Digitization and Archives
Table of Contents

Declaration of Principles Concerning the Relationship of Digitization to Preservation of Archival Records ................................................................. 1

Decision Tree for Digitization Projects ........................................................................ 2

Selective Bibliography ........................................................................................................ 6

Case Studies ........................................................................................................................ 8

Preservation Committee
October 2002

Canadian Council of Archives
Declaration of Principles Concerning the Relationship of Digitization to Preservation of Archival Records

Digitization is the transformation of analog information (from whatever form and from whatever support) to digital code.

The Preservation Committee of the Canadian Council of Archives supports the following principles as a guide to the development of digitization programs in archives.

1. Digitization encourages preservation by limiting the handling of original records.
2. Digitization is, above all, part of an access strategy.
3. The process of digitization must not place original records at risk of damage from handling or use.
4. The establishment of a digitization service must not violate the physical or intellectual rights (property rights, copyright or privacy) of persons.
5. Digitization must strive to preserve to the greatest extent possible the authenticity and integrity of the original information. Digital enhancements may be performed on copies to improve access, but an “authentic” unaltered version (the original analog document or a digital version) must always be kept.
6. The institution must define clear objectives (access, or a combination of access and preservation) before implementing a digitization program.
7. Records should be chosen for digitization only after a careful selection process. They must meet project objectives, not present legal constraints, be capable of being digitized and match available resources.
8. The technological approach to digitization must satisfy project objectives and must accommodate the characteristics of the records.
9. Search tools are an essential part of a digitization project and must meet the needs of users.
10. Since digital information is at risk of loss due to technological obsolescence (physical supports, logical formats, as well as software for searching and displaying the information), institutions embarking on a program for the long-term preservation of digital records must be aware of these dangers, the complexity of such a program, and the costs that are implied.
11. Institutions must not neglect other activities when allocating resources for the establishment and maintenance of a digitization service.


It is essential to evaluate the recurring costs of a digitization program (the cost of converting digital formats every three to five years).
12. The impact of a digitization program on the institution’s other public service activities (research room use, orders for copies, etc.) must be considered as a factor of informed decision-making.

13. Realizing the costs and complexities inherent in the development of a digitization program, institutions should try to share resources (financial, material, human) and collaborate with others, where possible.
Decision Tree for Digitization Projects

This decision tree is meant to assist archivists in identifying records for digitization projects by reviewing fundamental issues:

- first, that project objectives are clear and lead to identifying and obtaining the technology and resources necessary to achieve project goals;
- secondly, that the long-term costs of a digitization capacity must be maintained and supported by the institution and its parent organization.

This document addresses the steps in a digitization project at a macro level. To resolve technical issues at a higher level of detail, the reader is provided with a list of references for further reading. The reader will note that this document describes the management of digitization by “project”. The characteristics of records, the objectives possible and the means to reach them are so diverse that specific solutions are difficult to predict.

1. Are objectives of the digitization project clearly identified?
   - Yes
   - No

2. Can the records chosen for the digitization project be safely digitized?
   - Yes
   - No

3. Will digitization provide enhanced preservation?
   - Yes
   - No

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A high demand for records may justify a digitization project as a means of preventive conservation. Use of surrogates protects the originals from unnecessary handling and risk.

| Are the records frequently consulted? | YES | NO |

Digitization of records, and making them accessible via the Internet, may also be considered as a way to stimulate interest in certain records, or to enhance the profile of the institution. It should be noted that digitization may lead to an increased demand to consult both digitized and non-digitized records. This may result in increased preservation issues.

| Will digitization provide enhanced access to the records? | YES | NO |

If existing copies satisfy project objectives, there is no need to continue with a digitization project. If they do not satisfy objectives, the institution may consider digitization from these copies.

| Do copies of the records already exist in another format? | YES | NO |

The institution must document that all physical and intellectual rights, including property and copyright, have been cleared and that credit and compensation is provided where necessary.

| Is the institution aware of all relevant laws and agreements respecting rights associated with the reproduction and distribution of archival records? | YES | NO |

Making digital copies of records accessible generally means an increased level of processing (selection, description and indexing) of the records is required.

| Is there a sufficient level of intellectual control to permit access to digital copies? | YES | NO |

The institution must plan to achieve intellectual control over the records before beginning the digitization project.

| If digitization does not improve access to the records, another project should be chosen. | YES | NO |

Digitization of records, and making them accessible via the Internet, may also be considered as a way to stimulate interest in certain records, or to enhance the profile of the institution. It should be noted that digitization may lead to an increased demand to consult both digitized and non-digitized records. This may result in increased preservation issues.

| Will digitization provide enhanced access to the records? | YES | NO |

The institution should consider producing preservation quality copies at the same time as digitization.

| Do copies of the records already exist in another format? | YES | NO |

The institution must be assured that project objectives, particularly those concerned with enhanced distribution, are attainable within the context of the Copyright Act (RSC, chapter C-42, 1997, paragraph 31.1 a to 31.1 f), laws pertaining to the protection of privacy and access to information, as well as acquisition agreements between the donor and the institution.

| Is the institution aware of all relevant laws and agreements respecting rights associated with the reproduction and distribution of archival records? | YES | NO |

The institution must be assured that project objectives, particularly those concerned with enhanced distribution, are attainable within the context of the Copyright Act (RSC, chapter C-42, 1997, paragraph 31.1 a to 31.1 f), laws pertaining to the protection of privacy and access to information, as well as acquisition agreements between the donor and the institution.

| If digitization does not improve access to the records, another project should be chosen. | YES | NO |

Digitization of records, and making them accessible via the Internet, may also be considered as a way to stimulate interest in certain records, or to enhance the profile of the institution. It should be noted that digitization may lead to an increased demand to consult both digitized and non-digitized records. This may result in increased preservation issues.

| Will digitization provide enhanced access to the records? | YES | NO |

The institution should consider producing preservation quality copies at the same time as digitization.

| Do copies of the records already exist in another format? | YES | NO |

The institution must be assured that project objectives, particularly those concerned with enhanced distribution, are attainable within the context of the Copyright Act (RSC, chapter C-42, 1997, paragraph 31.1 a to 31.1 f), laws pertaining to the protection of privacy and access to information, as well as acquisition agreements between the donor and the institution.

| Is the institution aware of all relevant laws and agreements respecting rights associated with the reproduction and distribution of archival records? | YES | NO |

The institution must be assured that project objectives, particularly those concerned with enhanced distribution, are attainable within the context of the Copyright Act (RSC, chapter C-42, 1997, paragraph 31.1 a to 31.1 f), laws pertaining to the protection of privacy and access to information, as well as acquisition agreements between the donor and the institution.

| If digitization does not improve access to the records, another project should be chosen. | YES | NO |
9

Has the institution attempted to find partners for the project?

- Digitization in the private sector
- Sharing of resources between similar institutions

**YES**

An inadequate level of human, financial, material, and technological resources available may lead to a change in the scope of the project or the selection of other records for digitization.

**NO**

10

The technical specifications selected have a considerable impact on the project’s budget, on the management of the project, on the current and future use of digital copies, as well as the long-term preservation of the digital information.

**YES**

The technical specifications for meeting the objective(s) of the digitization project have been identified?

- Image type (B&W or colour; bit-depth)
- File format (tif, jpeg, mpeg, mp3, Thumbnails, etc.)
- Density (in dpi) and size (in pixels) of image
- File storage (hard disk, CD-ROM, etc.)
- Search (database)
- Distribution (Internet, CD-ROM, etc.)

**NO**

Research the available options and chose those which best satisfy the project objectives.

4 Including the application of preventive conservation measures and, if necessary, the conservation treatment of records.

5 The institution must develop a rigorous quality control process for three stages of the project: first, during the preparation of a specifications document, irregardless whether the work is done within the institution or by the private sector; second, during key steps in the project; and third, during the delivery of the final product.


7 Institutions who intend to scan textual documents using optical character recognition must use a density which meets project objectives.
Institutions who commit to preserving information in digital form must also commit to a substantial investment in keeping up with technology. While international standards address physical formats for digital information, this is not the case for software components (operating systems, databases for search capability, viewing software), or for logical formats where a certain level of risk management remains. Planning for migration/ conversion is required for long-term preservation of digital formats and information.

Has file migration/conversion been planned?

- Change in physical format
- Change in logical format
- Migration of databases

Evaluate the long-term costs for the preservation of digital formats and obtain the resources necessary. If the resources are not available, modify the objectives of the project.

If the records chosen respond to the conditions described, if project objectives are in tune with the technological and financial resources of the institution, and if the parent organization supports the institution, the digitization project may begin.

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8 Problems associated with preserving digital formats are elaborated in many of texts listed in the bibliography with this document. The substitution of analog documents with digital surrogates is not recommended as the current state of technology does not yet offer sufficient guarantees for the long-term survival of digital formats. However, there are exceptions to this rule. The substitution or analog audio-visual documents with digital formats is foreseeable if the equipment necessary to read the analog formats will become obsolete and if the physical supports for analog audio-visual documents will no longer be available in the marketplace. It will be necessary, therefore, that the parent organization of the institution commit to maintaining, over the long-term, the digitization/preservation program that has been established. On that matter, read Besser (2001), Murphy (1997) and Paton (1998).

9 Concerning the question of risk management, read Conway in Sitts (2000) and Lawrence (2000).
Selective Bibliography

To update and expand on this selective bibliography, the reader is advised to see the web site of the National Library of Australia and consult the section called PADI – Preserving Access to Digital Information, a “subject gateway to digital preservation resources”. Other bibliographies organized by subject, and often with annotations, can be found on this site: National Library of Australia. Preserving Access to Digital Information (PADI). Canberra: National Library of Australia. http://www.nla.gov.au/padi

References to Internet resources were verified as of 30 January 2002.


Case Studies

The following references provide, or direct the reader to, case studies and examples of digitization projects:

References to Internet resources were verified as of 30 January 2002.

