Information Management Advice 56 Management of Digital Records on a Shoestring Budget

Introduction

There is an ever increasing need to manage digital records, but not all Agencies are in a position to move directly to a full scale Electronic Document and Records Management System (EDRMS). This does not remove the requirement to find ways to manage what you have now, even if there is a planned future move to EDRMS. This Advice attempts to outline some of the issues involved in electronic document management, and provides some management solutions when funds are limited or non-existent.

The problems for agencies working with digital records are many and varied. Some examples include:

- *Unplanned Infrastructure* **- Often agencies have evolved their IT infrastructure over time, rather than fully planning it at the outset. Frequently, infrastructure has been provided to meet current needs rather than to support projected needs.**

- *Unstructured Shared Drives* **- Shared drives often evolve informally with minimal structure or pre-planning. User-created folders with titles such as "Johns Folder" or "Jennies Letters" are not uncommon, and document titles like "Letter 3" are equally unhelpful, but often used. Agencies can have many sources producing digital records in the form of multiple uncontrolled databases. These can include HR systems, Finance systems, Customer Request Management systems, Access databases and complex spreadsheets, plus any small 'purpose built' systems used in discrete 'corners' of an agency. Some of these smaller systems in particular may not even be known about, let alone actively monitored and managed for the records created.**

- *Staff skill sets* **- Various levels of computer skill - also called digital literacy - can create problems when introducing electronic systems, and also with the general creation and management of documents over time.**

- *Email* **– Issues include those associated with sheer volume of email received; the need to capture email and associated processes; and staff understanding of the value of email as a record.**

- *Long standing Paper Processes* **- Often agencies are 'married' to their old paper processes that they know and understand, and may be threatened by a move to electronic management. Do they need to be digitised?**

- *Evolved organisation* **– There may be no overall strategic plan or business process analysis undertaken, so often internal processes duplicate each other. There may be degrees of**

complexity that have been added over time but never assessed against business requirements in the current environment.

- *Intranets - Frequently information regarding the operation of an organisation is posted to intranets without being formally captured in any other fashion, creating yet another unmanaged repository for corporate records.*

- *Physical environment – There may be limitations imposed upon the agency in terms of environmental considerations, e.g. old buildings that are not easily wired for data.*

This Advice assumes a comprehensive inventory and risk analysis of the agency's current record holdings, including a review of the agency Information Asset Register, has already been undertaken. The Advice proposes interim management strategies in the absence of, or prior to the implementation of, an EDRMS. This analysis will assist in the identification of digital recordkeeping issues of specific relevance to the agency.

Interim Strategies

Ultimately the only way to successfully manage digital records over time is with a comprehensive and well scoped EDRMS with an integrated Business Classification Scheme, however some interim strategies are proposed in order to assist agencies in the short term.

The following measures will assist you to better manage records until an EDRMS can be put in place. Importantly many of these measures can, and should, be implemented prior to considering an EDRMS deployment project. Considering them now can be seen as preparing for the future state, as well as actively working to make the current situation more manageable.

Digitised vs Born Digital

All digital records are not the same.

Some are 'born digital' and essentially remain this way - examples would include Word documents, emails, excel documents etc. Others are not; these might be hand written notes and files, hand written ledgers or forms that are completed manually – although these may at some point be captured to digital format.

Digitisation or scanning can be carried out, either as Project digitisation or as business Process digitisation;

- Project digitisation is conversion of existing records where the business was completed on paper. You can dispose of the original paper records if they are covered by an approved disposal schedule. However, you will need to first check for guidance from the *Disposal Schedule for Source records (DA2159)* and it may be appropriate to request TAHO to appraise the records prior to disposal.
- Business process digitisation is where the paper is converted to image during the process. As a general rule the original source record can be destroyed (subject to quality checking and standards). If in doubt, contact TAHO for advice.

Limit the Number of Storage Formats

It is important when looking at the ongoing management of digital records, that you identify a core set of formats that are going to be managed. There are several reasons for this but the most significant is that in the

long term you need to be able to continue to access and use the records, so the smaller the set of applications you need to access those documents, the simpler the task.

The first step is to analyse what you already have; what sort of documents the organisation created in the past, and what is being produced currently.

The table below presents some options of document types and formats. This is in no way an exhaustive list, and is simply intended as a guide.

Content type	Related formats*
Text	Word, notepad, Lotus, PDF, Excel, csv
Audio	MP3, WAV, AIFF, IFF, WMA Lossy, WMA Lossless, AVI
Still images	JPEG, JPEG 2000, TIFF, BMP, GIF, PNG
Digital video	FLV, MPEG, AVI, WMV, Quicktime

See *State Records Guideline 19 Digital Preservation Formats* for more information on content types and formats both recommended for use and acceptable for future transfers.

Having analysed what you have, you then need to define your standard. Seek best practice advice - as this is an area in which changes happen over time, make certain the guidance you have is up to date.

Selection criteria for a format list should address the following:

- Formats should (where possible) be open source, have technical specifications published and be available in the public domain, or be widely deployed within the sector
- Should not contain embedded objects or link to external objects beyond the specific version of the format
- Should be supported by multiple software applications and operating systems
- Should be readable with a readily available plug-in if production software is not easily or cheaply available
- A body of product – independent technical expertise should be available to support the decision
- Adequate ongoing technical support should be available to enable ongoing maintenance and migration as needed

What you select is not important so long as the following are met:

- Ensure appropriate converters available
- Monitor the implementation of the rules
- Keep a watching brief on the formats and advice from key agencies (archival authorities, large libraries etc)

A note on Open Source

Open Source Software is software where the source code is readily available and is delivered with a licence that allows modification and updating to anyone who wishes to do so. This means that most of it develops collaboratively over time. It is also normally delivered free of charge but may require modification to be useable.

The biggest issue is whether or not it can be effectively implemented within your organisation. As a general rule, IT departments are not keen on Open Source as they prefer options that have software support and are usable 'out of the box'. If you wish to adopt an open source option you need to research well and provide as much detail as possible to your IT people. This may include identifying a suitable local vendor who has the skill sets to provide support.

Structure Network Drives

Shared network drives generally do not work as a recordkeeping strategy. They have a tendency to be the source of most digital recordkeeping problems, rather than the solution.

It is possible that shared drives are all that you have available, and with limited resources you may need to find ways to do the best you can with what you have. In order to make network drives work as part of an overall recordkeeping strategy you must do the following:

- Have cooperation of your IT department or tech support
- Implement a file structure on your drives - at the very least the top two levels of your drives should be pre-defined, and not editable by users
- Structure the drives by business function (avoid using organisational structure)
- Work with individual organisational units to define the structure
- Implement the structure in conjunction with an 'archiving' project to clean up existing files and folders

See the following TAHO Information Management Advices (available from our website) for more assistance.

- *Advice 41 Managing records on shared network drives*
- *Advice 41 Sample procedures for staff*
- *Advice 42 Structuring shared network drives for recordkeeping*

Make friends with your HR people

For structured shared drive environments to work and be sustained long term, then all new staff must be aware of their responsibilities in information management. How the system is structured, and appropriate use of structures must be included as part of the agency's Induction program. Ensure Records Management policies and procedures are also included as part of induction activity. Similarly, the expectations of the organisation should be underpinned by the inclusion of a relevant clause in the agency Statement of Duties (Position Description) for every position that has computer access.

It is also imperative that on leaving the agency any existing electronic files are captured and managed correctly. You will need:

- A strategy for when people start
- A strategy for when people leave
- A checklist of actions needed when someone is leaving or starting (clean up of network drives, email folders, and assigning access to someone else)
- Be on the HR notification list so you can identify staff joining and leaving the organisation

Make Friends with your IT people

Remember that your greatest allies in digital management are your IT people. If you are putting management strategies in place for shared drives, you are providing solutions to existing IT problems (limited storage space, random file creation, redundant data etc are problems for IT).

Forget any prejudices you may have about your IT support - put it behind you and manage your relationships with common sense and empathy. As records managers in the digital space you have more in common with IT than not.

Get senior management on board as soon as possible. Remember to sell the savings: if we do X we will save Y: always make a clear case promoting any ROI or business efficiencies that may be gained.

Find out what systems are being planned, upgraded or replaced. Ask for a copy of the IT operational plan and IT strategy.

For the systems being upgraded and replaced ask your IT and business units the following questions:

- Is the old system being decommissioned or being used/maintained in parallel?
- What will happen to the legacy (old and/or existing) data on the old system?
- Is there a migration plan? Is all the data being migrated? Who is responsible?
- Is any of the data being left on the old system? You will need to consider the metadata associated with the transactions that the system supports. There are two types of metadata
  - *Record keeping point of capture metadata* – the metadata captured when a document or process is captured into a system
  - *Record keeping process metadata* - often lives in audit trail

Keep in mind that it is better to get a 'dump' of the system in csv, xml or similar rather than leave it all in a proprietary format. Make sure the metadata is captured as well.

To position yourself to be able to ask and answer the above, it is important that you know what systems are in place already in the organisation:

- Have you done an appraisal exercise on the systems?
- Do you know the status of the records produced? Are they required for continuing use?
- Is there any configuration documentation for the system (outlining local customisations or rules that have been embedded)?
- Are there Manuals or User Guidelines?
- Have you reviewed your agency's information asset register? This is a good place to start any appraisal exercise. (See TAHO *Advice 39 Developing an Information Asset Register*).

For new systems (including planned systems) you need to know:

- What records will it contain?
- How will the records be stored (managed in the system, what format, etc)?
- Will records created have a minimum 'point of capture' metadata set such as
- Unique identifier
- Title
- Creation date
- Creator identifier (who or what)

- Business function it relates to
- The creating application
- Record type (e.g. letter, memo, report etc)
- Are traces of major data changes being kept (at very least audit trails)
- Will the records have record keeping process metadata - often lives in audit trails - and what will this be?

If unstructured (or inappropriately structured) network drives are to be closed off, and a newly structured drive introduced for use, strategies for the management of existing data will need to be considered. These may include migration to the new structure; or where nobody in the organisation has current knowledge of content, it may mean closure and archiving of the entire drive until such time as the records contained within have reached their retention requirements, and can be disposed of under the provisions of an authorised Retention and Disposal Schedule.

As this situation is not ideal, and does not bear repeating, the establishment of an "archives" server will be essential for ongoing maintenance of digital records in a network share environment.

Establish an 'Archives' server

A separate archives server goes a long way to manage older electronic records cheaply. By keeping it independent on dedicated hardware, it is more manageable, and responsibility for its integrity can be separated from other areas.

- Linking it to the broader network ensures regular backups, and inclusion in business continuity planning/structure
- Firewalling keeps it secure, and controls access
- Can be segmented o Access copies (available to staff/externals)
    - Preservation(standardised formats, restricted access)
    - Unprocessed (restricted area for new items added to the server but not yet classified/metadata added, etc.)
    - Any other segment that assists in your organisation's access and management requirements
- Structure of folders should always try to match any drive structure you already have for ease of access, however if this is done before the structuring of shared drives, it may be better to use intended rather than existing structure.
- Include an archival processing folder or file to each directory containing:
    - Administrative history relating to creator/transferrer
    - Notes about receipt of material – date, circumstances
    - Notes about changes to files (format conversion, deletions etc)
    - Metadata associated with deleted files (save these in a Register of Records Destroyed)
    - Complete titles
    - Dates destroyed
    - Reasons for destruction

Monitor availability of document and records management software

Whilst full scale enterprise EDRMS software is unlikely to be inexpensive, technology can change quickly. Always stay on top of what is available in the market.

Current trends to watch:

- Cloud based storage systems (see *State Records Guideline 17 Managing Recordkeeping risks associated with Cloud Computing*)
- Software as a service (see *State Records Guideline 10 Outsourcing of government business: recordkeeping issues*)
- Microsoft Sharepoint (see TAHO *Advice 22 Records management using SharePoint - Considerations*

Recommended Reading

State Records Guideline 19 Digital Preservation formats

TAHO *Advice 2 All about Appraisal*

TAHO *Advice 29 Advice for Agencies on Managing legacy records*

Further Advice

For more detailed advice, please contact:

Government Information Strategy Unit
Tasmanian Archive and Heritage Office
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HOBART TASMANIA 7000
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- State Records NSW

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