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Subject Repositories: European Collaboration in the International Context

<u>Dave Puplett</u> reports on the Subject Repositories: European Collaboration in the International Context Conference held at the British Library, London on 28-29 January 2010. The conference launched Economists Online (EO), an innovative economics subject repository.

Introduction

Institutional repositories are now common in Higher Education, but successful examples of subject repositories, which cater to an entire discipline, are much rarer. The Subject Repositories conference taught some key lessons about the role of transnational collaboration in setting up a subject repository. The conference drew on the expertise of renowned specialists in the field and the two and a half-year-long development process of Economists Online [1].

Economists Online was created by the Network of European Economists Online (NEEO) [2], which consists of 24 European and international partners (disclosure: the author was a work package leader for this project and one of the conference organisers). The project was funded by the European Commission out of the eContentplus [3] funding stream.

Various speakers at the conference shared their views on subject repositories, and their experience from the development of *Economists Online* more specifically. This article summarises the proceeding of the conference and presents the most important lessons learned.

28 January 2010

Economists Online in the Changing Landscape of Online Repositories

Jean Sykes, chair of Nereus [4] and Chief Information Officer at the London School of Economics opened the conference by welcoming all speakers and participants. **Hans Geleijnse**, Director of the NEEO Project, then described the project's primary aim in his keynote address: to improve the usability, global visibility and management of European economics research. To achieve this goal, the project had to provide open access to high-quality multi-lingual academic output of leading economics institutes and their researchers, delivered through a sustainable, multi-lingual portal with aggregated and enhanced metadata. This portal is Economists Online.

Geleijnse revealed the many targets for content acquisition that guided its development process. Drawing its content from the institutional repositories of the 16

founding members of NEEO, as well as six new partners, all but one target had been successfully met, and in many cases surpassed. The portal now contains over 73,000 metadata records and more than 20,000 full-text items. The only aim that the project fell short of was the targeted 160 datasets. While Economists Online contains at present 100 datasets (with each linked to an associated publication), it demonstrated that academics were far more reluctant to share their data freely than they were with other types of research output.

Geleijnse differentiated subject repositories from other repositories by borrowing a definition from a 2008 SIRIS Report: 'A collection of research outputs with a common link to a particular subject discipline. Subject repositories are likely to cover one broad-based discipline, with contributors from many different institutions supported by a variety of funders' [5]. In the context of the changing landscape of existing repositories in Europe, Geleijnse emphasised that there should be no conflict between subject repositories and institutional repositories. This belief found broad agreement among conference participants. In fact, the Economists Online model attests to their symbiotic relationship.

Several small and highly specialized repositories, such as the Central and Eastern European Marine Repository [6], as well as larger ones, such as TechXtra [7], provided a number of lessons:

- sustainability is often a major issue;
- critical mass of current content is essential;
- visibility is key to success;
- subject repositories provide better and more tailored services than institutional repositories.

Economists Online, however, brings a different type of service to the world of economics as compared to existing online economics resources, such as Econstor [8], the Social Science Research Network (SSRN) [9], and Research Papers in Economics (RePEc) [10]. Its added value is:

- the inclusion of a wider range of materials, such as datasets and enriched metadata;
- a strong open access agenda; and
- a robust funding and support structure.

Importantly, the co-operation with existing services, such as RePEc, is essential, and further collaboration would be explored in the future.

Finally, Geleijnse emphasised the importance of ensuring the sustainability of Economists Online and saw no obstacles for the Economists Online model to be applied successfully to other disciplines. He afforded an important role to libraries in this process, given their ability to serve as 'catalysts for change'.

Economists' Needs: Launch of Economists Online

Professor Nick Barr from the London School of Economics began by recalling how experienced economists in the 1950s could justifiably claim to know the entirety of

their subject. The overwhelming volume of journals, working papers, presentations and data would make such a claim absurd today, as information is becoming increasingly unmanageable. Economists Online is part of the solution to such information overload and, moreover, allows economists to keep up with new research.

Professor Barr praised the variety of materials available in the portal, especially the amount of full-text resources, and drew attention to the need to keep the content up to date. He described ease of use as a key to its success, noting that 'a smart product should aim to make the product useful for people who aren't smart themselves.' He recommended improving user-friendliness by making software learn users' search habits and suggest 'articles that interest [them].' Finally, Professor Barr described himself as an 'enthusiast' and launched a short video presentation, showcasing some of the features of Economists Online, which formally marked its launch.



Professor Barr launching Economists Online

The EU's Perspective

Javier Hernández-Ros, Head of Unit Access to Information in the DG Information Society and Media at the European Commission (EC), stressed recent developments in the growth of Open Access. Progress in developing Open Access repositories had been steady in recent years and Open Access is now firmly on the European policy agenda. In this context, institutional repositories are now a 'must' for any serious research institution. The role of the European Commission is manifold in this process: as a policy maker, a research funder and as an infrastructure builder. It is in this third capacity that the EC has funded the NEEO Project.

An exchange of views with the audience followed. **Christian Zimmerman**, representing RePEc at the conference and Professor at the University of Connecticut, praised Europe's work on Open Access in comparison with North America. Hernández-Ros was surprised, as he felt that US initiatives, such as PubMed Central [11], had yet to be achieved on the same scale in Europe. **Danny Kingsley** from the Australian National Library cautioned that Open Access policy should not seek to be

a one-size-fits-all solution. Instead, diverse and even disparate needs of different disciplines required equally distinct solutions.

Collaboration of Repositories

Dr. Neil Jacobs, Programme Manager for the Joint Information Systems Committee (JISC), and **Dale Heenan**, the Web Project Manager for the Economic and Social Research Council (ESRC), explored avenues for collaboration for funders and institutional repositories. Dr. Jacobs felt that repositories sat at the intersection between open access and research information management, which entailed both challenges and opportunities.

Dr. Jacobs clarified the relationships between researchers, funders, institutional and subject repositories, which ranged from sharing grant information, to mandates and reporting obligations, to discipline-based communities and the various related networks. JISC has funded a variety of projects to support both repository staff and researchers in managing these relationships. Example of such activities are SWORD [12], a tool to streamline the deposit process for researchers, and IncReASe [13], which focused upon using automation to increase the volume of repository content.

Dale Heenan presented details of the ESRC's policies towards Open Access and repositories. The ESRC has its own repository, in which ESRC-funded research is deposited. In this sense, the ESRC perceived itself as having an important role as the 'long-term guardians of the information' created by their funding.

The Australian Repository Experience

Jean Sykes delivered a presentation prepared by **Cathrine Harboe-Ree**, Librarian at Monash University. The presentation showcased projects designed to build Australia's repository infrastructure which included the Australasian Digital Theses Program (ADT), the Australian Partnership for Sustainable Repositories (APSR), the Australian Research Repositories Online to the World (ARROW), the Australian Scheme for Higher Education Repositories (ASHER) and the Higher Education Research Data Collection (HERDC). Of particular interest was the Australian National Data Service (ANDS), which will develop national data frameworks and improve the capabilities of institutions. More specifically, the project aims to improve data use and reuse through better metadata capture and management.

A lesson to be drawn from the Monash experience, according to Harboe-Ree, is that, to facilitate good data management, staff can be trained to give advice to researchers in order to exploit the skills and networks of contact librarians. Once trained, the more senior staff can then become 'buddies' to newer staff members, passing on their expertise.

Finally, the development of Australian repositories was presented as a response to both governmental and institutional needs. National resource discovery layers are thus essential for the future of these services, and the need for data management is emerging as a major driver for repository development.

US Developments in Online Repositories

Patricia Renfro, Deputy University Librarian at Columbia and Associate Vice President for Digital Programs and Technology Services, gave an insight into the wide range of activities and initiatives taking place in the United States around repository development. Renfro introduced five major US-based subject repositories: ArXiv, CiteSeer, RePEc, SSRN and PubMed Central. Key to their success are certain shared characteristics:

- they link tightly to disciplinary practice and culture, and;
- they are set up for disciplines that have an established practice of sharing preprints among the community.

They represent crucial lessons, given that researchers in disciplines with successful subject repositories appear to identify more strongly with their discipline than their academic institution.

US repositories are supported by a variety of funding models to ensure their sustainability. While PubMed Central is sustained by government funding, SSRN is a commercial venture, and the previously free service ArXiv is now developing a community-based funding model. Funder mandates can be a driver of Open Access policies, since, for example, the National Institute of Health Public Access Policy has greatly increased the amount of content available at PubMed Central. The success and size of US institutional repositories vary and are dependent on resource allocation; however, it emerges that US repositories contain a higher proportion of full-text content than their European counterparts.

Another important factor for content levels in institutional repositories are Open Access mandates. Harvard's lead in establishing such a mandate has been followed by an increasing number of institutions. The success of these repositories however depended on their commitment to Open Access, and some repositories refocused their efforts from Open Access onto other functions, such as the publishing of papers or adding Web features for author support and collaboration. Another interesting recent development with respect to data is that some US publishers increasingly ask, where appropriate, for data to accompany all research. Renfro closed by showing a screengrab of Mendeley [14], a new system that uses a social networking model for a research repository. Given Mendeley's impressive growth statistics, the question arises as to its potential role in the future of repositories.

The Future of Repositories

Dr. Clifford Lynch, Director of the Coalition for Networked Information (CNI), discussed the role of repositories in the future of scholarly communication. Although sustainability is a concern for both institutional and subject repositories, Dr. Lynch raised the question of whether institutional repositories are financially more sustainable than subject repositories. Moreover, institutional repositories may find quality management easier due to the role their affiliated institution plays in monitoring the quality of its outputs.

On the other hand, he suggested that subject repositories were better positioned to manage research data within disciplinary structures rather than institutional ones. Dr.

Lynch expressed optimism about the prospects for subject repositories given their 'natural role' as an integral part of the e-research infrastructure, in addition to institutional repositories. Lastly, a discussion ensued over the future of the existing peer-review system as Dr. Lynch suggested that a new approach to peer review was needed.

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The RePEc Experience

Professor Christian Zimmerman, University of Connecticut, presented the Research Papers in Economics (RePEc) electronic economics bibliography. Zimmerman described the landscape of publishing in economics, which entails delays of up to five years between the completion of a research paper and its publication. As a result, common practice in economics entails a culture of pre-print sharing.

RePEc, a service entirely supported by volunteers (including Zimmerman himself), is an index of economics pre-prints and articles that was founded by Thomas Krichel. It contains over 840,000 entries. A variety of other services, such as Google Scholar, Econlit and now Economists Online, make use of the RePEc database. The main challenge for RePEc was the creation of a critical mass, which was achieved by giving incentives, such as rankings and citation analysis, to authors. Over 23,000 economists have now registered accounts with RePEc.

A View from a European Partner Institution

Francois Cavalier, Library Director of Sciences Po, Paris, presented the perspective of one of the NEEO project partners on the development of the Economists Online portal. After describing the complexities of the French research landscape, he detailed the technical challenges Sciences Po faced to comply with the Economists Online system. He underlined the need to take the role of national research cultures into consideration and the obstacles they faced to increasing European and international co-operation.

Cavalier explained his institution's commitment to an Open Access policy and introduced Sciences Po's institutional repository, Spire [15]. In his opinion, NEEO and the Economists Online project had been a 'wonderful opportunity', that allowed his institution to 'share with and learn from many colleagues and take part in a very dynamic network'.

Economists Online Presentation

Wietske Sijtsma, NEEO Project Manager and Controller, Library and IT Services, Tilburg University, gave a live demonstration of some of the key features of Economists Online. She also described the challenges faced and lessons learned in the development of the portal. Key to its development was the relationship between project staff as well as both content contributors and future users. Both groups were consulted for their views regularly throughout the project, and Sijtsma highlighted the importance of incorporating this feedback into the development of the portal.

The portal rests on three main cornerstones: personnel, hardware and software. This requires finding a sustainable model for the future of the service and close cooperation between library and IT staff. Once again, the importance of getting a critical mass of content was regarded as an essential target. Content acquisition was therefore the most difficult challenge in the project. Sijtsma presented preliminary results from a user survey conducted, which demonstrated that the quality of content was considered high and over 80 per cent of participants would recommend Economists Online to a colleague.

Parallel Workshops

The conference audience then split into six workshop streams, each representing a different aspect of the work that was undertaken during the NEEO Project. The workshops dealt with Content Recruitment, Infrastructure and Interoperability, Intellectual Property Rights, Multi-lingual tools, Datasets and finally Usage Statistics. This approach offered experts in each area the opportunity to concentrate more closely on their field of expertise.

Future Options and Strategies for Repositories

Dr Paul Ayris, Director of University College London (UCL) Library Services, summarised the discussions and conclusions of the conference. He discussed some key points concerning the future of repositories and Economists Online, including content, funding and services offered. Nereus, according to Ayris, should consider revising its inclusion criteria, as not all excellent economics research is published in highly rated institutions in Europe. Mass digitisation would be another interesting, but complex and expensive, way of increasing content. Institutional and subject repositories could also have an advocacy role in promoting Open Access — upon which Economists Online is built — and deposit mandates.

Dr. Ayris acknowledged the efforts that Nereus and NEEO had already made with respect to sustainability, noting that the Digital Preservation agreement with the Royal Library (KB) in The Hague was one of the first agreements of its kind. Dr. Ayris also raised the question of who is best placed to assist the management of research data, and explored ways to overcome researchers' reluctance to share their own data. He suggested that funding agencies and publishers could both have a role in this.

Expanding on Cliff Lynch's definition of Economists Online as a second-generation subject repository, Dr Ayris asked what a third-generation repository would look like and what developments would aid the transition to the next stage. Open Access, though essential to this process, will not take off unless it is embedded in institutional strategies. In this vein, strategic partnerships would be very important to future cooperation. He suggested, in particular, for Economists Online to consider a partnership with DART-Europe and research consortia, such as the League of European Research Universities (LERU). Another potential route for repositories to take would be to develop e-Press functions.

The conference was concluded with congratulations to those involved in Economists Online for the 'birth of a healthy baby,' and by Hans Geleijnse thanking the speakers, organising committee and the audience.

Conclusions

The conference covered a great deal of territory in two intense half-day sessions. The programme included showcases of existing repository practice in Europe, Australia and America, and gave the audience the opportunity to benefit from the development experience and expertise of a major new subject repository: Economists Online.

Among the many aspects of scholarly communication in economics discussed, data sharing perhaps featured most prominently. While all — from funding agencies to librarians and publishers to academics — agree that greater access to research data is highly desirable, no systematic means of data sharing has been found (certainly not for Economics). Disagreement persists as to who should lead on sharing research datasets. Is it a role for publishers, as Christian Zimmerman suggested? Or should this role be accorded to institutional and subject repositories? Whichever approach one chooses to take, reassuring academics about IPR issues and creating the necessary infrastructure for sharing and storage remain essential pre-conditions.

Collaboration emerged as a key factor in the success of new infrastructure to deal with electronic research, in its various forms. Time will tell if the model for Economists Online as a superstructure on top of institutional repositories is a sustainable one. However, the delegates of this conference were left in no doubt about the degree of planning, strategic thought and hard work that has gone into the development of this new portal.

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