2012

Managing Information and Records

The definitive guide—2012 Edition

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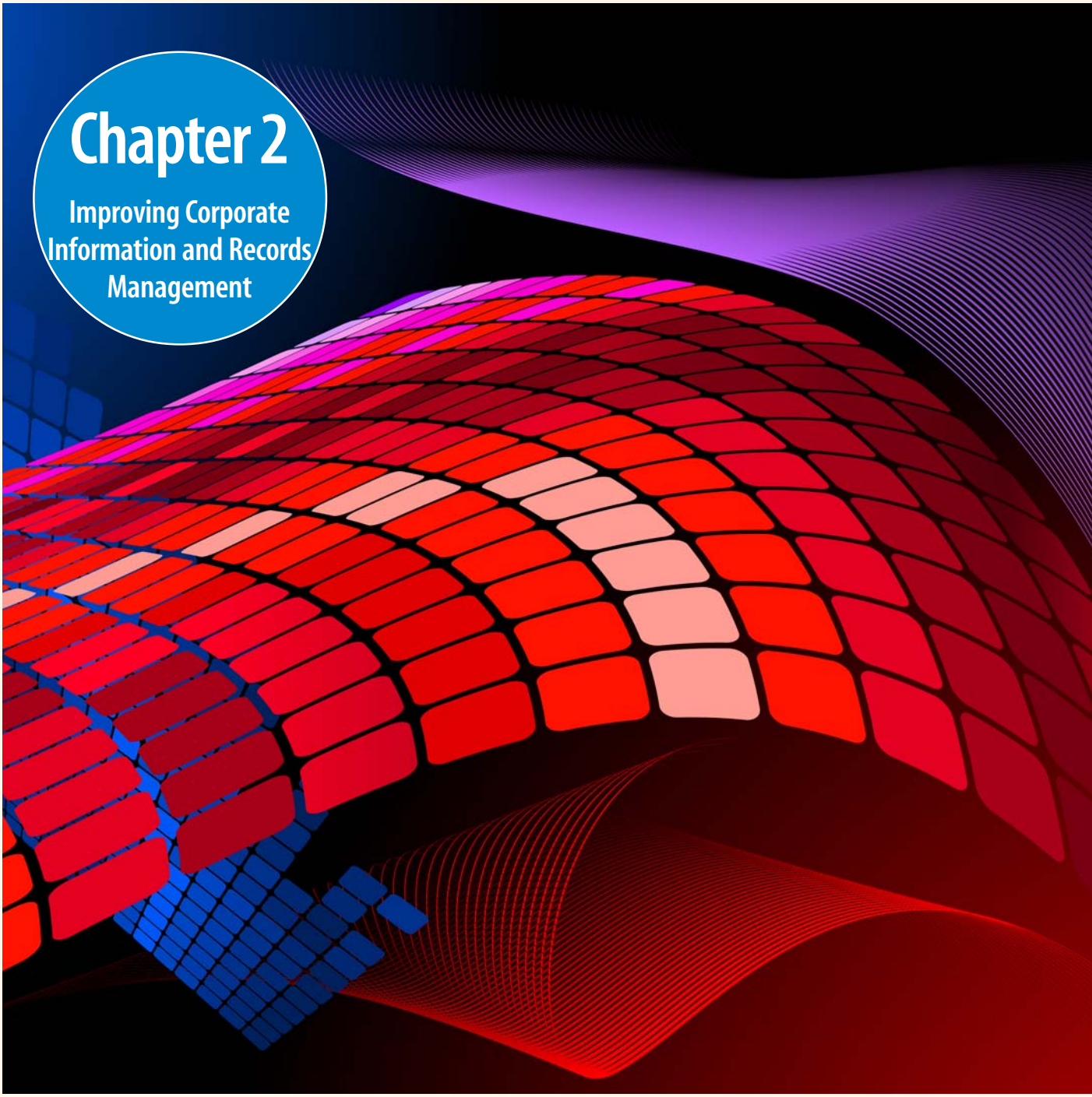

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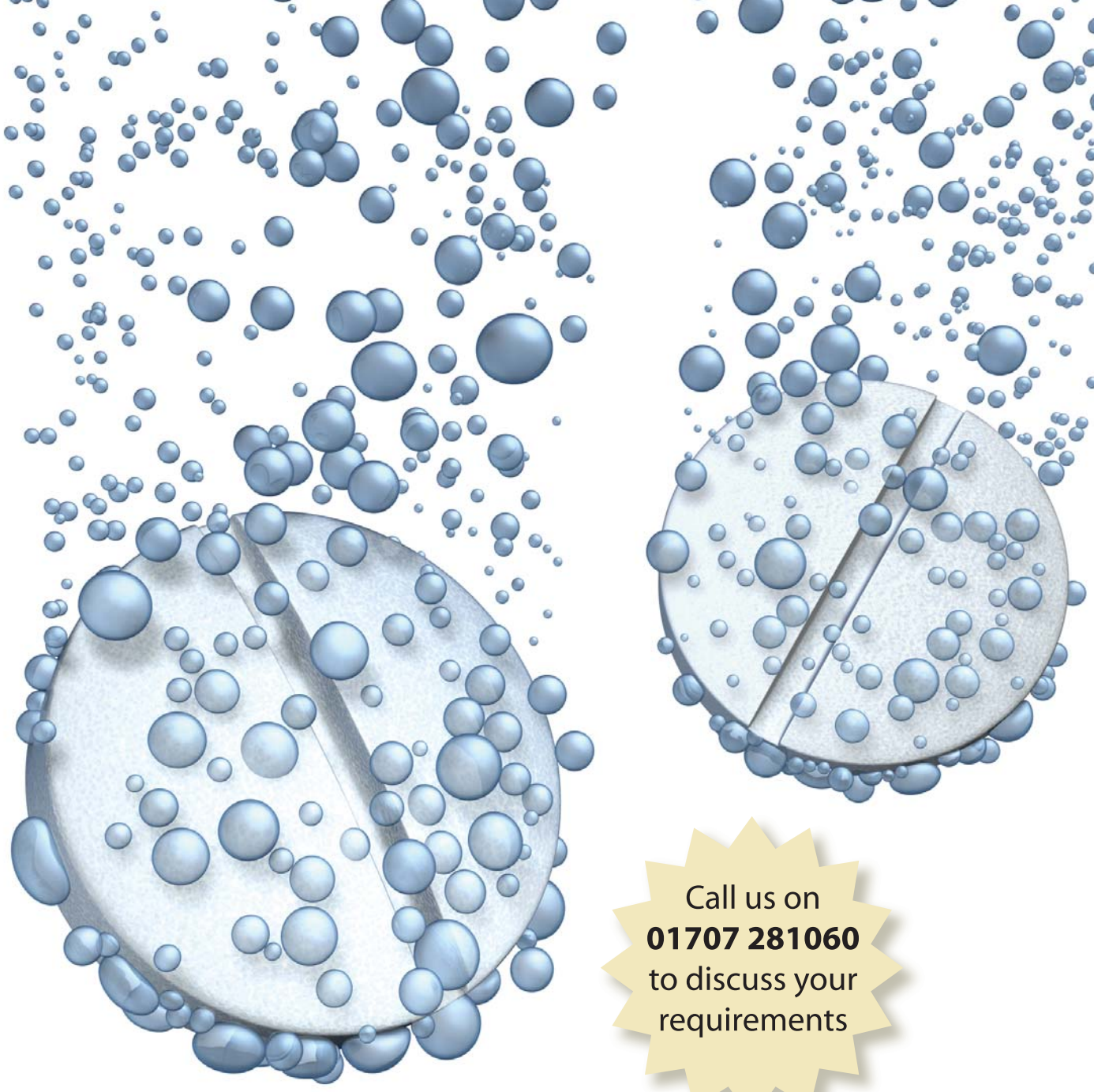

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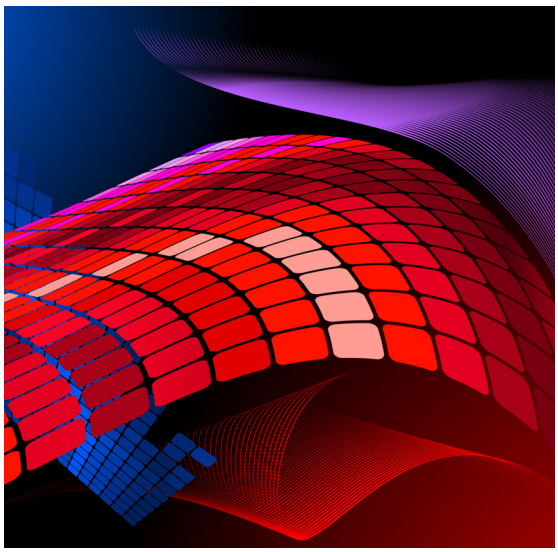

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Chapter 2

Improving Corporate Information And Records Management: a guide to best practice

2.1 Coverage

In this chapter we make the case for improved information and records management and then review best practice for information and records management. Section 2.2 makes the case for improving corporate information and records management. Section 2.3 looks at what is involved in agreeing corporate information and records management policies and the benefits that these can bring. Section 2.4 reviews best practice guidelines and standards.

2.2 The Case for Improved Information and Records Management

What is Information?

Figure 2.1 shows the traditional hierarchical diagram. At the bottom is 'raw data'. Above it is 'information' which can be thought of as data in context. The ability to find the right information at the right time is vital to any organisation and organisations have invested huge resources in computer systems which help them achieve just that. Above that is 'knowledge' which is still largely thought of as a human attribute. People become valuable to an organisation because they have processed information and have experience of dealing with a number of situations and have acquired knowledge or experience which they can bring to bear when required. Many organisations have invested in knowledge management systems which help to capture, store and access knowledge which is of value to the organisation. Finally, at the top of the pyramid is 'wisdom' which, again, humans aim to acquire as a result of living their lives and processing all the information and knowledge that they absorb.

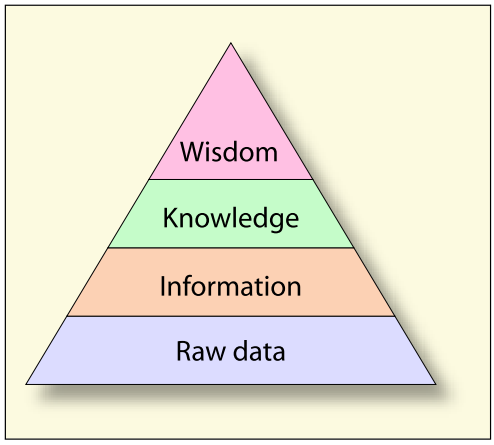


Fig. 2.1
The information hierarchy

Organisations hold their vital corporate data in databases and their vital corporate information in databases and documents. The documents comprise content including text, graphics, images, audio and video content. The documents are held in digital format online or offline on tapes, CDs and USB sticks or on paper or other analogue media.

In many organisations over seventy per cent of all new information held takes the form of emails and attached electronic documents. Unfortunately, again in most cases the information contained in emails and attachments is not fully integrated with other sources of information thereby increasing the barriers to finding the right information at the right time. Organisations also hold high volumes of documents on Web content management systems which may be hosted externally. Increasingly, employees of organisations will have corporate information held in documents stored on the Internet on social networking sites outside the control of the organisation that they work for.

The existence of multiple software applications and IT platforms and multiple paper filing systems creates barriers to retrieving the right information at the right time. Documents containing information may be divided up as reference, administrative, open or restricted, transient or permanent. Paper documents may be held onsite or offsite in warehouses.

A subset of all the documents held by organisations should be classed as records, indicating that they are vital to the organisation, whether for legal, operational or other reasons. These vital records should be identified and protected and made easily accessible to authorised users but, again, the fact that they may be held on paper or in digital format on a range of applications and in a vast array of formats makes it very difficult for organisations to identify and manage all their vital records effectively.

Figure 2.2 gives a simplified view of where your corporate information may be located. In reality, there are many more options.

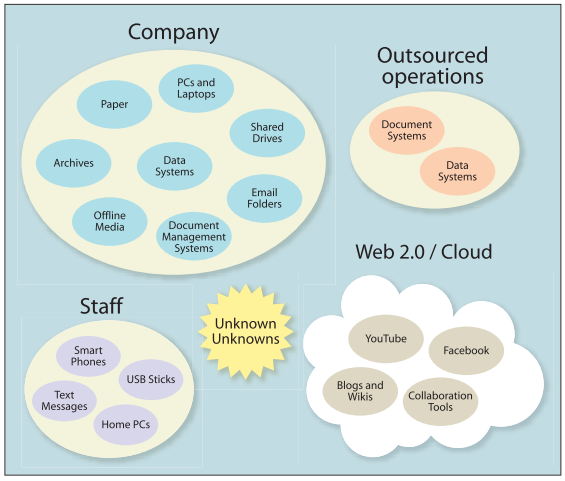


Fig. 2.2
Where is your corporate information?

Fig. 2.3
Information is a strategic asset

What is Information Management?

Information management is a generic term used to cover a wide range of disciplines, professions and software solutions which together are designed to help us keep our information under control, accessible and managed like any other asset.

Many of these disciplines are interdependent but some can be seen as competitive. As an example of interdependency, you cannot keep your vital information secure until you have first established what information you hold and, second, assigned it some level of classification. As an example of competitiveness, it is hard, but not impossible, to find a compromise between, on the one hand, the need for information to be secure and, on the other, to be easily accessible.

The key components of information management involve carrying out some form of audit or listing of the information you hold, classifying your information and providing powerful search tools so it can be searched for and identified, storing and preserving it, making it secure and providing authorised users with access to the information.

For organisations, the information they possess is a strategic asset (Fig. 2.3). Without it they would find it difficult or impossible to operate. This information has a very high value equal to or, in many cases, exceeding the value of staff or capital assets. Many organisations do not really understand those information assets and are not using them to their full potential. In many cases they are not even protecting them, so they are vulnerable to loss or theft.

Over a decade ago an influential report[1] proposed that all significant information in an organisation, regardless of its purpose, should be properly identified for consideration as a business asset. The board of directors should address its responsibilities for information assets by investing in information management. The board should satisfy itself that:

- the information it uses is necessary and sufficient for its purpose
- it is aware of and properly advised on the information aspects of all the subjects on its agenda
- its use of information, collectively and individually, complies with applicable laws, regulations and recognised ethical standards

To determine the quality and quantity of information needed for effective operation, many organisations are taking a functional view of their activities—identifying the core functions, activities and processes they undertake. They are reviewing the information required at each stage of each process in the business to ensure that necessary and sufficient information is available as required for effective operation—and no more. They are defining roles and responsibilities with regard to information. Best practice calls for a clear distinction to be drawn between the owner of information, the custodian of information, those with right of access, those with the right to copy and those with the right to destroy.

Improved information and records management makes organisations more efficient and effective. Specifically it:

- improves staff productivity
- improves customer service
- improves responsiveness to change
- results in reduced IT costs
- protects the valuable corporate memory
- supports the defence against claims and reduces the cost of court cases

Improved information and records management is vital if organisations are to comply with regulatory requirements and meet good governance guidelines. Specifically this covers:

- Audit and accountability requirements
- Legal admissibility
- Data Protection Act 1998
- Privacy and Electronic Communications Regulations 2003

Organisations in the public sector also need to demonstrate compliance with the following regulations:

- Freedom of Information Act 2000
- Updated Lord Chancellors Records Management Code of Practice 2009
- Environmental Information Regulations 2004
- Regulations on the Reuse of Public Sector Information 2005
- Public Records Acts 1958 and 1967
- Regulation of Investigatory Powers Act 2000

Organisations in the public sector also have to demonstrate compliance with a number of key information security regulations including:

- ISO 27001 International Standard for Information Security 2005
- HMG Security Policy Framework 2008
- Government Connect, Code of Connection (CoCo) 2009

In the private sector organisations in specific sectors have to demonstrate compliance with tough industry regulations. Individual sectors with such information management regulations include the following:

- financial sector
- pharmaceutical sector
- construction industry
- aviation
- energy

The specific benefits derived from improved information and records management are financial, competitive and flexibility benefits.

Financial benefits include reductions in:
- staff costs
- space costs
- IT costs
- telephone costs
- travel costs
- contract management costs
- claims and court costs

Competitive benefits include:
- faster product development and reduced time to market
- lower sales costs
- improved customer service
- improved Web sites
- more effective and focused marketing (business intelligence)
- improved customer image/brand reputation
- compliance with public sector/industry targets

Flexibility benefits include:
- responsiveness to change
- new products and services
- improved staff management and development
- improved customer service/choice

Records management is a vital subset of information management and there are international standards and guidelines designed to assist organisations in formulating and implementing standard records management policies and procedures.

International Standard *ISO 15489:2001 Information and documentation—Records Management*[2] is a two-part standard. It emphasises that standardisation of records management policies and procedures ensures that appropriate attention and protection is given to all records and that the evidence and information they contain can be retrieved more efficiently and effectively using standard practices and procedures.

The standard was developed in response to consensus among participating ISO member countries to standardise international best practice in records management using the Australian Standard *AS 4390 Records Management* as its starting point. It defines the objective of any corporate records management policy as being... *'the creation and management of authentic, reliable and useable records, capable of supporting business functions and activities for as long as they are required'*. The standard is reviewed in section 2.4 below.

Fig. 2.4
Developing effective corporate information and records management poilicies is vital

2.3 Developing Information and Records Management Policies

2.3.1 Information management policy

Many private and public sector organisations have developed and published their own corporate information management policies (Fig. 2.4). An Internet search on 'information management policy' returns many different example policies. A good policy should be short and concise so it can be read and memorised by all employees. (See box below for an example information management policy.)

The first point establishes that information management is everyone's responsibility. The third point is easy to agree but hard to deliver. If it is a core business objective then it becomes relatively easy to justify electronic systems as without them the task of keeping information accurate, up-to-date and readily accessible is extremely labour intensive.

The fifth point is vital and enterprise content management (ECM) including records management and

Example information management policy

- Internal information is owned by the company. All information will have a defined custodian who, as the authorised agent of the company, will be responsible for its management and for making it available to those who need it.
- Information will be managed to support business processes rather than organisational hierarchies.
- Information will be managed, accurate and up-to-date and will be readily accessible to those who need it.
- Information will not be retained or distributed unnecessarily.
- A consistent approach to managing information will be adopted across the whole company and will cover the lifecycle of information (creation, indexing, storage, retrieval, revision, archiving/disposal).
- Methods of information management will give due attention to security, protection, legal, environmental and cost issues.

process automation in particular, offers the tools to achieve such consistency. The sixth point echoes the need for compliance with good practice and with legislation.

The BSI code of practice *BIP 0008-1:2008 Evidential weight and legal admissibility of information stored electronically*[3] recommends that organisations adopt an information management policy. In order to ensure that this information is well managed, and to meet its business needs, the organisation needs to define and implement good management practices. Information, like other assets, needs to be classified, structured, validated, valued, secured, monitored, measured and managed efficiently and effectively. To provide guidance to those who have the responsibilities of these practices, senior executives need to approve an information management policy statement.

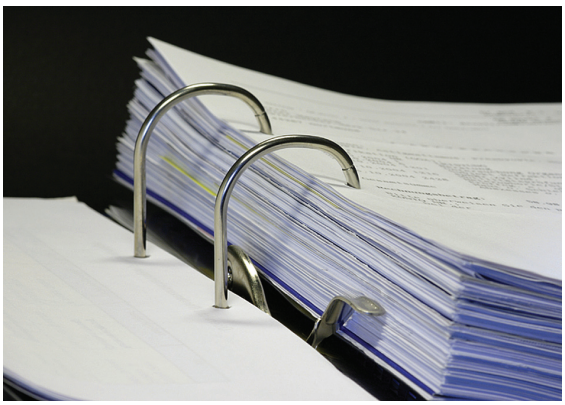
Chapter 1 of the BSI Code outlines the content and approval recommendations for the policy statement and is recommended reading. Annex D of the code includes an example policy document that may be used during the drafting of an organisation's policy document. The code recommends that the policy document should contain, as a minimum, the nine sections listed in the box below.

2.3.2 Records management policy

Many organisations, especially in the public sector, have also produced their own records management policy. Guidance on how to develop an overall records management policy is provided in ISO 15489[2] and by bodies such as The National Archives (TNA). Based on this guidance most policies are relatively concise documents structured around ten to twelve headings. The following headings have been used by Cimtech when developing RM policies for clients.

1. Purpose This section should define the key aims. In the public sector typical aims would be to ensure that the authority:

- has appropriate records to meet its business needs and the needs of its stakeholders



- operates records management procedures and practices that conform to applicable legislative requirements
- clearly defines responsibilities and accountability for records
- provides staff with the resources, knowledge, competence and procedures to manage records according to the policy
- addresses its obligations under Freedom of Information legislation to have a policy in operation for records management

2. Policy statements These need to be supported by more-detailed standards and procedures explained in a records management guide, by functions provided in the records management systems operated by the organisation, and by a programme of staff training and communication. The policy statement should be short and sharp and commit the organisation to maintaining all the records it needs and is obliged to keep.

3. Scope The scope of the policy will define the range of records covered and will indicate that the policy covers both paper—or analogue—records and electronic records in all formats. It will refer to a list of records if such a list has been produced as a result of an audit and it will cover any exclusions.

4. Policy context This should refer to other relevant documents. This may include the information management policy and the strategy of the organisation.

Fig. 2.5 *The scope of the records management policy may include paper records as well as electronic records*

An information management policy statement should contain, as a minimum, these nine sections

Section	Content
Scope	Specifies which information 'types' are covered by the policy
Information classification	States the policy regarding information classification (where used)
Standards	States the policy regarding relevant information management standards
Consultations	Defines the requirements for consultations with appropriate legal and/or regulatory bodies, and with others where necessary
Roles and responsibilities	Defines roles and responsibilities for information management functions and for compliance with the Code.
Storage technology	States the policy regarding the type of technology to be used for storage
Electronic file formats	States the policy regarding electronic file formats and version control
Retention and disposal	Defines retention periods and disposal policies

5. Legislation and standards This should list all legislation that has an impact on the records that the organisation must keep and all standards that the authority is committed to following. These would include relevant legislation, codes of practice and standards.

6. Records Management Systems This section should specify a minimum set of requirements for all the organisation's systems and processes that manage records. It may list all core processes that will be covered and should refer to separate detailed procedures for the management of paper and electronic records and indicate where they are held.

7. Responsibilities This section should indicate generic and specific records management responsibilities within the organisation including senior management, records management and information management staff, managers and supervisors and all staff.

8. Promotion This section should explain how the policy will be implemented in practice and how the policy will be communicated to all employees.

9. Training This section should explain how all levels of staff will be trained to ensure they can meet their records management responsibilities.

10. Review This section will commit the organisation to reviewing the policy on a regular basis, task a committee with that responsibility, and define the criteria it will be reviewed against.

11. Authorisation This section will state that the policy has been authorised by senior management.

12. Glossary This will contain key definitions.

Many existing records management policies cover only paper records, but any corporate policy should include both paper and electronic records and, increasingly, organisations are planning to manage all their information and records in electronic format. The overall policy should make it clear that electronic records are covered by the policy and state that all systems and processes that deal with electronic records must ensure that the records are managed in line with the overall records management policy.

2.3.3 Implementing the policies

It is not sufficient simply to agree an information and records management policy. The next challenge is to implement that policy. Some of the key components needed to successfully implement information and records management are listed in the box below.

A full methodology for managing an information and records management project is provided in chapter 5. It covers setting up a project, information gathering and analysis to review current policies, procedures and systems to assess how well they meet business objectives and the scope for improvement. It also includes a feasibility study and options review to identify the preferred way forward. This includes setting up a programme to develop the required tools including a classification scheme and retention schedule and process redesign. Finally, it includes sections on how to specify requirements for a solution and procure the solution where that is required.

One of the key tasks that needs to be carried out by an organisation is to benchmark current corporate information and records management policies, procedures and systems against best practice guidelines and standards—these are reviewed in section 2.4.

2.4 Best Practice for Information and Records Management

There are a number of published guides and standards for best practice in information and records management. Below, we review briefly what we consider to be some of the key documents and list standards and other guidance documents.

2.4.1 Principles of good practice

BSI DISC PD0010[4] *Principles of Good Practice for Information Management* was authored in 1997 by Bill Mayon White and Bernard Dyer of the Image and

Key components for a successful information and records management policy

- An information management policy, which must be supported by senior management and be widely publicised.
- An individual or a team in a large organisation tasked with the implementation of the policy and reporting back to the board. In a large organisation the team should comprise senior staff from information systems, the library, the records management section and external independent consultants such as Cimtech and others listed in the Directory section.
- A strategy for implementing the policy—for defining the overall information management requirements, the objectives and the framework for integrating the organisation's information resources, services and systems.
- As a result of the strategy, standards, procedures and controls for the acquisition, storage, processing, distribution and disposal of information in all its forms.
- As a result of a successful strategy the information systems needed to support the real business needs.
- As a result of a publicised policy and senior management support a general awareness among staff of the real costs and value of corporate information, i.e. the value of the information asset.

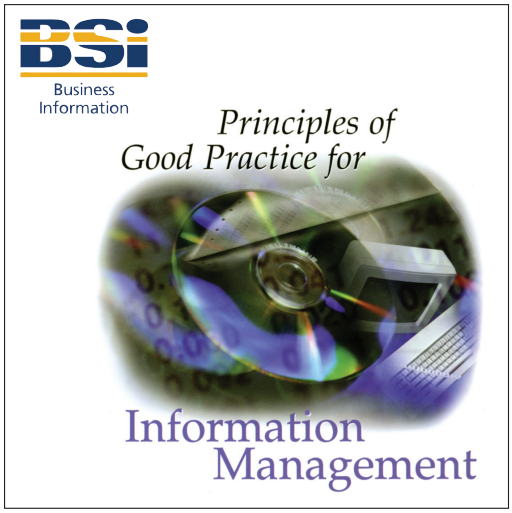


Fig. 2.6
A number of published guides are available covering best practice.

Document Management Association (IDMA) with input from many other organisations (Fig 2.6). It is designed to present a set of proposals or principles. The introduction defines the audience for the principles... *'They are intended to help those who have the responsibility for assisting their employees to develop and operate new methods and techniques for managing information, and in particular that information which is stored and managed as documents.'*

There are five main principles (see box below) which take the form of a set of statements of objectives for information management. These are intended to act as guidelines for a set of procedures that any organisation should be capable of devising and operating as an extension of their current operating procedures, or of their quality management processes.

2.4.2 ISO 15489-1:2001 Information and documentation-records management

ISO 15489:2001 Information and documentation-records management[2] was issued in two parts in 2001 in order to standardise international practice in records management using the Australian Standard AS 4390 as its starting point.

It is recommended for organisations that are setting up a records management programme or for those that need to audit existing policies, procedures and systems prior to developing a records management strategy and/or specifying requirements for an ECM solution. However, it should be clearly understood that ISO 15489 does not comprise a set of requirements for a records management system (paper-based, hybrid or electronic). The National Archives and MoReq requirements address that.

Part 1 of ISO 15489 provides general guidance to managers on establishing records management policies, procedures and systems. It defines a comprehensive records programme, which includes determining what records should be created in each business process and what information should be included in the records, what metadata should be created with the records and how they should be organised.

The five principles of good practice for information management

- Recognise and understand all types of information
- Understand the legal issues and execute duty of care responsibilities
- Identify and specify business processes and procedures
- Identify enabling technologies to support business processes and procedures
- Monitor and audit business processes and procedures

It recommends that a records management strategy should be documented in a strategic plan, such as an information management strategic plan, which should be incorporated into organisation-wide planning documentation. It defines the high-level requirements for a records system and outlines recommended records management processes and controls.

Part 2 is an implementation guide for use by records management professionals. It provides one methodology that will facilitate the implementation of ISO 15489-1 in all organisations that have a need to manage their records. It includes an eight-point plan for designing and implementing a records system based on the Australian DIRKS (Designing and Implementing Recordkeeping Systems) methodology.

Fig. 2.7
The Data Protection and Freedom of Information Acts are two important pieces of legislation

This is a clear and concise document and is now forming the basis for a range of courses aimed at users who need to set up a corporate records management plan.

The International Secretariat which is responsible for the ISO records management standards is ISO/TC 46/SC11 Records Management. It has a work programme to develop five more publications aimed at improving management systems for records. The first

Fig. 2.8 *Guidance on the Data Protection and Freedom of Information Acts is available from ICO website*

two resulting new publications which were published in 2011 are:

- *ISO 30300—Management Systems for Records—Fundamentals and Vocabulary.*
- *ISO 30301—Management Systems for Records—Requirements.*

To follow are three more publications:

- *ISO 30302—Management Systems for Records—Implementation Guide.*
- *ISO 30303—Management Systems for Records—Requirements for bodies providing audit and certification.*
- *ISO 30304—Management Systems for Records—Assessment Guide.*

The aim of these publications is not to change the records management processes defined in ISO 15489 but to upgrade the approach senior management take to the management of records at the policy and risk assessment level by managing procedures and technology, conducting routine audits and continual improvement processes.

The advance publicity for these documents created some confusion in the records management field in terms of their relationship with and impact on ISO 15489. In response to this ISO/TC 46/SC 11, the secretariat with responsibility for these new standards, issued a document answering frequently-asked questions about the new standards. You can find it if you search on one or other of the standard numbers above. We quote from it here to explain the coverage and role of these important standards.

'There is a need to communicate to top management about good records management, and get their commitment to provide the appropriate leadership, funds and people for the implementation of records management processes—to support accountability and effective business. The MSRs (Management Systems for Records) are aimed at management.'

'The MSR standards are an organisation-wide, strategic approach to providing the right framework for the implementation of records management operational processes, systems and controls based on international best practice. An MSR links the overall management system implemented by top management to the operational records activities. The MSR is issued by ISO in the same way that other management system standards (MSS) come from ISO including:-

ISO 9000–Quality management systems;
ISO 14001–Environmental management systems, and
ISO 27001–Information Security Management Systems.'

'These standards are primarily aimed at management—at all levels. …They are also useful for auditors, risk managers and others with an interest in evidence-based decision-making and collaboration, accountability and transparency of business and sound business management.'

'The MSR standards are high level, aimed at the controls and processes for managing the organisation and establishing the strategic framework for good records management. ISO 15489 is aimed at the operational aspects of records management—focused on the controls and processes for managing records.'

In future the intention is that organisations can be certified against the MSR standards. ISO 30301 defines the requirements for MSR. ISO 30303, when it is published will define requirements for bodies providing audit and certification.

Further details from ISO/TC 46/SC 11 Secretariat.

2.4.3 ISO 23081-1:2006 Information and documentation—records management processes—metadata for records

This is a further extension of the ISO 15489 records management standard to help people understand, implement and use metadata within the framework of ISO 15489. It addresses the relevance of records management metadata in business processes and the different roles and types of metadata that support business and records management processes. It also sets a framework for managing these metadata.

Part 1 sets a framework for creating, managing and using records management metadata and explains the principles that govern them. Part 2 is more explanatory and provides practical guidance on implementation issues and how to assess records management metadata sets against the principles. Part 3 will provide an assessment of existing metadata sets against ISO 15489 and 23081-1 including record keeping and archival metadata sets and schemas such as Dublin Core[6], ISAD(G) EAD[7], ISAAR[8] and RKMS[9].

2.4.4 Additional standards and best practice guides for records management

In addition to the core documents above there is a wide range of guidance documents from The National Archives including the evaluation workbook to assist public authorities in assessing conformance of their records management systems to the Records Management Code issued by the Lord Chancellor (see section 2.4.5). Other TNA guidance includes the following:

- file creation
- tracking records
- storage of semi-current records
- business recovery plans
- discontinued and transferred functions
- documentation of records work
- preparation of records for transfer to The National Archives
- closure on transfer guidelines
- HR aspects of records management
- how to complete an information survey of records
- management of audiovisual records
- model retention and disposal schedules
- cataloguing guidelines

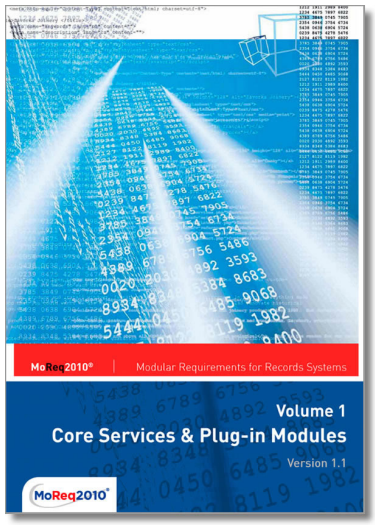


Fig. 2.9 *MoReq2 was published in 2008 and features extended functional requirements and a compliance testing scheme*

2.4.5 Records management legislation and compliance issues in the public sector

The core piece of legislation for central government departments is the Public Records Act 1958 which places the responsibility on government departments and other organisations within the scope of the Act for making arrangements for selecting those of their records which ought to be permanently preserved and for keeping them in proper conditions. It further requires these arrangements to be carried out under the guidance of the Keeper of Public Records who is responsible for co-ordinating and supervising the work of selection.

The Act lays down that documents selected for preservation shall be sent to The National Archives not later than thirty years after their creation but that their transfer may, for administrative or other special reasons, be postponed with the Lord Chancellor's approval.

In the *Modernising Government* White paper[10] of 1999 all central government organisations were set a target to create and manage all new records electronically by 2004. Following on from the White Paper target, The National Archives continues to work with government departments, the wider public sector and other stakeholders to develop, implement and improve the standard of electronic records management across the public sector.

In 2000 the Freedom of Information Act[11] introduced significant changes to the Public Records Act which came into force in January 2005 (Fig. 2.7). The Act replaced the access provisions for UK public records set out in the Public Records Acts 1958 and 1967 and also governs access to information held by most public sector bodies.

The Lord Chancellor has issued two codes of practice under the Act. The section 45 code sets out good practice in handling requests for information. The section 46 code,[12] which was reissued in 2009, is in two parts. Part 1 sets out good practice in records management and applies to all FOI authorities and also to bodies subject to the Public Records Act 1958 or the Public Records Act (Northern Ireland) 1923. Part 2 is aimed at records offices holding public records and departments and other bodies from which those records are transferred. It sets out how records should be transferred.

The National Archives has developed an evaluation workbook to assist public authorities in assessing conformance of their records management systems to the Records Management Code[13]. TNA has developed a self-assessment programme and guide designed to assist public bodies in carrying out internal audits to determine whether their records management systems comply with the Code.

The Data Protection Act[14] was passed in July 1998. Guidance on its application can be found on the Information Commissioners website (Fig. 4.6). The National Archives has produced a guide[15] setting out how the Act affects records managers and archivists.

The Freedom of Information Act gives rights of access to a wide range of information. However, rights of access to environmental information are provided by a separate statutory regime, the Environmental Information Regulations. New regulations were laid in December 2004[16] which bring into UK law a new EU directive (2003/4EC) on public access to environmental information. Further information about access to environmental information, including guidance on the Regulations, is on the Defra website.

2.4.6 Requirements and best practice for electronic records management

Organisations should also review two key sets of documents that are designed to help define requirements for ERM systems.

The first was produced by The National Archives and was called *Requirements for Electronic Records Management Systems*[17]. The first version came out in 1999 and the second in 2002.

The TNA document clarifies the fact that... *'these generic requirements are not a full specification. They form a baseline that sets out, in the mandatory part of the requirements, the minimum necessary to undertake credible electronic records management.'* The TNA document was always designed to form part of a compliance scheme. Hence it contained a set of functional requirements that suppliers' products could be tested

against, and the TNA set up a testing programme in the UK.

The second was the *Model Requirements for the Management of Electronic Records (MoReq)*[18] which was first prepared for the IDA programme of the European Commission by Cornwell Affiliates plc, and then revised and reissued as MoReq2[19] (Fig. 2.9), and most recently redesigned and issued as MoReq 2010[20] even though it was not published until 2011.

The original MoReq document was similar to the TNA document but there were three main differences. First, MoReq was designed to be applicable equally to the private and public sectors whereas the TNA document was for UK government use specifically. Second, MoReq was designed to be international in scope and was translated into the languages of the European member states. Third, the original MoReq document was not designed to form part of a compliance scheme.

In 2005 TNA announced that the current phase of the evaluation scheme would complete at the end of 2005. The requirements would be kept accessible for any public sector organisation to tailor and augment to meet their needs. Hence the TNA 2002 ERMS requirements are still a useful document to refer to when developing ITTs, but organisations can no longer ask for contractual compliance to the requirements.

From 2006, attention shifted to Europe where efforts were made by the EU Document Lifecycle Management (DLM) Forum to set up a new EU de facto standard (MoReq2) and an associated compliance testing regime with an appropriate organisation. MoReq2 was published in 2008[19].

The overall aims for the MoReq2 development were to develop extended functional requirements within a European context and to support a compliance scheme by:

- strengthening from MoReq what have since become key areas, and covering important new areas of requirements with clarity
- ensuring that the functional requirements are testable and developing test materials to enable products to be tested for compliance with the requirements
- making the requirements modular to assist application in the various environments in which they will be used

The key entities defined in the TNA and MoReq documents are similar and are presented in the table below. Unfortunately, the terms used to describe them differ. The differences are reviewed briefly in our definitions in section 2.1, above.

To provide compatibility, MoReq2 was an evolutionary update to the original MoReq, not a radically different product. Although designed to form part of a compliance scheme, progress in that direction was slow. MoReq2 was rapidly followed by MoReq 2010[20] which was launched as a project in May 2010. It was designed to build on MoReq2 but also enhance the flexibility and scalability of the specification. In 2009 the DLM Forum's governance board drafted a road map for MoReq. We quote from MoReq 2010 itself, section (1.2.3), *'The roadmap clearly identified that while the MoReq specification was widely viewed by industry as addressing the requirements for mainstream records management in traditional domains such as Electronic Document and Records Management Systems (EDRMS) and Enterprise Content Management (ECM), it was also seen as less applicable to specialised adoption in areas like health, legal and financial services.'*

It was also recognised that MoReq needed to support the emerging trend towards heterogeneity within records system design. MoReq was originally conceptually based on a central repository model where an organisation's standalone records system would capture records from a variety of external sources, including users and other business systems. The governance board roadmap recognised the increasing adoption of alternative architectures. One such architecture is a dedicated records system that is entirely built into a business system and manages only the narrow set of records held by that particular business system. Another emerging model is that of the stor-

TNA 2002 Entities	MoReq 2001 Entities	MoReq2 2008 Entities
	Classification scheme	
Class	Class/Level	Class/Level
Electronic/Paper/Hybrid folder	Electronic/Physical file	Electronic/Physical file Electronic/Physical sub file
Electronic/Paper/Hybrid folder part	Electronic/Paper/Hybrid file volume	Electronic/Physical file volume
Electronic/Paper record	Electronic/physical record	Electronic/Physical record
Electronic/Physical document	Electronic/Physical document	Electronic/Physical document
Electronic component		Electronic/physical component

age-less records system that manages records in situ within the business systems in which they originate, rather than duplicating them into its own repository.

Finally the MoReq roadmap identified the need for flexible and scalable requirements that were equally applicable to both large and small records management applications. MoReq2 had double the number of functional requirements and nearly three times the number of pages of its predecessor. Hence the 2009 roadmap called for two future phases of MoReq evolution:

- In the short term in 2010 to launch a refactoring project that would reorganise the specification along modular lines, simplify it where possible and introduce support for alternative records systems architectures, and
- In the longer term by 2012, with the assistance of specialised industry experts, and based on the flexibility afforded by a more modular approach, to broaden the applicability of MoReq into all fields of human endeavour where the sound management of records is an essential prerequisite.

The MoReq (Modular Requirements for Records Systems) 2010 table of contents covers the following areas:-

Part 1: Core Services

- Fundamentals
- System Services
- User Group Service
- Model Role Service
- Classification Service
- Record Service
- Model Metadata Service
- Disposal Scheduling Service
- Disposal Holding Service
- Searching and Reporting Service
- Export Service
- Non-functional Requirements
- Glossary of Terms
- Information Model
- Acknowledgements.

Part 2: Plug-in Modules

- Interface Series
- Graphical User Interface
- Application Programming Interface
- Classification Series
- Hierarchical Classification
- Component Series
- Electronic Components

TNA also produced the *e-Government Policy Framework for Electronic Records Management*[21] with the e-Government Unit in 2001 and a set of background guidelines on the management, appraisal and preservation of electronic records.

TNA has also produced a set of toolkits to help organisations develop electronic document and records management, including:

- how to produce a corporate policy on electronic records
- toolkit for compiling an inventory of electronic record collections
- toolkit for appraising the inventory of electronic records
- good practice in managing electronic documents using Office 97 on a local area network
- framework for strategic planning and implementation
- sustainable electronic records, strategies for the maintenance and preservation management of electronic records on websites and intranets, and an ERM toolkit
- business classification scheme design
- guidelines on developing a policy for managing email
- guidance publication on realising benefits

2.4.7 Requirements and best practice for electronic records preservation

The National Archives has produced *Guidelines for management, appraisal and preservation of electronic records*, Vol. 1 Principles and Vol. 2 Procedures[22].

Jones and Beagrie also produced an excellent work entitled *Preservation management of digital materials: a handbook*[23]. MoReq2 contains a set of requirements relating to long-term preservation and technology obsolescence.

ISO 14721:2003[24] specifies a reference model for an open archival information system (OAIS). The purpose is to establish a system for archiving information both digitised and physical with an organisational scheme composed of people who accept the responsibility to preserve information and make it available to a designated community. This reference model addresses a full range of archival information preservation functions including ingest, archival storage, data management, access and dissemination. It also addresses the migration of digital information to new media and forms, the data models used to represent the information, the role of software in information preservation and the exchange of digital information among archives. It identifies internal and external interfaces to the archive functions and a number of high-level services at these interfaces. It provides various illustrative examples and some best practice recommendations. It defines a minimal set of responsibilities for an archive to be called an OAIS and defines a maximal archive to provide a broad set of useful terms and concepts.

ISO 18492:2005 Long term preservation of electronic document-based information[25] provides practical methodological guidance for the long-term preservation and retrieval of authentic electronic document-based information, when the retention period exceeds the expected life of the technology (hardware and software) used to create and maintain the information.

One of the issues when archiving electronic records is whether you hold them in an editable form or a read-only form. Where archives need to hold records in an editable form then one of the key standards is the Open Document Format being developed by

OASIS. For the read-only static format the new PDF Archive format (ISO 19005-1:2005) would be appropriate.

OASIS[26] is the Organisation for the Advancement of Structured Information Standards and hosts two of the most widely-respected portals on XML and web services standards. OASIS was originally founded under the name SGML Open as a consortium of vendors and users devoted to developing guidelines for interoperability among products that supported the standard generalised markup language (SGML). OASIS changed its name in 1998 to reflect an expanded scope of technical work including the extensible markup language (XML) and other related standards.

ISO 19005-1:2005: Document management—Electronic document file format for long-term preservation—Part 1: Use of PDF 1.4 (PDF/A-1)[27]. PDF/A is a constrained form of Adobe PDF version 1.4 intended to be suitable for long-term preservation of page-oriented documents for which PDF is already being used in practice. The standard was developed by an ISO working group and attempts to maximise device independence, self containment and self documentation.

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