Chapter 1: Introducing enterprise digitisation projects

The birth of digitisation
The vast amount of paper and other physical records in offices present constant risks to services, from security threats due to data loss to the rising costs of housing obsolete information. With much information now born digital, the colossal volume of physical records creates a hybrid information estate that employees struggle to navigate day to day.

Transferring paper to digital content is a priority for many organisations that want to modernise their approach to information management. This office process had previously been dismissed as a great waste of resources but as the threats and risks from data loss increase, attitudes are changing.

There are positive reasons to take on the hybrid information estate. Digitisation is a vital part of the approach to join services, cut costs and improve compliance. The reduction of threats and risks can release benefits that enhance collaboration and knowledge re-use, making the most of content that was previously lost to storage areas and filing cabinets.

Digitising paper copies of books is not a new phenomenon particularly in organisations hosting knowledge libraries. Since the 1980s there has been a movement in information services to digitise with a number of organisations including the British Library in London scanning titles for improved access worldwide.

The move to digitise has also caused controversy with many critics and outright opponents stating that the much-vaunted Google Books project infringed copyright and was reducing intellectual property rights of many working authors.1

The media industry is one of the early pioneers of making technology improvements through digitisation programmes. Digitising back issues of newspapers is being pursued by newspaper companies including Rupert Murdoch’s News International group as a potential source of income, by allowing greater paid access services to archivists and researchers. The entire archive of the Guardian newspaper in the UK is being transferred to digital sources in order to allow interested readers to survey and access historic news content.

The potential of digitisation is immense, opening up a whole new realm of accessibility and new forms of information including documents and images. It also supports preservation. By scanning the Mona Lisa for example, it is possible to create accurate copies that can be accessed across a connected world. It can also protect the master by reducing use and access to prolong life, particularly of fragile works.

Digitisation has emerged as the key information strategy. The need to build an information estate that can be accessed and connected requires the migration to formats that can be shared, reviewed and enhanced by an increasingly networked workforce. As the global recession continues to pressure organisations to cut costs while simultaneously maximising benefits is moving
e-records up the agenda, placing digitisation at the forefront of information programmes. The imperatives to raise access and cut costs make digitisation an essential facet of every progressive information project.

Defining enterprise digitisation
There are a number of potential definitions of digitisation but this publication uses a consistent summary throughout its chapters. Information professionals can refer to sources in the appendices to this report to review further definitions.

Throughout this report digitisation is defined as being the conversion of analogue items into digital format for the purpose of extending access and where appropriate to assist with preservation.

Digitisation in its widest application will include any analogue-to-digital transfer for example, digital imaging of physical records, photography, sound; and video recording and transfer.

There are many sound business reasons for digitising paper records. By digitising images for example, information professionals open up a whole new world of analysis for an organisation. By creating a digital version of any enterprise content it is possible to share that information across an organisation so that anyone can use and add value to this business knowledge (the Mona Lisa example).

Digitisation also allows reduction in wear and tear on content, particularly physical documents that might be very fragile and contain a damaged image. Many public departments hold documents that were created in a physical medium and are suffering from age and usage. Digitising physical documents can allow the originals to be archived. For example, UK town charters from several centuries ago still govern many by-laws in cities. These documents are now being digitised with the originals archived by professional officers who can preserve the life of the master records in temperature-controlled repositories.

The ability to digitise does not necessarily mean it is cost-effective or legal to scan physical documents. There are strict national and international statutory limits and conditions governing the capture and re-use of material including copyright and data privacy laws.

The Web 2.0 era has generated a phenomenal debate about the sharing of material including music and films that are potentially in breach of copyright. The celerity of technology will always outstrip a regulatory body’s ability to legislate but there are heavy penalties to pay when law-makers catch organisations or individuals involved in copyright infringement.

Digitisation drivers
There are some significant factors outlined below that are driving the need to introduce new approaches to digitisation within an organisation.

The expanding information estate
Organisations must cope with the production and transfer of a tidal wave of new digital data every year in addition to legacy content existing in a plethora of formats including tapes, paper and micro-film. A recent International Data Corporation research report outlined the diverse nature of the digital universe, noting that in 2011: “The amount of digital information produced in the year should equal nearly 1,800 exabytes, or 10 times that produced in 2006. The compound annual growth rate between 2006 and 2011 is expected to be almost 60 per cent.”

Organisations are managing a range of information in a variety of formats from
born digital material to microfiche archives that are rapidly becoming inaccessible due to technology obsolescence. The information estate, the aggregated of business information and data held across all formats is growing and will reach a critical point where the amount of accessible information is dwarfed by out-of-date or redundant data held by an organisation.

Technology obsolescence
Digitisation is now racing up the agenda as a key element of the information strategy as formats become obsolete and litigation requirements increase. For public and private organisations that deal with petabytes of information each year, digitisation of physical documents makes it easier to share with colleagues across networks for quicker review and re-use.

Enterprise storage
The hangover from the analogue age of physical records in a range of formats presents a series of threats and risks to organisations. The lack of implementation of records standards has been a nightmare facing information professionals for a number of years, with formats abounding and retention poorly applied. Organisations have ignored the expansion of the information estate, with resources provided to store an increasing number of physical documents alongside digital networks for content that quickly filled every available kilobyte of storage.

Access
New strategies for tackling legacy records are urgently required to enhance access, support preservation and reduce the costs of living with a hybrid information estate. A digitisation strategy allows for links to be made across information systems and digital collections to be consolidated and linked by federated search techniques. It also covers the legal aspects of the technology and informs employees in terms of what to consider when updating storage strategies.

New technologies
Inherent to any digitisation is a consideration of the technologies and techniques used for making digital copies. Good digitisation needs to address the technology requirements while keeping them balanced with content driven requirements. Digitisation requires a clear approach to document management. Implementing document management services can realise a range of benefits that include saving money and resources and increasing efficiency of processes whilst raising productivity.

As with earlier technologies such as microfilm, not all techniques are born equal. While copying is extremely easy to do with digital content, accurately transferring an analogue original into digital form often requires specialised and calibrated equipment and software. Technology is catalysing this change with new tools enabling enterprise digitisation to become a spend-to-save response to a key information risk: access.

Access is the fundamental principle of organising business knowledge. As part of an information strategy for services the use of document management can be a key approach to digitising records and releasing office storage.

A collaboration of benefits
Enterprise digitisation is not an activity that should be seen in isolation. It is linked to all aspects of services provided by the information professionals as part of a corporate information management approach. The links between digitisation,
records management and information governance need to be established in order to maximise the benefits, as described below:

- **Increases access to information and knowledge** – By creating a digital representation of an image, information professionals can easily share that content globally with any organisation. This adds value to content previously semi-active in a storage system and an unnecessary cost to an organisation.

- **Minimises storage, retrieval and workflow management** – Digital content can be accessed and retrieved in a fraction of the time taken to retrieve a physical copy. For example, compare the cost of using a browser to search and retrieve a document with the time taken to remove items from an organisation’s physical archive.

- **Cost savings on data entry, filing and personnel management** – It costs £20,000 per year to store a four-drawer filing cabinet. Contrast this with just £250 to store up to 100 gigabytes of digital storage on a server.

- **Operational efficiencies** – This minimises errors, speeds up retrieval and is not labour intensive. Freeing staff from unnecessary bureaucratic tasks including the accessing of physical files, often not located near offices, is one major benefit to an organisation from digitisation. The application of quality to digitised content can also increase the accuracy of records and reduce duplication of content.

- **Sharing of information quickly and to several individuals at once** – Information and knowledge transfer is a new area of concern to organisations focusing on reducing costs. Sharing digital content is instant, compared to physically transporting material.

- **Securing documents electronically can minimise loss due to damage or disaster** – Digitisation also allows reduction in wear and tear on an image. Staff can access an image without ever needing to touch what could be an already very fragile and damaged image. Entirely new lines of analysis can be realised as an image can be enhanced and studied in great detail on a computer.

**Digitisation risk assessment**
Organisations must conduct an information risk assessment prior to initiating enterprise digitisation projects. By gaining a full overview of the business...
environment including understanding current and future costs and associated risks, an organisation can consider developing enterprise digitisation as part of its information programme in response to internal and external threats. For example, organisational records could be stored in outsourced storage centres which are about to incur increased costs. A regular risk assessment would identify this threat and give information managers the opportunity to assess the comparative costs of maintaining an external store versus the cost of digitising some or all of the records.

Initial approaches to the question of whether to digitise or not should begin with a prioritisation of the types of risks and issues that are most relevant to organisational performance. When creating an initial strategic risk assessment it is important to consider how risks relating to digitisation impact the business in the current and near term. Any identified risks relating to digitisation are not to be considered in isolation from other organisational risks. For example, fluctuating economic risks faced by an organisation will link to information risks and impact the implementation plan for corporate information strategies that govern digitisation initiatives.

Information professionals can advise senior management charged with undertaking the information risk assessment by providing answers to a number of questions. The key criteria to consider when assessing the need to digitise are:

- What are the legal requirements facing the organisation in relation to the management of business information?
- What are the business priorities?
- What are the financial frameworks for operations?
- What is the impact on the organisation?
- What are the major opportunities for the organisation?
- What are the costs and benefits to the organisation?
- What are other businesses doing to respond?

**Digitisation development and implementation framework (DDIF)**

This framework has been designed to provide a quality approach to enterprise
digitisation and provides a total solution to the introduction and realisation of digitisation projects within an enterprise.

Drawing on good practice in the UK, the US and Australia, the DDIF comprises a clear set of steps to design and deliver an enterprise digitisation project. It links to current good practice in information risk management and evidence-based policymaking.

The DDIF is not a prescriptive solution; rather it offers insights and suggestions for information professionals to deploy to improve the success of enterprise digitisation projects.

Elements of the DDIF
The DDIF draws from international good practice to create a flexible strategy for the migration of physical documentation to digital content as part of a corporate information strategy. The framework consists of eight elements.

Step one: Establish the digitisation business case
No return, no project!

This should be the mantra of any information professional charged with undertaking enterprise digitisation. Building a business case is the essential starting point for enterprise projects. Information professionals must scope and estimate resources required to deliver improvement as well as forecast return-on-investment. Key outcomes must be clarified, particularly the efficiency savings and productivity improvements arising from a digitisation project.

Step two: Map the benefits to information strategy
It is vital that information professionals understand the specific organisational drivers for information strategies and identify how improved access to content via digitisation raises the value of assets. By integrating with other corporate programmes, digitisation projects can link and enhance collaboration, doubling the projected return on investment.

Step three: Develop digitisation strategy and change plan
Reduced costs and improved access are the key outcomes sought by information professionals in all enterprise digitisation projects. By setting a clear vision and a project implementation plan, information professionals can set the path to success and establish governance prior to the initiation of projects. This improves accountability and promotes better performance management across the project lifecycle. Sponsorship by a senior manager can also help resolve issues should the digitisation project encounter resistance.

Step four: Introduce and implement digitisation standards
A number of technical standards set prescribed quality requirements for digitisation. These include guidance in relation to information access and metadata management. These should be accessed and translated, where required, into local guidance to ensure processes are repeatable and effective; and in line with best practice.

Step five: Deploy technology accelerators
Poor tools produce poor results. It is essential to work with technical professionals to ensure that technical options can provide the functionality, including quality requirements, demanded by good practice guidance. Document management is the main technology for converting an organisation’s paper records into digital content. Document management is a key technology accelerator as it allows the effective migration of paper records into digital content in an efficient manner.
Step six: Manage digitisation legal and quality standards
Digitisation must be based on quality and create greater access to meet the objectives of organisational information strategy. Information auditing can support the collection of evidence regarding the requirement for storage and digitisation across an organisation.

Step seven: Review performance and learn lessons
Always reflect on how processes and projects have performed in order to initiate improvements in the future. Continuous improvement can reduce costs and enhance take-up of services in relation to digitisation.

Step eight: Communicate and market digitisation
Updating information professionals across an organisation of a new service can yield more resources for digitisation and promote the roll-out of technologies and tools to produce better results across all departments.

The DDIF is a flexible solution providing a clear method for digitising content within an organisation.

DDIF impact and results
Following the consideration of the types of information risks that threaten or offer opportunity to the organisation, information professionals should then consider the key elements of a digitisation project and decide how the outputs and outcomes can align with overall corporate strategies.

Cost reduction and increased compliance are the two major outcomes sought by an organisation when introducing enterprise digitisation and each process within the DDIF can help achieve these outcomes.

Care must always be taken as digitisation is not an end in itself. The value of a physical record may not always be successfully translated once it is digitised. It is essential that these issues are considered as early as possible to guide the technical processes involved in enterprise digitisation.

The value of digitisation lies in nurturing the value of business information for example, by producing copies of key information held in a single physical record. Digitisation can open up new possibilities, use of the digitised copy initially realised by the original owners or creators.

In 1992 UNESCO launched the Memory of the World programme in response to a growing awareness of the general poor state of preservation and access to documentary heritage, to safeguard archival information, support the building of community memory and challenge cultural orthodoxies.

References