the scheme once HEFCE funding ends? Are there any other organisations that are interested in the scheme? Who are they? Are organisations willing to pay to continue/join from 2014? If so, what pricing models would be appropriate and how much are they willing to pay?

• If UKRR is to continue after 2014, is a shared service model in this area still the best way forward? What other service models/options are possible? What is the most viable (better and most cost effective) business model for the UKRR to pursue? What are the advantages/disadvantages of the current business model (shared service) in relation to other models?

As we plan for UKRR’s future and aim to identify a sustainable business model to continue its operations beyond 2014, we are eager to find out if there is a sustainable demand for the services it provides. By working with external consultants, we are looking hard at ourselves and ask difficult questions. The review of UKRR is currently ongoing and findings will be available by the end of 2012.

In the meantime, several forms of entity that UKRR may adopt after 2014 are being considered:

• A strategic business unit
UKRR is a project that sees collaborations amongst a range of organisations and involves contributions from partners and stakeholders. If UKRR is to continue its services after 2014, one model to adopt is for it to become a strategic business unit and integrate into organisations or institutions that are currently involved in UKRR’s work and have the capacity to host its services beyond 2014.

• A not-for-profit venture
If UKRR is regarded as indispensable by the sector and/or beyond, but can no longer be funded by public money; an alternative model to consider is to transform UKRR into a not-for-profit venture, or a charity as it’s commonly known. There are similarities between this model and the current UKRR model; however, instead of relying completely on grants (i.e. public funding), fund-raising activities (e.g. philanthropic donations, corporate social responsibilities projects, or individual giving) could also contribute a substantial amount of income to UKRR’s operations and to help achieve its goals.
A for-profit business venture
As mentioned above, if UKRR service is viewed as essential, it can be translated into commercial opportunities. UKRR has collected data and built up knowledge and experience in helping libraries de-duplicate print collections. Such expertise gives UKRR a competitive edge if the demands for libraries to trim down their collections continue to exist/grow. If this is the model to adopt, UKRR may transform into a limited company or a for-profit social enterprise. Taking into consideration the aims of the project and its funding origin, we believe the latter is more appropriate, such as a co-operative model. In other words, UKRR can set up as a commercial entity in 2014 and generate income through selling its services and/or products.

A hybrid non-profit venture
This model combines not-for-profit activities as well as for-profit ones. It mainly operates to fulfil its social and/or environmental missions, but making (or reinvesting) a profit can also be a part of its operations. For example, an organisation may adopt a two-tier system where wealthier customers pay more (profit) while poor customers pay less (social missions).

UKRR has planted a seed of cultural change and empowered people in the sector to look at, and be able to do so, long-existing practices with new perspectives. Would these elements have a long-term impact on librarians and academics’ views on journal disposals, and thus on library’s collection needs? It remains to be answered through the review mentioned earlier.

7. Conclusion
Libraries in the 21st century, a key component within a HE institution, have started to look beyond their operational boundaries and become a strategic element as their parent organisations are facing increasing pressure to perform better in a highly competitive environment. By participating in UKRR, decisions made by librarians not only benefit libraries in terms of releasing space and materialising savings, but also provide an opportunity for their parent organisation to examine its infrastructure, resources/costs, services, and most importantly, its competitive advantages.

There are a wide range of changes happening in the sector, and librarians need to consider and deal with multi-facet issues and make decisions swiftly. Going E-only is not only a trend but a policy that have been adopted by many libraries. Before it is certain that collections libraries have kept for centuries are preserved properly and/or digital contents are not only available but also of high-quality, we can never be too relaxed about putting print material in the skip.
It’s very difficult to predict where modern technologies will take us to and how researchers’ needs and behaviours will change. Before the dust settles, the transition from print to E should be managed and monitored carefully at an institutional level as well as across the sector. It is necessary because if an irreversible mistake is made; valuable material would be lost and cannot be retrieved. UKRR helps minimise the risks and prevent such situations from happening.

This paper summarises UKRR’s journey so far, and we believe a project like UKRR and services it provides are crucial for libraries during a time of change. A research reserve such as UKRR acts like a bumper and provides assurance that valuable research material is kept and remained accessible to researchers. It is useful for librarians to know that in the fast-changing world they operate in, UKRR offers a level of certainty and enables them to plan tactically and strategically. We don’t know yet for how long the services UKRR provides will be needed, but we know that UKRR members, key links between researchers and knowledge exploration and advancement, have worked together and overcome difficulties to ensure that no decisions were made in haste, and the nation’s resources are kept, well and safe, for generations to come.