COSTS

The costs of IRs have and will continue to vary greatly between institutions. Cost variations are affected by many factors including the price of the system itself, level of existing staff and infrastructure, and how actively use of the IR is advocated. As a result, an exact dollar figure isn't possible to determine from this report. With this caveat, the big-ticket items involved in an IR project are outlined below so you can create a rough estimate.

Staffing

Staffing can be the most costly component of an IR project. Unless the system is hosted by another organization, technical staff are needed to initiate, run, and maintain the system and provide any customization. If you decide to use an open-source system, you will need a system administrator and a programmer.

Depending on the complexity of the system, the IR may take only a portion of the administrator's and programmer's time. One strategy is to hire a full-time system administrator or programmer for the project, with the understanding that after a year or so, once the IR has become a firmly established service, the staff member(s) will be partially reassigned to other projects.

The required level of staffing also is dictated by how close a fit you can find between your institution's needs and the functionality of an IR system. The more customization and adaptation required, the more staffing resources the IR will need.

Customization wants could range from the simple tailoring of the user interface templates to integrating the IR with already existing complex systems, such as PeopleSoft. Regardless of which system you select, assume that the out-of-box version will not exactly match your needs.

Regardless of whether you select a commercial or open-source system, the project will require the skills of nontechnical staff. If the members of your organization are generally unfamiliar with the concept of an IR, then some advocacy and educating will be required—not just about IRs, but also related concepts, such as scholarly communication, copyright, and open access.

This educational role will probably require at least a quarter to a third of a staff member's time until you are satisfied with your community's level of awareness.

An IR needs one or more people to focus on content recruitment. As previously discussed in Chapter 3, making deposits into an organization's IR is not a routine activity for most people. Doing so requires a change in habits and work practices.

The costs and efforts involved in maintaining an IR are substantial. Unless you can quickly prove the value of the IR, the organization's long-term commitment to the project may begin to wane. The best way to demonstrate the enduring value of the IR and to ensure its long-term survival is to quickly populate it.

This quick population will only happen if one or more people have at least part of their jobs devoted specifically to recruitment of content. Content recruitment strategies are discussed in Chapter 9.

Selecting members of the library staff to help with content recruitment is a logical choice, particularly if the library is closely involved with the IR project. On an academic campus, librarians, specifically subject bibliographers, have an established relationship with the faculty.

Moreover, they have expertise that can help in the assessment of the appropriateness of materials for the IR. As an example of this staff position, at MIT a full-time librarian serves as the faculty liaison. The job description includes user training, outreach, and collection setup. At the University of Rochester, a bibliographer devotes one-third of the workweek to serve this same role.

Additional, nontechnical staff will be needed for any of the ancillary services that you decide to provide in conjunction with the IR, as discussed in Chapter 5. Metadata enhancement, digitization, proxy submission services, and user support all require some level of new or reassigned staffing.

Equipment

Unless you decide to use a hosted IR system, equipment is needed. The documentation on the websites of most IR systems includes details about hardware and software requirements. These requirements usually include a Web server and relational database.

In addition, storage is required to house the digital content. Unless you know of an immediate need for it, do not purchase large amounts of storage at the onset, because the cost of digital storage decreases with every year.

If you expect to significantly customize your system, a development server is strongly recommended. Even slight downtimes or malfunctions on the production server can have an impact on the level of trust people have for their IR.

Unless users believe that the IR is stable and can fulfill its promises of permanence and durability, little incentive exists for users to deposit their documents. Consequently, only modify or experiment with the source code on a development server. Ideally, your development configuration should be identical to your production configuration.

To fulfill part of the IR's core function of preservation, ensure a solid backup system is in place. Depending on how you plan on backing up your system, the costs could include magnetic tapes, off-site storage, redundant servers, and mirror sites.

Libraries should recognize that the redundancy requirements for an IR are likely far greater than the backup currently used for other library systems, such as the library catalog. Loss of data from a library catalog is an inconvenience, but missing catalog records can be replaced and losing some circulation records is not catastrophic. The content of an IR, on the other hand, is unique and sometimes irreplaceable. A zero-tolerance policy for IR content loss is required.

Ancillary services can come with significant equipment costs as well. For example, a full-service digitization lab has a rather large price tag.

One way to control costs is to charge for some or all of the IR services, both core and ancillary. Although a seemingly endless suite of cost recovery configurations exists, three examples are presented here.

- Institution A decides to subsidize completely the cost of the core IR services. Ancillary services, however, such as metadata enhancement, are provided only on a cost-recovery basis, by a charge back to the content owner's department. Annual storage quotas are established and storage needs in excess of the quota are assessed an annual fee on a sliding scale.

- Organization B decides to charge the individual content owners for each deposit. Those who opt to use the IR pay for it, just as those who park on-site pay for a parking permit. Although no ancillary services are offered, the organization has established a discount rate with a local digitization vendor.

- Institution C, deciding that participation in the IR is critical to the success of the organization, completely subsidizes all core and ancillary services of the IR. The increased visibility and use of the institution's scholarly works *via* the IR more than compensates for the annual price tag of the IR project.

The most costly component of an IR may well be the future costs of preservation. Unfortunately, most people have little experience on which to build even the roughest estimates of future preservation costs.

One approach to control costs is to establish a preservation escrow account into which funds are placed each year in anticipation of the inevitable future costs of preservation. Escrow accounts also could be established for future equipment upgrades and additional digital storage needs.

An IR system with attractive services and a strong preservation commitment is not a cheap investment. Here are some examples:

- MIT estimates that its DSpace repository costs about $285,000 per year in salaries, benefits, operating expenses, and equipment escrow (Barton & Walker 2002, Appendix B).

- Queen's University, in Ontario Canada, is expecting that its IR (DSpace installation) will require annually about $100,000 (Canadian dollars) annually just in project staffing.

- The University of Oregon estimates that its IR will require anywhere from 2,280 to 3,190 staff hours during the 2003-2004 fiscal year.

- At the University of Rochester, an estimated $200,000 ($66,000 from an IMLS grant) in staffing, travel, and equipment costs will be incurred from October 2003 through September 2004.

As more institutions gain experience with the daily routine of running an IR, estimating costs will become a more precise activity.