

## *Leveraging Expertise: Outsourcing Digitization Activities*

Robin L. Dale

LYRASIS

April 2012

### **Introduction:**

Digitization projects involving cultural heritage content have changed radically in size, scope, and volume in the last ten years. Once driven by boutique operations performed mainly by more well-funded organizations, digitization projects have grown in size, scale, and complexity to include large collaborative projects – both not-for-profit and for-profit enterprises – alongside the ongoing smaller, organizational projects. All sizes of organizations are pushing to digitize at least some of their content in a struggle to meet user demand for web-based content as well as make the public aware of their valued collections available at their “brick and mortar” locations. However, simply digitizing cultural collections of images, text, and audiovisual materials to make them available in organizational web-based collections is no longer the recognized community goal. Instead, the current and more exciting goal involves bringing together digitized content into a larger “collective collection” to enable all users access to the body of digital content – digitized and born digital, published and unpublished, images and media alongside text and data – available to all. These kinds of projects have already begun and include focused, mainly book-based collections such as the Google Books Project (2012) and HathiTrust (2012), to the more all-encompassing Digital Public Library of America (2012) and Europeana (2012).

The lessons of the past 10-15 years of digitization projects have informed and influenced the digital projects we are seeing today. The successful ones are planned with forethought for sharing of content - metadata and often digital objects – through state, project, and even larger collaborative efforts. Issues and experiences related to selection, digitization, metadata, encoding, quality control, access systems, and the use of standards have all been examined in the process of moving from small, expensive, boutique digitization projects to larger, more cost-effective projects that are capable of producing shareable, findable content at a reasonable cost. The results apply for projects both large and small. Funding for infrastructure and equipment costs previously obtained through grants is harder to find as funders look to and encourage cultural heritage organizations to leverage the experience and economies of scale developed through past projects.

All of these issues are likely to influence an organization’s decision-making process, especially if entering a first digitization project. Organizations previously concerned about sending content to vendors should know that years of experience have created many vendors capable of appropriately handling and caring for unique materials during the digitization process, as well as producing digitized content to exacting requirements. Organizations hoping to manage the entire digitization project locally should be aware of the multitude of challenges they may face by “going it alone” – the reasons for which are best described by Roy Tennant as being expense, expertise, and time. (1999).

### **Digitization of Content:**

Previously, digitization was accomplished in two different ways: through in-house digitization or by outsourcing tasks to vendors. Today, there is at least one more prevalent option: outsourcing parts of a digitization project to a collaborative partner with extensive and/or specialized digitization expertise and equipment. Depending upon the size of the project, the complexity of the process, the timeframe in which the project will need to be completed, and the experience of the organization, the decision to utilize outsourcing may or may not be an initial consideration. However, unless an organization owns a large, in-house digitization facility with equipment suitable for all formats it plans to digitize, there are valid reasons to include outsourcing considerations during digitization project planning.

In an interesting bit of irony, people and organizations experienced with digitization projects are *more likely* to outsource components of digitization projects than are those that lack experience. In a 2008 Primary Research Group study, nearly 49% of the organizations in the sample outsourced some form of digitization, in whole or in part, to an outside party. Museums were more likely than other organizations to do this kind of outsourcing; more than 61% of the museums in the sample outsource some form of digitization to an outside party. By 2011, the data changed to reflect on average all participants outsourced 27% of their digitization work. (Primary Research Group, 2011) For most people new to digitization projects however, a prospective project is equated with an opportunity to learn new skills. Therefore, the initial urge is to attempt all components of the project in-house. First projects are also seen as an opportunity to acquire the technological equipment necessary to support the first as well as future projects therefore outsourcing any component of the project is often viewed as a lost opportunity or even loss of control over the project.

While these are valid beliefs, the reality is that digitization projects encompass a wide range of choices, activities, formats, equipment, expertise, and responsibilities that may be best accomplished and mastered over time. Before making firm decisions about a project and certainly before writing a project proposal, one should consider all of the needs of a project before eliminating outsourcing or collaborative digital projects from consideration.

### **Easing Concerns: a false dichotomy?**

One of the biggest fallacies is that an organization must outsource a digitization project *or* complete it in-house. In reality, such a dichotomy does not exist. There will *always* be in-house components of any digitization project, even those where an organization is participating in a collaborative project. Tasks such as selection, determining user needs, establishing required digitization quality specifications, project management, and quality control and verification are best performed by staff members who know the collections. In many cases, metadata or descriptive activities will also need to be accomplished by the owning/collecting organization.

As mentioned earlier, more and more projects – especially those leveraging grant funding – are collaborative projects where multiple organizations are all contributing to a project,

such as in state-based collaborative programs, like the South Carolina Digital Library, <http://www.scmemory.org>, or subject or genre-based resources such as the BioDiversity Heritage Library, <http://www.biodiversitylibrary.org>. In these cases, project partners often identify existing infrastructure and capabilities within the collaborative or partnership so that one or more partners perform the digitization for all partners.

In the decision-making process, take these questions into consideration:

- How large is the project staff?
- How much experience do staff members have?
- What is the duration of the project?
- Do they have time to accomplish the in-house tasks and manage the learning curve associated with digitizing collections and making them available?
- Are there other organizations that may be willing to partner in the project to assist with some of the tasks?
- Does your organization have the appropriate equipment to digitize the range of resources you hope to address?
- Does your state have a state-based collaborative digitization program? If so, shared equipment, staff, and possibly funding may be available to your organization.

Remember: for some organizations the only feasible and timely way to accomplish the project may be to vend out certain components to experienced professionals. For others, vending out certain aspects on the first project may allow more reasonable learning and expense curves coupled with a successful first project; acquiring hands-on digitization experience can be reserved for a time when other aspects of project management have already been mastered. Regardless of an organization's experience level, it is important to understand the pros and cons of both the in-house and outsourced approaches.

### **Why Digitize In-House? The advantages of keeping it at home**

As Janet Gertz has said, "The primary argument for digitizing in-house is that it gives the institution close control over all procedures, handling of materials, and quality of products. There is no need to send valuable or fragile originals off-site and no worry about working with a vendor who turns out to be incompetent, provides something other than what was required, or goes out of business." (NEDCC, 2000) This advice reflects tried and true experiences of some early projects and this concern is surely on the minds of some organizations beginning to digitize their collections.

But there are other reasons why organizations may choose to complete all digitization components in-house. They include the ability to:

- **"Learn by doing."**  
One can gain valuable project management insight and expertise by managing, performing hands-on tasks, and following all aspects of a project through the cycle.
- **Define requirements incrementally.**  
When working with a vendor, you define your digitization requirements in the contract before work begins; any changes could require contract renegotiations

and possibly price increases. When managing the digitization process in-house, organizations can adjust requirements incrementally, making changes to specifications based on gradual experience.

- **Retain direct control & ensure security and proper handling**  
When retaining direct control over the entire process, an organization can manage the entire imaging process as well as the security, handling, and storage of the original materials.
- **Ensure the primacy of library, archives, and/or museum requirements**  
Over the last ten years, many businesses have begun providing “scanning services.” Unfortunately, not all of these vendors work regularly with cultural heritage organizations and may not be able to provide the best advice regarding the digitization of cultural heritage collections. Direct participation in the development and digitization of original materials allows organizational staff to control requirements and ensure that the digitization meets user needs.

### **In-House Disadvantages:**

So while you’re learning by doing, you also face the downside of essentially setting up your own imaging facility. The anticipated *learning curve* may grow to present itself as a series of *learning walls* over which organizations must hurdle. How prepared is your organization to face the following disadvantages?

- **Larger organizational investment;**  
Good, solid infrastructure takes a while to build. It is unlikely that a medium quality scanner (<\$300) available at an office supply store or a consumer-level digital camera will meet digitization needs. Acquiring appropriate audio and video equipment and facilities are exponentially more expensive to create. You will need to purchase and/or acquire appropriate hardware, software; acquire and train staff; acquire and develop facility space, determine technical support needs and arrange for it, etc. And many of these are not one-time costs; most of them are ongoing to some degree or another.
- **Longer ramp-up time before digitization can begin;**  
You will not be ready to start your project at the moment you receive the funding. All of the issues noted about in building up organizational infrastructure will affect the starting date, as well as the length of time before the project can consider performing at the pace and experienced digitization facility can.
- **No set price per digitized item (image, audio or video file);**  
With all of the variables involved in beginning digitization projects, it is unlikely that an accurate, per item cost can be determined. (In contrast, when working with vendors, the cost of digitization is almost always related in per item charges that allow for easy comparison and understanding.) The old adage to determine in-house digitization costs is to estimate costs and then double it. And if it is your first project, double that sum again!
- **Comparably limited production capabilities and facilities;**  
It is highly unlikely that individual organizations can match the production facilities and pace available through vendors and dedicated collaborative or regional facilities. The latter are likely to have dedicated space designed for this

work along with an ability to run multiple shifts, if necessary, to ensure deadlines are met.

- **Wide range of staffing experience.**

It is inevitable that organizations will face a range of staffing experience. At the outset of the project, expertise will likely be low unless an organization is fortunate enough to have hired someone with experience. By the end of the project, staff will have obtained necessary experience. But between the beginning and end points lies variability that can affect quality, cost, and an ability to meet deadlines. Staff may leave and new people hired and trained to replace them. Each time, the organization must recover, retrain, and regain momentum.

### **A Big Challenge: Setting up an In-House Digitization Facility**

A digitization facility is more than a table, a digitization device, and a computer and many organizations do not own the appropriate hardware and software necessary for digital projects. Organizations considering tackling all aspects of a digitization project will need to ensure they have the proper people, facilities, equipment, and supplies before beginning a digitization project of any size. Failure to do so may lead to a variety of problems throughout the duration of the project and may yield digitized resources either not worthy of the time and effort needed to create them or unable to meet the needs of users.

So what will it take to set up the in-house digitization facility? Consider the following factors which must be addressed to support the full digitization chain:

1. Personnel
  - a. Do you have qualified management?
  - b. Who can and will provide training for staff members?
  - c. What is the productivity rate of staff? Can you count on stability of that?
  - d. What are organizational overhead and indirect costs?
2. Facilities
  - a. Is adequate, physical space available?
  - b. Does it meet minimal electrical requirements (power, dedicated circuits, etc)?
  - c. Does it have environmental controls appropriate to the materials and staff?
  - d. Does it allow a configuration that facilitates a productive workflow?
  - e. Does it have (and/or does your organizational require) ergonomically correct furniture for production staff?
3. Equipment
  - a. What digitization devices will be need to be acquired? Digitizing archival collections could conceivably require a variety of hardware such scanners, digital cameras, high resolution monitors, copy stands, audio conversion devices, video conversion devices, monitoring equipment, etc.
  - b. What about servers and storage devices for the resulting digital files?
  - c. What software will be required to edit and/or manage the digitized files?
  - d. What equipment will be necessary to allow for proper quality control?

4. Supplies
  - a. Are quality control targets (for digital imaging) already owned or must they be acquired?
  - b. Will DVDs, network storage space, and/or external hard drives be needed for file storage and transfer?
  - c. What other supplies may be needed throughout the project and has an appropriate amount been budgeted to allow for those purchases?
5. Hidden or commonly forgotten costs
  - a. Who will handle the development and/or programming costs to make the digitized materials available online, as well as present a customized “look and feel” for your organization?
  - b. If electing to use a content management system rather than developing an in-house solution, what is initial the fee for purchasing or licensing the software? The ongoing, annual cost?
  - c. Who will be developing the in-house documentation? The workflow processes?

The issues above are just a sampling of the components necessary to supporting the in-house digitization chain. These are time requirements and costs that must be borne by the organization.

### **The Fudge Factor and Ongoing Costs**

Accurate budgeting of time and cost requirements is difficult without experience, so organizations should factor in a generous curve in expectations for both between project startup and production. Organizations should also understand that the requirements and questions above are not one-time issues. Many of them are ongoing, requiring ongoing time and monetary investment. There will be annual equipment costs, maintenance licenses, system monitoring costs, replacement costs associated with technological obsolescence, and certainly the costs associated with the preservation of the digital files created during the project. Is your organization ready to take on all of these commitments? If not, outsourcing at least some components of the project should be considered.

### **Outsourcing**

There are a variety of services that can be outsourced throughout a project. The need for any of these will depend upon the nature of the materials to be digitized, the technical and staff capabilities of the local organization to meet those needs, and/or decisions made in relation to local priorities and project needs. Some examples of available outsourced services include:

- Original materials preparation
  - Document flattening or conservation
  - Photograph cleaning
  - Audio or video tape cleaning
- Digitization (conversion)
  - Paper, books, serials
  - Microfilm, microfiche

- Film negatives, transparencies, slides
- Audio formats
- Video formats
- Metadata services
  - Metadata creation (technical, preservation)
  - Descriptive metadata enhancement
- Additional file processing
  - Optical Character Recognition (OCR) processing of printed documents
  - Rekeying of documents to allow for encoding and/or to facilitate full-text access
  - Encoding services (EAD for finding aids, TEI for texts, etc)
  - Derivative creation (creation of alternative file types – different from master file – to suit a variety of needs)
- Digital Preservation and file back-up services
  - Some vendors and many collaborative organizations offer file back-up (bit preservation) and digital preservation options too. Simply retaining copies of files on DVDs or external hard drives is not enough. Organizations unable to provide for the digital preservation needs of their collections should consider working with a vendor or partner organization to preserve their collections.

### **Advantages of Outsourcing**

With the variety of outsourced service available, there are compelling reasons to consider taking advantage of the services offered. In fact, the broad range of services and options available is one of the main advantages of outsourcing at least some components of a digitization project. Other advantages include:

- monetary investment and technical infrastructure are responsibilities of the vendor/partner;
- obsolescence costs are borne by vendor/partner;
- organizations can budget and rely upon a set cost per digitized item;
- the volume and throughout of a specially-designed and staffed production facility is far greater than any cultural heritage organization is likely to have;
- problems related to staff expertise and staff retention are incurred by the vendor/partner.

Essentially, the risks associated with many of the digitization process and its related activities are placed onto the vendor/partner, alleviating many of the expensive and time consuming activities that an organization would otherwise need to establish and manage. Consideration of phased learning and skill building is important. Utilizing outsourced services – especially during an organization’s first few projects – may be a wise decision that allows for gradual digitization learning curve. Experience may just reinforce the benefits of working with partners/vendors.

### **Disadvantages of Outsourcing**

As with most choices to be made, there are some disadvantages that must be factored into a decision about outsourcing components of digital projects. Please note: most of these

apply to working with vendors and do not apply to collaborative partner relationships. These include:

- **The organization is one step removed from the digitization process.**  
Local quality control –at least a sampling – will be necessary
- **Not all vendors are experienced in working with materials from libraries, archives, and museums.**  
A quick look at a newspaper or business magazine will reveal a variety of businesses selling “scanning” or “digital archiving” services (In the latter case, “digital archiving” is being misused to describe scanning and saving documents to some sort of storage media.) These are most likely not the vendors you should consider for the digitization of your valuable, original materials.
- **Contracts must articulate needs clearly and at the beginning of the process.**  
Signed contracts should include the technical specifications the vendor must meet during digitization. Make sure the contract includes statements about problem identification, negotiation, and consideration of solutions.
- **Because most vendor/partner work is performed offsite, organizations will need to transport potentially all materials**  
This tends to be the basis for the strongest objection to outsourcing, especially for rare, special, or fragile materials. It need not be a problem, however. Some vendors will drive to an organizations location for pickup and still others will coordinate special shipping to ensure safe arrival of materials at both ends. The latter is almost always the case in state-based collaborations and is a huge benefit, greatly minimizing risk.

As noted within the points above, there can be some disadvantages to outsourcing some components of digitization projects. Many of these can be mitigated through careful contracts, clear lines of communication with the vendor, and the use of a trusted service provider. The trick is to choose outsourced services and vendor/partners wisely.

### **Choosing Services and Vendors**

Before outsourcing, understand how your needs can be met by a vendor/partner. And if using a vendor, what will be the cost to do so? If working with a collaborative partner or state/regional digitization center, understand the project, the requirements of your organization, and if any funding might be available to offset costs to your organizations (many state/regional digitization centers receive LSTA or other funding to assist organizations in the area).

The identification of potential vendors can only be done through an understanding of requirements for each component. Are digitization (conversion) services being sought? If so, what are the technical quality requirements for the digitization? Are any post-processing services desired? OCR? Encoding? To what standard(s)? What are the expected deliverables? How are expectations to be communicated to vendors? How can responding vendors’ claims be evaluated?

## Locating Potential Vendors or Regional Digitization Centers

Finding qualified vendors is not as difficult as it may seem. Consider calling colleagues (friends, organizations with a similar project underway, organizations in the same geographic area, etc.) for recommendations. Organizations should consider contacting their state collaborative digitization program for information about digitization centers and other ancillary services that may be available to them. Other potential vendors may be identified by searching the Internet for final reports from digitization projects (grant requirements often demand a final report covering all aspects of the project and organizations generally make these available on project websites). Colorado's Collaborative Digitization Program generated a great deal of documentation during its project phases to support cultural heritage organizations' digitization. (This documentation is now made available by LYRASIS as a part of its Digital Toolkit. <http://www.lyrasis.org/digpres>).

Other useful mechanisms for locating potential vendors are Requests for Information (RFIs), Requests for Qualification (RFQs), and Requests for Proposal (RFPs). Each are slightly different and are used to communicate specific requirements to potential vendors and seek information on their ability to meet those needs. *Because of the complexity and time-consuming nature of the process, RFIs, RFQs, and RFPs are generally only used for larger projects that involve multiple formats or services desired from a single provider.* They may also be necessary if your organization or funder requires multiple bidders to meet your project's needs.

## Sample RFIs, RFQs, and RFPs

There are many examples available to organizations to utilize when crafting their own. They include:

- Indiana University, [Request For Proposal For Digital Imaging Production Services](#)
- Minnesota Digital Library, [Digitization Vendors RFQ](#)
- Library of Congress, [RFP96-5: Conversion of Microfilm to Digital Images](#)
- State of Montana RFP, [Montana Historical Society Newspaper Digitization and Data Services](#).
- University of Michigan, University Digitization Specifications, [Request for Proposal \(audio\)](#)

## Evaluating Responses from Vendors

The whole purpose in developing a comprehensive RFP is to be able to obtain as much relevant information from vendors to allow for a fair, impartial evaluation and decision-making process.

Some issues to consider in evaluating RFP responses:

- Do all responses reflect an understanding of project requirements?
- Does the vendor demonstrate an understanding of relevant, best practices and standards?

- Does the vendor have the staff (both size and qualifications) that would enable them to complete the project or will new staff need to be hired and trained for this project?
- Were all questions answered completely and “correctly” in the context of the RFP?
- If asked, did the vendor provide samples of work and do they appear to meet specifications of the project?
- Can the vendor complete all aspects of the proposed vended services or is it proposing to subcontract out some of the work?
- Are the proposed costs reasonable for the services to be provided?

In addition to the questions above, consider the following:

- Call references provided by the vendor. Discuss the vendor, the quality of its work, and how well it completed work with another organization.
- Be cautious of bids that are unrealistically low or high. Bids for similar work should be fairly comparable.
- Beware of any vendor with significantly lower prices than other vendors. A very low bid may indicate a vendor who cuts corners or has failed to understand what is really required to produce the products. Caveat emptor!

### **Contracting and Working with Vendors**

After a vendor is selected, the contract can be drawn up. A great deal of this can be drawn from an RFP but below are a few important things to ensure are included in a contract:

- A brief description of the original materials, specifically mentioning each type (especially if requirements vary by type of original).
- A statement on whether subcontracting will be allowed.
- A brief statement on the “work for hire” nature of the contract (organization maintains ownership of all project outputs).
- The technical specifications to which materials must be converted, encoded, etc.
- A brief description of the expected quality of the deliverables and a stated understanding of “acceptable” quality, as well as quality control methods to be used before materials are returned to the organization.
- A statement on error correction, how long an organization has to perform quality control, whether error correction is free to organization, and what charges if any, may be associated with error correction.

As Gertz (2000) said, the keys to a successful project are flexibility and constant communication with the vendor during the project. Here are some things to discuss, as needed:

- Encourage regular communication with and from the vendor.
- Stay on top of local quality control responsibilities so that any problems can be identified and reported as soon as possible.

- Be fair to the vendor. Stay on schedule! The vendor is contracted to maintain a certain production schedule. If unavoidable delays arise or changes in shipment contents change, the vendor should be informed as soon as possible.

### **Conclusion**

With the increasing options for outsourcing components of digitization projects, cultural heritage organizations now have much more viable, affordable options than buying their own equipment – especially for smaller projects (<100,000 items) or maintaining every aspect of a digitization project in-house. Outsourcing one or more components of a digitization project *should* be a consideration during the planning phase of most projects. State-based or other similar collaborative organizations should be contacted to discern whether qualified regional digitization centers or potential partners exist and if their experience and/or infrastructure can be leveraged by qualified organizations. Funding or expert staff assistance may also be available through these same collaboratives. Partnerships can also be created with local, larger organizations that have digitization infrastructure. These organizations will often provide digitization “at cost,” yielding the same expert assistance provided by vendors but likely at a lower cost.

Opting to use the skills of qualified professionals or seek help from collaborative partners should not be equated with a “loss of control” in a digitization project. To paraphrase Roy Tennant again, outsourcing can help any digitization project in three very important areas: expense, expertise, and time. (Tennant, 1999)

## Sources

Gertz, Janet. "Vendor Relations," *Handbook for Digital Projects: A Management Tool for Preservation and Access*. Andover: NEDCC, 2000 (PDF version, pp. 150-163)

Digital Public Library of America. < <http://dp.la/about/>>

Europeana. <<http://www.europeana.eu/portal/aboutus.html>>

Google Books. <<http://books.google.com/intl/en/googlebooks/about.html>>

HathiTrust. <<http://www.hathitrust.org/about>>

Indiana University. *Request for Proposal for Digital Imaging Production Services*, April 2001.

<<http://www.dlib.indiana.edu/services/digitalProjectPlanning/CushmanRFP.pdf>>

Kenney, Anne R. and Stephen Chapman. "Outsourcing Imaging Services." In *Digital Imaging for Libraries and Archives*. Ithaca, NY: Cornell University Library, 1996.

Library of Congress. *RFP96-5: Conversion of Microfilm to Digital Images*.

Washington, DC: Library of Congress, 1996.

<<http://memory.loc.gov/ammem/prpsal5/rfp5.pdf>>