Slide 1   Resource issues

In this session I'm going to introduce some of the resource issues that you'll need to take into account in planning your IR. Mostly, I'm just going to introduce some basic concepts and phrase some questions. The answers to these resource questions will depend upon your institutional framework, the specific choices you make, the speed with which you're planning to bring up an IR, and much more.

Slide 2   Develop a business plan

As we worked on our IR, we often talked about developing a business plan. We took a stab at it several times but it was always vague.

In general, I would say that this is much easier said than done. As a profession, we aren't yet very comfortable with business models. We tend to be service organizations and we do what needs to be done to provide a service. We have some experience with buying services or products but not much experience with starting up new services from scratch. Business plans go against the grain for us in many ways.
(Continued...)

Knowing what to take into account was hard. There weren't good cost estimates available at the time that we started. And there still aren't because there are not well-developed standards for what goes into an IR, what features it should have, what services it would provide.

Another key element that makes it hard to develop a business plan is having a clear idea of how far you're willing to go and how long you're willing and able to subsidize an IR.

Slide 3 First eight months of Scholars' Bank

This is the activity of our site for the first 8 months. After 8 months of intensive work, we had succeeded in acquiring only xx items, 12% of which were submissions by library staff of their own work or library resources, and another 11% were the submissions of the spouse of one our task force members, a faculty member at the University. At this point, our effort didn't seem to be viable. We had naively assumed that this was a service that our faculty would immediately see the need for and would come running to. Our experience was not unique. Early adopters talked about the difficulty of acquiring content at meetings taking place worldwide. So, we had to consider whether this was something needed, useful, and viable.

Slide 4   Staffing needs

In considering staffing, you need to consider who will be involved, what their roles will be, and what services you will provide.

Slide 5   Who will be involved?

- Do you have all the skills you need within your organization to set up an IR?
- Are there groups with whom you want to partner for technical, political, or financial reasons?
- Do you want to set up an IR that is just for your institution or do you want to implement an IR that can take advantage of the skills and connections that exist in several institutions with similar missions?
- Are you planning to provide this as a completely free service or are you willing to consider some cost-recovery models?
- Are you willing to or interested in partnering with academic or commercial publishers? There are a lot of opportunities and I recommend being open to them all, at least for discussion.

Slide 6   Can you afford it?

No matter the model you intend to follow for your IR, there is a substantial amount of work. There are beginning to be some studies that show the start-up costs of an IR.

- How will you cover the personnel and other costs? Will you be able to (or do you want to) absorb the work within an existing unit (as we did at the University of Oregon),

- or will you be able to hire new people?

- Will you use volunteers? We get a lot of volunteers coming to us for experience now. Can you absorb the training time needed to make use of volunteers?

- Do you have the necessary technical infrastructure in place to support an IR or will you need to buy new hardware and software? Even open source solutions, and there are several, need specific hardware and software environments for them to work, not to mention fairly sophisticated technical expertise.

Slide 7   Staffing issues

Within the institution that is bringing up and hosting the IR, whether that be a library or a campus or some other group, these are some of the roles you will need to fill:

- Coordinator with overall responsibility – until I took on this role and decided that I was going to make this work, our effort was floundering
- Web site designers – any web-based service like an IR needs to be designed, to have the look and feel that identifies it with your institution
- Group to make policy decisions
- Staff to handle or review submissions
    - This can also include cleaning up or supplying metadata
- Staff to set up and maintain the system and resolve technical issues
    - As a high-profile new service, this needs to get top priority
- Group or individuals to make contacts and market the IR
    - This will be one of the greatest costs you will have
- Staff for subsidiary services
    - Digitization
    - E-commerce
    - Copyright clearance
    - Publicity on behalf of authors or content providers

Slide 8   How much service?

What is the range of services that you will provide with your IR? The idea that you will set up an archive and users will add their own stuff is a fantasy.

- Assist with or handle submissions?
  - o I think you better count on doing this, at least initially. For us, over 90% of what is in the archive has been submitted by library staff on behalf of content providers
- Convert files on ingest?
  - o Will you do this to try to stabilize the content, make sure it is in a standards-compliant or non-proprietary format. We routinely convert Word files to pdfs
  - o Or to make sure it is easier to open and use? – we have taken some very large files and compressed them
- Clean up or review metadata?
  - o We have found it necessary to do some metadata cleanup for almost every item that has been submitted by the content provider himself, because of typos, lack of sufficient description of the files,
- Digitize hard copy? **(Cont.)**

- o More and more, we find that we are digitizing hard copy on behalf of content providers. Do you have the staff, the expertise, and the equipment to do this? Will you do this for free or will you charge for it?
- Develop supplemental pages or web forms?
  - o We have developed a lot of contextual pages to help explain and promote the archive, as well as web forms to facilitate obtaining permissions from authors who want us to submit their content for them (this is a workaround necessary because of the software design)

- Develop customized search interfaces?
  - o We haven't yet developed any customized search interfaces although we have identified it as one of the areas we would like to move into

- Assist with copyright investigation or obtaining permission?
  - o This area has the potential to absorb the greatest amount of time. Will you do it at all, or will you do it for select authors? For some high-profile faculty, I have personally contacted publishers and requested permission to put their work in the archive. For one collection, we have sent emails and follow-up letters to a group of alumni to request permission to put their honors papers in the repository.

Slide 9   How much service?

Some additional services you might consider or find that you have to provide are:

- Provide use statistics?
  - o Does the software give you what you want for pushing this out to your users? Does it provide this information at sufficient level of detail? Will you modify the software or use supplemental tracking mechanisms (such as webalizer) to give you more information? How far will you go to get the information out to your users?
- Provide current awareness services?
  - o Does the software provide a mechanism for alerting people to new content? If it doesn't, will you try to incorporate the IR content into other current awareness services you may already be providing?
- Integrate with other services?
  - o What will it take to integrate the IR with your other library services? Even though our IR is OAI-compliant, it's taking significant effort to integrate it with other databases we're building into our library's portal. We have also found it a challenge to set the IR up with SFX, as an example.
- Develop marketing tools? **(Continued ...)**

- o Are you going to develop tools for marketing the IR yourself or hire a consultant to develop some of them for you? Handouts, slideshows, brochures, news alerts, luncheons may be some of the marketing tools you employ

- Set up focus groups?
  - o Will you set up focus groups to review the service and its utility? If so, how will you pay for this?

- Long-term preservation of files?
  - o How will you handle preservation of the content reliably? Do you really know what this will cost? We have a group that is working on digital preservation issues for all of our digital content and no one has ever tracked the costs of the staff time, the storage, the backup procedures and media, the migration of deteriorating materials to new formats

- User support and problem resolution?
  - o Do you have staff who will be able to talk with users (face-to-face, email, chat, phone) and resolve their problems? We get multiple contacts a week from users who are having some difficulty that they need help with. Some of these are local, many are from around the world.

Slide 10 Other costs

What are some of the other costs that you may not have thought about?
- Server capacity
  - Will you need to buy a new server? We just did, with the full package coming to around $4000 for hardware and software (not counting staff time to set it up and migrate files and database)
- Operating system
  - You need to have the right operating system to run these different systems and you may need to upgrade in order to do so
- Database set-up
  - Getting the database set up and running the way you need may be costly
- Licenses and certificates
  - You may need licenses and certificates for authentication and these carry costs, both for the purchase, as well as for the staff time to set them up
- Registration with other services
  - Registering with harvesters and servers takes time and sufficient expertise to make sure your output is OAI-compliant; there may also be fees associated with some registries
- Attending meetings and conferences – stay abreast
  - May need to attend different meetings

Slide 11   UO's early development costs in hours

In the first 18 months, I kept a rough estimate of the number of hours that had been spent by library staff on studying the issues, setting up the software, getting some initial content, handling submissions, and the rest. I did not track at all the many hours that I spent (and still spend) on developing and refining the contextual web site that surrounds and supports our IR.

Out of a total of 2005 hours that I did track, you can see how things broke down.
- 24% of our time was spent in email discussions or face-to-face meetings of our initiative group (which became our steering committee).
- 26% was spent on system setup and administration – the setup being handled by highly skilled technical staff and the administration (setting up new communities and collections with the proper permissions and templates) being done largely by me.
- 30% of our total hours were spent submitting content on behalf of our authors. The remaining 20% was spent on outreach to get the content and market the service. So, 50% of our hours – 1000 hours – were spent trying to drum up business and then loading that content in.

Slide 12   UO's early development costs in dollars

Here you can see the actual dollar costs – almost all of which were salary and benefits – for the first 18 months of planning and implementation. Since we used an old server that had been sitting around, since the software was open source, we only spent $500 for a new certificate for the IR.

46% of our total costs – slightly over $38,000 – was directed toward acquiring and loading content. That was for a total of 1200 items. A pretty expensive proposition for something that we thought would be largely self-service when we started. Over $31 per title – and that's less than what it really cost.

However, when I look at our use statistics, items are being viewed hundreds of times – which is a much higher circulation than most print counterparts have. When I compare the cost of binding and cataloging a dissertation that circulates perhaps 3 times, if you're lucky, with the cost of making that same content available in the archive and watching it be accessed over 800 times in the same time frame, then those costs seem relatively insignificant.

But, whether you consider the costs justifiable or not, they are new costs that you have to be able to absorb or pay for in some way.

Slide 13   Business plan elements

In a publication for the Council on Library and Information Resources in 2004, Liz Bishoff and Nancy Allen outline the elements of a business plan that cultural heritage institutions need to set out in order to develop a sustainable digital asset management program. It's a short publication of 55 pages and might be worth reviewing to help you think about the issues we've covered so far and still have to cover and fit them into a solid business plan. The elements of a business plan that they recommend include:

- Mission, Vision, Values, Goals
  - We've talked a bit about some of these aspects directly and indirectly and we'll go into some of them a bit more in the next two sections
- Executive summary
- Product or service description - Pretend you have to sell this idea – what is it that an IR would provide?
- Needs assessment or market research
  - Some sites that have set up IRs have done extensive market surveys, such as MIT, the University of Rochester and you can find some of their findings. You might find them discouraging, however, because we were all fairly naive going into this. **(continued ...)**

- o Early on, I wanted to do a survey of our potential users. It's probably just as well that I didn't because the idea we were trying to sell was not what our campus wanted and we probably would have found a response that was insufficient to justify our effort.
  - o
- Environment and competition
  - o What is the local environment like? Who or what are your competitors? There are a lot of existing and potential competitors. For instance, one of our early adopter communities was the Economics department which already was depositing their working papers in a discipline-based archive, RePEC. It was a hard sell to get them to allow us to harvest their works and put them into our archive.
    - o
- Markets and services
  - o We talked a bit about identifying your target audience. In the marketing section I'll be talking a lot about how we have developed and modified our services to suit particular markets, as an example of approaches you might want to take.

Slide 14   Business plan elements

Additional elements they mention for a business plan include:
- Pricing
    - Are you going to do it all for free or will you charge for some services or will you charge outsiders for access to some of your content? MIT is one institution that charges for handling submissions and that also charges users from outside MIT for access to some of their files.
    - Bishoff and Allen also talk about tracking direct and indirect costs.
- Distribution
    - Most IR content is delivered through institutional web sites. There are vendors, such as ProQuest, who will not only help you make your institution's digital content available but will also help you distribute it more widely. IRs open the possibility to these non-traditional partnerships.
- Communication
    - There is more to a communication plan than institutional branding. It also includes a full range of promotional strategies and activities.
- Organizational structure has a large impact on long-term sustainability
- Operations
    - Facilities and equipment; Management and staffing
    - Legal issues

Slide 15   Business plan elements

And finally these last two elements

- Financial plans
    - o Bishoff and Allen recommend having a separate financial plan, and not just incorporating these kinds of initiatives into their existing operating budget
    - o They say that a financial plan should cover 3 to 5 years and should have expense and revenue components. We have so far not developed any revenue streams affiliated with our IR, not even cost-recovery revenue for services such as digitization, submission of content, and application of metadata
- Product evaluation and usability assessment
    - o Evaluation should be done on a regular basis
    - o Use is one measure
    - o Usability of the site is another way of assessing its utility
    - o Customer satisfaction surveys are another way

Hopefully, these ideas will help you evaluate the resource issues surrounding the implementation of an IR at your institution.