International and national partnerships to select, test, and develop Institutional Repositories

Johann van Reenen
University Libraries
University of New Mexico

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“One simple creative breakthrough can evoke a cascade of increasing complexity. ‘Simple’ inventions such as the wheel, printing press, or transistor lead to ‘complex’ offshoots such as automobiles, cellular phones, electronic publishing, and computing” Kao, 1997

Abstract: Three organizations/associations partnered to decide on, and then test, the most appropriate institutional repository (IR) software. They created and completed a pilot implementation for their respective member organizations. The presentation describes the partnership process, lessons learned, and current plans and concerns.

Key words: Institutional Repository, Open Access, Digital Libraries, Partnerships, Consortia

Three case studies:
Members of two organizations, a national association and an international consortium, partnered to investigate and test the implications of developing IR-s for their respective members. The organizations are:

- International
  o The Digital Library Linkages (DLL) initiative of ISTEC (Ibero-American Science & Technology Education Consortium) whose members include over a hundred universities in Latin America and the Iberian peninsula, and international information technology organizations and industrial partners.

- National
  o The Alliance for Innovation in Science and Technology Information (AISTI) whose members include science and technology libraries of national research laboratories (such as Los Alamos, Sandia, NASA STI) and research universities.

- Local:
  o The subsequent implementation of an IR by the University of New Mexico Libraries, who is a member of both organizations, serves as an example of a local implementation.

Different missions:
The three organizations have very different missions but held to similar information content and access goals for their members/patrons: More affordable and better accessible digital research content that can be integrated with their current delivery systems.

Different Missions
**DLL:** Integral part of the larger ISTEC mission to improve regional IT manpower and infrastructure and research capacity. **Locally:** Find, share and grow IT projects; 
**Nationally:** Maximizing value of industrial and academic efforts per country; 
**Regionally:** Infrastructure, Policy development, Industry & Government cooperation & partnerships in decision making

**AISTI:** Own its mission and choose its partners in search of innovation, while building from the existing high capital outlay and capacity of the lead organizations. Change the processes of knowledge creation, dissemination, and use.

**Individual Member Organizations:** University and Research Laboratory missions to maximize the use of institutional knowledge and intellectual property for education and research

**Compelling reasons for joint ventures**
There were compelling reasons for joint ventures such as:
- Pool resources and talent locally, nationally, internationally
- Regional Content (esp. Spanish content and Specialized research laboratory content
- Need for transformational* actions. The scenario below adapted from Brewer, et al 2004 shows the rational for just one such instance.

**E.G. Serials Cut Scenario:**

<table>
<thead>
<tr>
<th>Muddling Through</th>
<th>Transitioning</th>
<th>Transformed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cut all subject areas</td>
<td>multiple criteria, e.g.</td>
<td>reallocate for open access</td>
</tr>
<tr>
<td>History of high inflation</td>
<td>author support; Outsourced</td>
<td></td>
</tr>
<tr>
<td>Low use / High price p.u.</td>
<td>Purchasing &amp; cataloguing</td>
<td></td>
</tr>
<tr>
<td>Federated network of IR-s</td>
<td></td>
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</tbody>
</table>

- A quest to engage in Second-Order Changes. Libraries have generally extensive experience with amplification and “incrementalism” but not with Second-Order Changes. Amplification is when, for instance, an athlete runs the mile in record time. Second-Order Change however would be when an ordinary person moves a mile in record time, say by using a floating magnetic disc (Moursund 2002)! The electric typewriter was amplification, but Desktop Publishing was a disruptive (2nd order) technology that changed office work toward greater speed, effectiveness, and turn-around as well as the careers of secretarial employees. We believe IR-s herald second-order changes.

All partners found that they faced common problems in developing new services and working within consortia, such as:
- Living in multiple organizational cultures at once
- Diffusion of innovation and attitudes back at work
- Differing technological strengths and levels among the partner organizations
- Shared technical and emergent issues, e.g.:
  - What to do about the OPAC in an open access (OAI/PMH) environment
  - Integration and interoperability between existing digital services and IR-s
  - Appropriate copy issues
  - Cross-linking and authentication
- Creating alternative views of data and information (e.g. visualization)
- Archiving and preservation

**Joint Strategic Actions**

Our first strategic goal was *Learning Together*:
We participated in planning for and attendance at educational events at our various organizations, such as UNM’s annual *Scholarly Communications Symposia* and joint events such as AISTI’s annual *Mini-Conference* and *Emerging Issues Sessions*. International activities including the DLL’s annual “Digital Library Trends” Conference <http://dll.istec.org/conferences/brasildll03/> in South America and their NSF/ISTEC/FAPESP funded software development group meetings.

Our second strategic goal was *Experimenting Together*:
We agreed on shared funding to investigate the most appropriate common platform for IR-s and created a joint pilot for AISTI members IR with a parallel implementation of an ISTEC test. The Los Alamos National Laboratory’s Research Library was awarded the contract to find the preferred software solution, best practices, and construct a pilot. *Dspace™* was selected as the platform-of-choice after evaluation.

**Next joint initiative: Proselytizing for IR-s**

“... rather than viewing management control as impossible, a different kind of “control” is needed -- one that influences without force and without guarantee of detail, but with confidence in patterns.” Michael Lissack (see Lissack's work on Complexity and Management at http://www.lissack.com/writings/)

The partners have different approaches to build understanding, acceptance of, and participation in populating their IR-s locally.

The Latin American Science and Engineering libraries:
- Feel more urgency to expand E-journal publishing rather than IR-s (probably due to the success of *CIELO*, see: http://www.scielo.br/scielo.php?lang_en)
- Prefer to institute Electronic Theses systems before IR-s
- Support IR-s for associations, e.g. capturing the works of members of a regional electrical engineering association
- Support creating conference proceedings in IR-s and digitized historical archives
- Support creating momentum for the Open Access movement broadly, not just IR-s, in each country; for instance the Brazilian open access declaration 2004 via *Instituto Brasileiro de Informação em Ciência e Tecnologia* (IBICT / DLL 2004)

The AIST partners (national laboratory and academic research libraries) want to:
- Understand the software options
- Test the preferred option for best practices
- Use findings to institute their own organization’s IR
- Find a purpose for continuing a joint association IR
- Experiment with IR enrichments (e.g. Los Alamos Dspace™ research on plug-ins)
- Share user education ideas and resources

The goals of the University Libraries at UNM are to:
- Develop an integrated approach to all emerging scholarly publishing issues
  (digitization projects, e-services, faculty education, open access co-payments &
  principles, IR-s, et cetera)
- Annual Scholarly Communications symposia for faculty that include open archives
  and IR-s
- Pilot IR as proof-of-concept (Completed and approved by the Library Administration
  and the Faculty Senate Library Committee in mid-2004)
- Implementation of a permanent UNM IR (recently completed)

UNM is currently non-committal regarding Association-based IR-s (such as the AISTI
test repository) in addition to local one(s).

While the future of the AISTI repository is still undecided, the Digital Library Linkages
and UNM IR-s are deploying along the following potential collections:

DLL:
- Peer reviewed article repository
- Non-peer-reviewed and pre-prints
- Conference proceedings
- Educational content and modules
- Members’ white papers and reports
- Site visit descriptions
- Member organization descriptions
- Student papers
- Administrative document archive

ISTEC is likely to impose this structure on participating members, but has implemented
only four communities and about five collections so far.

UNM:
- Peer reviewed article repository
- Conference proceedings
- Non-peer-reviewed articles and report series

The plan it to follow current departmental organization and let departments lead us to the
best systems for depositing and organizing their faculty and student’s works.

Conclusions:
All institutions and organizations believe they have benefited greatly by cooperating.
Many post-pilot issues are arising at UNM and DLL. At UNM the first was establishing
an original identity and purpose at the local level after the AISTI pilot and changing the
library’s strategic plan regarding IR-s based on the information from the pilot (Educate –
Convince - Train – Market – et cetera). We are still deliberating about whether to have a
single all-encompassing Campus IR or many campus IR-s by area or function. The latter
is currently the least preferred option. Review mechanisms for each organization and type
of collection, management and maintenance issues, and so forth are also under
development.
One initiative that we are looking at for in the near future and, as potentially grant funded, is uploading items from the decades of UNM Faculty Research & Creative Works. This is an annual publication of each year’s scholarly works by faculty.

Broader issues under discussion include:
- Repurposing AISTI repository
- Dealing with multiple postings of one author’s work: to repost or not?
- Dealing with more than one posting of the same item by joint authors
- What does green journals really mean for content-addition?
- Further research issues such as iterability, scalability, language, local harvesters, et cetera, as potential joint projects for AISTI and DLL

References: