

Managing records

a handbook of
principles and practice

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and

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Preface

This book describes and discusses the principles of records management and its practical implementation in contemporary organizations. It provides more extensive coverage than most other recent publications on records management. The book does not assume that readers will have any prior knowledge of the subject, but is intended to be of value to experienced practitioners as well as newcomers to the field.

The discipline of records management has grown so much in the last ten or twenty years that it now seems scarcely possible for a single book to cover the whole range of relevant issues. Although space has not permitted full discussion of every topic, we have nevertheless tried to make this book as comprehensive as possible. While addressing a largely English-speaking readership we have sought to maintain an international perspective. As a result, we have given relatively little emphasis to legal or other topics that are specific to a single country, and have concentrated on areas of professional principles and practice that are applicable worldwide.

We are indebted to numerous individuals who have contributed directly or indirectly to the genesis of this book: records management students from many countries across the world who have shared their experiences with us; archivists and records managers with whom we have worked in the UK, continental Europe and Africa; and many others, particularly in North America and Australasia, whose writings have informed our understanding of the subject. We are also grateful to our present and former colleagues at University College London, especially Anne Thurston, Clare Rider, Vanda Broughton, Chris Turner and Anna Sexton.

Elizabeth Shepherd
Geoffrey Yeo

Editorial note

The following abbreviations are used:

AS:	Australian Standard
ASCII:	American Standard Code for Information Interchange
BS:	British Standard
EDI:	Electronic Data Interchange
EDM:	Electronic Document Management (software applications)
ERM:	Electronic Records Management (software applications)
FOI:	Freedom of Information
ISO:	International Standards Organization
OCR:	Optical Character Recognition
XML:	Extensible Markup Language

Web addresses given in this book were correct in August 2002, but may be subject to change.

Figure 1.5 was supplied by Frank Upward of Monash University, Australia, and is reproduced with his permission.

Introduction

Why keep records?

Every organization needs records.

Organizations use records in the conduct of current business, to enable decisions to be made and actions taken. Records may be required for business purposes whenever there is a need to recall or prove what was done or decided in the past. Records provide access to precedents or previous work and thus save time and money by eliminating the need to create resources afresh. Records are also kept to guard against fraud and to enable organizations to protect their rights and assets at law.

Organizations also use records to support accountability, when they need to prove that they have met their obligations or complied with best practice. Organizations are accountable in many ways: they must meet legal, regulatory and fiscal requirements, and undergo audits and inspections of various kinds; and they must be able to provide explanations for decisions made or actions taken. The use of records is the primary means by which organizations can defend their actions if they are called to account for their conduct.

Such external accountability is particularly important to public sector bodies, which are responsible for their actions both to governments and to the wider public. Companies are responsible to their shareholders, besides having a level of responsibility to the wider community. Every organization is liable to be called to account by legislators, regulators or auditors. Organizations use their records to respond to challenges made against them, whether in a court of law or elsewhere, and to justify their actions and decisions in response to enquiries or in the public arena.

Within the organization, records support internal accountability. Those working at lower levels are responsible to their seniors for the work they perform, and records are used to prove or assess performance.

While records are created in the first instance for the conduct of business and to support accountability, organizations may also use them for cultural purposes, both for research and to promote awareness and understanding of corporate history.

Figure 0.1 illustrates these three broad reasons for keeping records.

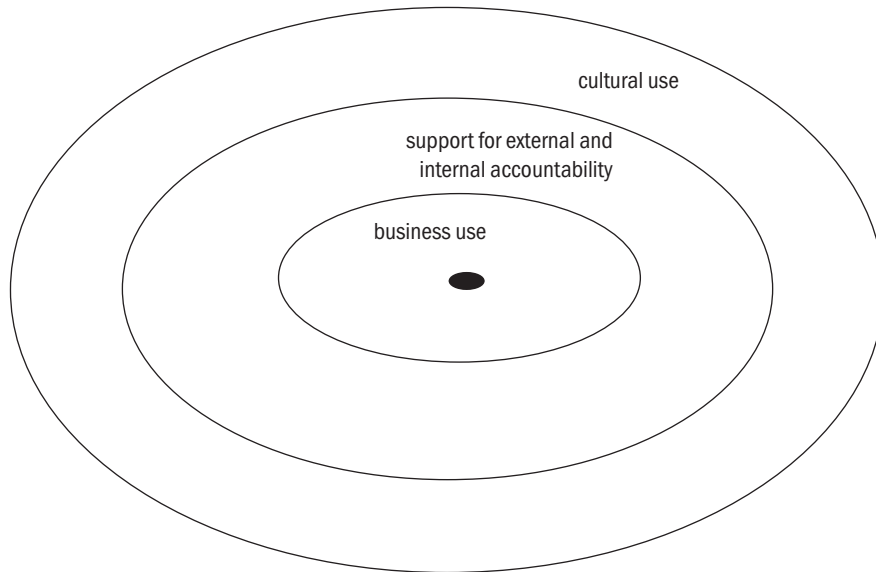


Fig. 0.1 *Why keep records?*

Outside the organization, the wider community also has expectations that records should be kept. When records are used for purposes of accountability they are not merely supporting organizational needs for compliance or self-defence; they also meet the requirements of society for transparency and the protection of rights. Other organizations and individuals may use records for historical, demographic, sociological, medical or scientific research. Records kept for cultural purposes also serve the values of society and its need for collective memory.

Why is good records management important?

Many organizations do not yet have a formal programme of records management, but all organizations need to manage the information and evidence that their records provide.

In organizations where records are not properly managed:

- records will often be inadequate for the purposes for which they are needed
- records will often be lost
- some records will probably be destroyed prematurely and others retained unnecessarily.

Excessive retention of records will give rise to retrieval difficulties as well as wasted resources; but a failure to create adequate records or to maintain them appropriately will probably have more serious consequences:

- The organization may be unable to prove that it did what was required of it, or that policies and procedures were correctly followed.
- It may be unable to defend itself if liability claims are made against its products or services or the actions of its employees.
- It may be unable to prove its rights or protect its assets.
- Business operations may be compromised if critical information is unavailable when required.
- The rights of customers, citizens and the wider community may also be impaired.

Increasingly, organizations are recognizing the benefits of well-managed records and are implementing programmes to ensure that the right records are created and retained. An effective records management programme will also ensure that records are available for use when needed, that privacy and confidentiality are maintained and that redundant records are destroyed.

How can this book help?

This book provides a detailed introduction to the concepts and practice of records management, for organizational staff who have responsibility for establishing, maintaining or restructuring a records management programme.

Throughout the book, approaches to managing records in both electronic and traditional media are considered. Chapter 1 provides an overview of the principles of records management and an introduction to records management programmes and systems. Chapter 2 describes some techniques that records managers can use to gain an understanding of the context for their work. Chapters 3 to 7 discuss the components of records management systems and their

application in the context of an established programme. The final chapter gives advice on developing the necessary infrastructure and provides a discussion of practical business issues surrounding the implementation of records management in a contemporary organization. For further reading, an extensive bibliography is provided.

The focus of the book is on managing records to support the conduct of business and accountability. The management of records for cultural purposes is treated more summarily, but references to further information on this topic are included in the bibliography.

1

Understanding records management

This chapter introduces the core concepts and terms used in the book. It describes the broad professional context of records management and outlines the intellectual frameworks that underpin it.

Defining the key terms in records management

What is records management?

Records management is the ‘field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records . . .’ (ISO 15489-1:2001, clause 3.16). As a discipline, it developed from 20th-century office efficiency programmes and from the older profession of archives management. Archives were originally records kept to support the rights and obligations of organizations and individuals, but the archives profession came to be seen as concerned only with older records, kept to support historical research. By the mid 20th century, records managers were employed by archival institutions in the public sector, with the aim of controlling the inflow of ‘modern records’ into historical archives. While this is still one of the functions of records management, it is no longer the only role, nor even the predominant role, of the records manager. Records management now covers the management of records, regardless of age, to meet the needs of private and public sector organizations and the wider society as well as the research community. It earns its place in the life of an organization through its contribution to business aims and organizational goals.

Records management is a necessary part of the work of almost all employees within an organization (and also of individuals in their personal lives). This book focuses on the organizational context, where records managers are the specialists in records management but rely on the co-operation and participation of all employees.

To understand records management more fully it is necessary to look at the meaning of the word *record*. In the past, records management was equated with the management of papers located in organizational filing systems. The growth of new technology and information management has led records managers to seek a more rigorous definition of records, in order to explain what distinguishes them from other organizational resources, and to show how managing records differs from managing documents, data or information.

What is a record?

Originally *record* was a legal term: records were writings preserved in courts of law and accepted by them as authentic testimony of a completed action. Now it has wider connotations, and in this book the word *record* is used to mean any *recorded evidence of an activity*.

A record is not defined by its physical format or storage medium, its age, or the fact that it has been set aside for preservation. Nor is it simply a form of recorded information. The essential characteristic of a record is that it provides evidence of some specific activity.

Other definitions are sometimes found in the literature on records management, but the concept of records and archives as evidence of activity goes back to the earliest days of archival theory and can be found in the works of Dutch, British, Italian and American authors (Muller, Feith and Fruin, 1898; Jenkinson, 1922; Casanova, 1928; Schellenberg, 1956).

The word *evidence* is not used here in a legal sense. Records provide evidence that can be used in any situation where proof of a particular activity is required. In this book the phrase *legal evidence* is used where a specific legal connotation is intended.

What is an activity?

An *activity* may be defined as *an action or set of actions undertaken by an individual, a group of individuals or a corporate body, or by employees or agents acting on its behalf, and resulting in a definable outcome*. An activity has identifiable start and end points, although the end point may not always be known when the activity is begun.

Some activities, such as drafting or note taking, may involve only one person, but in an organizational context most activities involve two or more parties, with some form of transaction or communication taking place between them. One or more of the parties may be external to the organization (typically a customer or

supplier). Other transactions may be purely internal (perhaps between a manager and a staff member, or between one department and another). The word *transaction* is occasionally used to denote an activity in which only one party participates, but it normally refers to a bilateral activity (Saunders, 1990, 322). In this book it denotes an activity involving two parties or more.

Most organizational activities involve the participation of one or more members of the organization's staff, but some may be largely or wholly automated. For instance, in a banking transaction conducted at an automated teller machine or over the internet the customer communicates only with the bank's computer. Some activities, such as automated stock ordering, may be performed without any direct human agency.

What is the connection between an activity and the creation of a record?

Records are a product of organizational activity, created or received during or after completion of the activity itself. Where more than one party is involved in an activity, each party may create its own record; alternatively the second party may receive and retain the record transmitted by the creator, while the creator retains a copy of it.

Records may be created either in the course of an activity, or afterwards in a conscious act of record keeping. In the case of a letter, invoice or purchase order, the transaction is effected in whole or part by the creation or transmission of the record. Some records of this kind are created within the organization, while others are received from outside. The way in which business is done leads naturally to the creation of records, and the parties concerned are likely to be more conscious of the activity being performed than of the fact that they are incidentally creating a record of it. In other cases (for example, staff training records, equipment maintenance records or minutes of meetings) the purpose of creating records is to provide evidence of activities that are already complete. Records of this kind are consciously created within the organization to meet specific needs for record keeping, and are not usually sent to or received from outside parties. In many jurisdictions the distinction between these two types of records has been recognized at law: for example in the UK in *H v Schering Chemicals*, 1983, Lord Justice Bingham offered a definition that records 'either give effect to a transaction itself or . . . contain a contemporaneous register of information supplied by those with direct knowledge of the facts' (Saunders, 1990, 30–1).

How are records created?

Traditionally, organizational staff created records manually, using pen and ink or a typewriter. In the modern world most records are created using digital technology, by interaction with a computer program. Records can also originate when communications are received from outside the organization, by letter, fax, e-mail or other messaging system. In this book *creation* is often used as a shorthand term for *creation or receipt* of records.

What media are used to create and maintain records?

Until very recently almost all records were on paper, but modern organizations are increasingly using digital media. Records maintained digitally are known to records managers as *electronic records* (or *digital records*). Both terms refer specifically to records created or received electronically, which are then *maintained* in electronic form, as opposed to records which are created using word-processing or other software and then printed onto paper.

Records are usually textual but can also contain, or be associated with, non-textual material such as sound, images or three-dimensional objects. Parker (1999, 5) gives examples of clothing, drugs and even a piece of railway sleeper, which have been attached to records of legal investigations or court proceedings. Spoken messages (such as voicemail) and visual items (including drawings, photographs and moving images) can also be records in their own right.

What is meant by ‘capturing’ a record?

The term *capture* refers to the actions that are taken to secure a record into an effective records management system, where the record can be maintained and made accessible for as long as it is needed.

Some records are captured as soon as they are created, others after an interval; ephemeral records can be destroyed before capture. Writers on records management sometimes reserve the term ‘records’ for those that have been formally captured, but records exist before they are captured, and even the most ephemeral record is evidence of activity within the organization. However, systematic capture is essential if records are to be retained and managed effectively over time. Strategies for records capture are discussed in Chapter 4.

What are archives?

The word *archives* is popularly used to refer to older papers or computer files that have been consigned to secondary storage. Sometimes *archives* and *records* have been used as synonyms. Archives are also perceived as records kept for research purposes. However, in records management terms, archives may be defined as *any records that are recognized as having long-term value*.

These are likely to be only a small proportion of the total number of records captured in a records management system. Most records have a limited lifespan and will eventually be destroyed. *Archives* may include records that have continuing significance in the conduct of business, for example as evidence of the organization's constitution or its ongoing rights and obligations. They may also include records that are no longer expected to be required for operational use or to support accountability, but are kept indefinitely as part of the corporate memory of the organization or for research or other cultural purposes. The word *archives* is also used to mean an institution or business unit responsible for managing records of long-term value.

The life of the record

The lifecycle concept

The *records lifecycle* is a concept in common use. It indicates that records are not static, but have a life similar to that of biological organisms: they are born, live through youth and old age and then die. The idea was developed in North America by Schellenberg (1956, 37), who wrote about the 'life span' of records, which included their current use and final destiny. Similar concepts are employed in other disciplines, notably the 'information lifecycle' models used in information management and technology.

Since the 1950s many variants on the records lifecycle concept have been modelled. Most models aim to show a progression of actions taken at different times in the life of a record: typically, its creation, capture, storage, use and disposal. Some writers show this as a linear progression, while others describe a loop or circle (see Figure 1.1).

A different model (see Figure 1.2) suggests that records pass through three 'ages', or stages: a *current* stage, when they are used for business; a *semi-current* stage, when their business value is reduced; and a *non-current* stage, when they have little or no business value but may be used for other purposes.

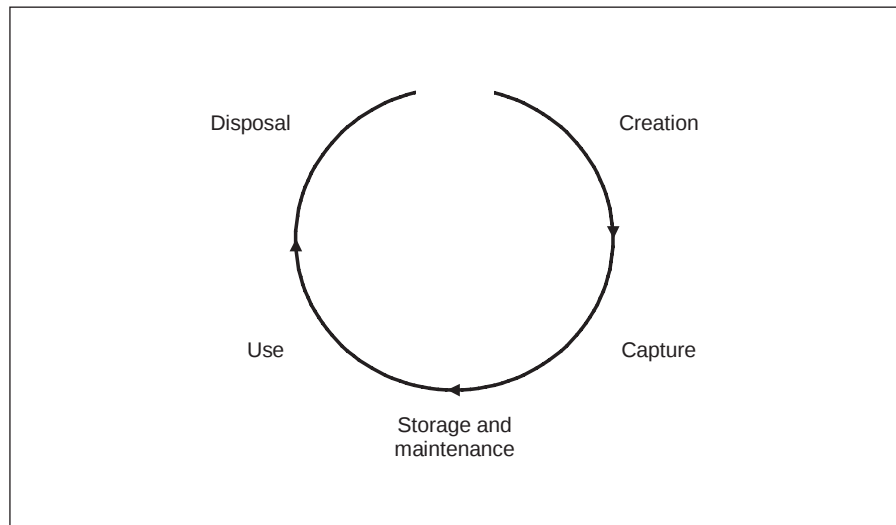


Fig. 1.1 'Progression of actions' lifecycle model

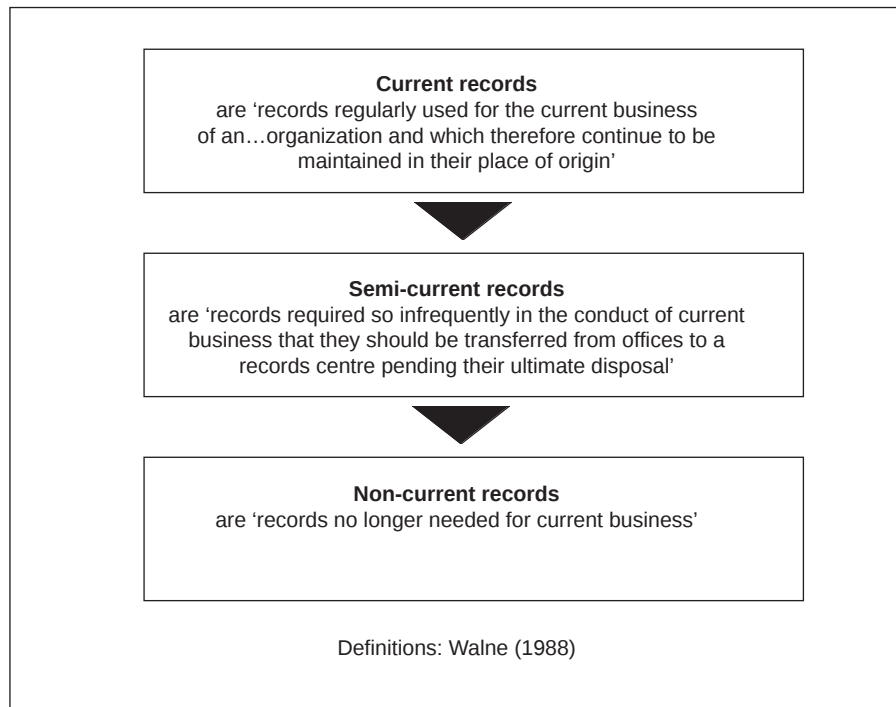


Fig. 1.2 'Three ages' lifecycle model

This model assumes that records are kept initially for organizational purposes, and implies that they may be transferred into archival custody when the passage of time has reduced their business value to the organization. Writers who use this model (such as Couture and Rousseau, 1987, 37) have generally emphasized the physical movement of paper records to alternative storage at each phase of their life, together with the destruction of unwanted records at each stage. Some records managers have argued that the semi-current stage is redundant, and that a record is either current or non-current.

Some writers refer to the stages of the lifecycle as 'active', 'semi-active' and 'inactive'. In this book, however, the word *active* is used to describe records that are in use at a given moment, as opposed to those which lie inactive in storage. In this sense, records are most active in the early part of their life, but there is often a resurgence of active use for secondary reasons later in life (see Figure 1.3).

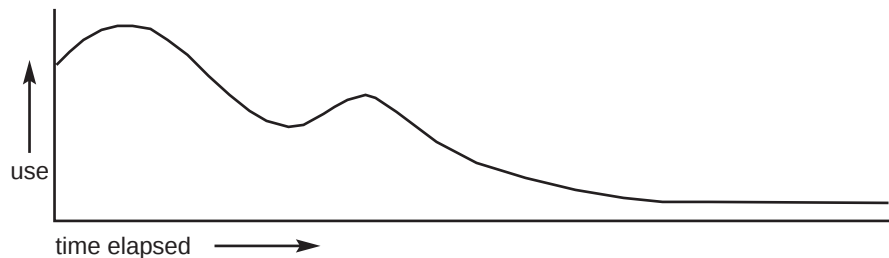


Fig. 1.3 *Typical usage levels during the life of a record*

In recent years the lifecycle concept has been subject to much adverse criticism. First, critics have noted that some records do not 'die', but are retained indefinitely because of their continuing value. Secondly, the division between stages of the lifecycle in the 'three ages' model is seen as artificial: for example, records thought to be non-current may have a renewed period of currency if the activity that gave birth to them is revived. The lifecycle models do not allow for the repetition of stages, or for stages to be omitted, although in practice this frequently happens. It has also been argued (McKemmish, 1997) that the lifecycle concept perpetuates an artificial distinction between records kept for business purposes and records kept for cultural reasons, and thus between the professional perspectives of archivists and records managers.

Critics of the lifecycle concept also suggest that it is too focused on records as physical entities and on operational tasks, especially those associated with the custody of paper records. Electronic records rely on logical rather than physical

structure, and the tasks associated with the physical storage of paper are largely irrelevant to their management.

A record ‘entity life history’

It is possible to refashion the lifecycle concept to meet contemporary needs, using the *entity life history* method developed by Jackson (1983). This is a method employed by systems analysts to represent different events that affect materials or other entities used in the conduct of business.

Following this method, an entity (such as a record) is seen as having a life history constructed of sequences, iterations and selections of objects and actions. This is represented diagrammatically using boxes in a kind of ‘family tree’, where each ‘parent’ box can have one or more ‘children’. A sequence is shown by a horizontal row of unmarked boxes: the actions in a sequence can occur only in the order shown, reading from left to right. An iteration, indicated by an asterisk in the top corner of the box, means that each instance of this object or action can occur zero or more times. A selection, indicated by a small circle in the top corner of a child box, means that for each instance of the parent action, only one of the child actions occurs.

Figure 1.4 uses this method to model the life history of records in a structured environment. This model is valid for all records, whether paper or electronic. A record is created or received, is captured into a records management system, and

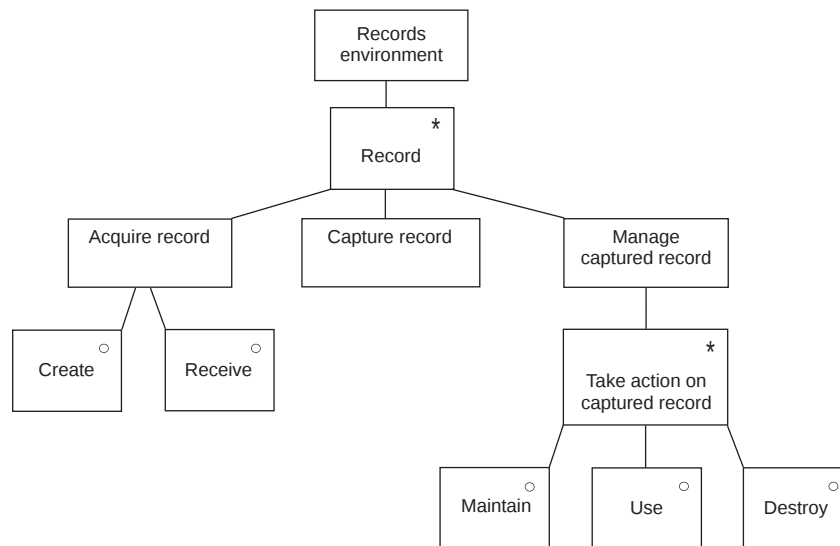


Fig. 1.4 Record entity life history

is then subject to actions (maintenance and use), which may be repeated as necessary until the record is destroyed. For records of continuing value, destruction need never occur, but when it does occur it is the final event in the life of the record.

The continuum concept

The *records continuum* concept (see Figure 1.5) was developed in the 1980s and 1990s in response to criticisms of the lifecycle models. In a continuum there are no separate steps: managing records is seen as a continuous process where one element of the continuum passes seamlessly into another.

The dimensions in the continuum are not time-based, but represent different perspectives on the management of records. The circles move out from the creation of records of business activities, to ensuring that records are captured as evidence and to their inclusion in formal systems for records management within the organization, while the fourth dimension looks out towards the needs of society for collective memory. In contrast with the older view that records are kept for organizational purposes during the early stages of their lives, and only later come to meet the needs of a wider society as archives, the continuum model ‘embraces

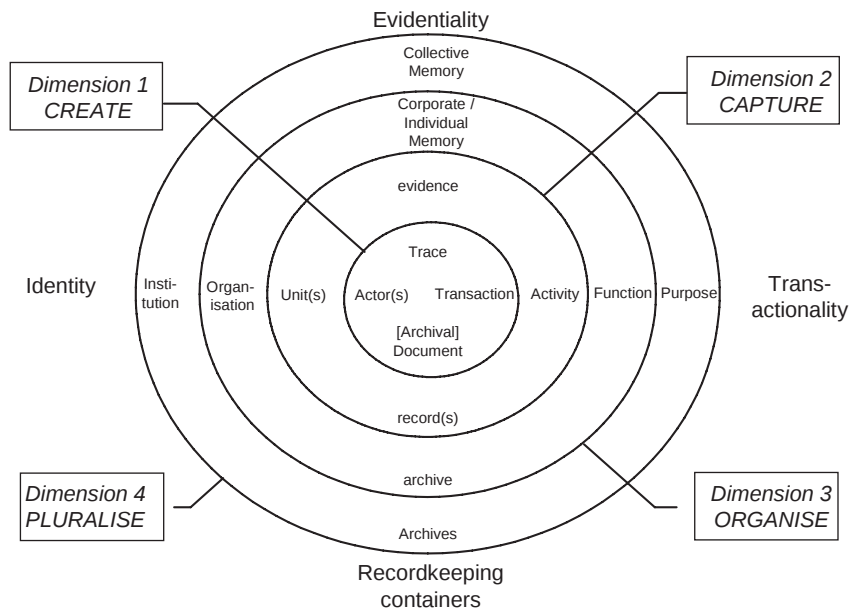


Fig. 1.5 *Records continuum* (© Frank Upward; all rights reserved)

the view that records function simultaneously as organizational and collective memory from the time of their creation' (McKemmish, 1997).

The continuum is a flexible and inclusive concept that reflects a range of issues surrounding the role of records in contemporary organizations and society. It emphasizes that the same principles apply to the management of all records, whether newly created or inherited from the past. Many archivists and records managers, especially in Australia, have rejected the lifecycle models altogether and promote the continuum as offering a more holistic view of record keeping. However, the two are not incompatible. The true objection to the older models is not to the lifecycle concept itself, but to those manifestations of it that reflect an underdeveloped view of records management or try to introduce excessive practical detail. Specific practices will vary from one working context to another, but models based on the lifecycle concept or the entity life history can help to identify stages and actions within a records management programme, and thus provide a useful framework for planning and implementation.

Records as evidence and as sources of information

Evidence of activity: the characteristics of an effective record

If a record is to function effectively as evidence of an activity, it must first be compliant with any external requirements in the environment where the organization operates. Requirements for records may derive from legislation, regulation, mandatory standards, codes of best practice and ethics, or community expectations (ISO 15489-1:2001, clause 5).

Records must also possess content, context and structure:

- 1 *Content*: a record must reflect the facts about the activity. For a reliable record these should be accurate (the facts should be correct) and complete (everything of significance should be recorded).
- 2 *Context*: a record must be supported by information about the circumstances in which it was created and used. Records cannot be fully understood without adequate knowledge of the activity that gave rise to them, the wider function of which that activity forms part, and the administrative context, including the identities and roles of the various participants in the activity. Contextual information must therefore be captured in the records themselves or in the systems that are used to maintain them.
- 3 *Structure*: records and records systems must reflect the relationships between

their constituent parts. In a business letter, for example, there is a formal structural relationship between the details of the addressee, the date, the body of the text divided into paragraphs and the signature at the end. There are also structural relationships between the individual letters in a file or folder, and between records in a series.

The structure of a record forms a link between content and context. Structure organizes the content in such a way as to denote context, and thus contributes to users' understanding of the record.

Archival theory emphasizes the need to preserve *provenance* and *original order*:

- 1 Traditionally understood as referring to the administrative origin of records, the term *provenance* is now often reinterpreted to include an understanding of the functions and activities that underlie records creation and maintenance.
- 2 Other aspects of the context of a paper record can be ascertained from its physical juxtaposition to other records, typically in a file or cabinet. The principle of retaining the *original order* relates to records in the paper world: it preserves context by protecting their physical structure. To extend this concept into the digital world, where storage is random and the physical juxtaposition of records has no significance, it is necessary to reinterpret it in terms of the intellectual relationship between one record and another.

These longstanding principles are still valid: records managers need to ensure that information about the provenance and interrelationship of records is not lost.

According to the international records management standard (ISO 15489-1:2001, clause 7.2), records should have qualities of authenticity, integrity, usability and reliability. The authenticity and integrity of records need to be guaranteed over time, so that users can be confident that records are genuine and trustworthy and that no illicit alterations have been made to them. Records need to be usable: they must be accessible to authorized users and provide sufficient evidence of the context of their creation to support users' understanding of their significance. Records created within an organization should also be reliable and accurate in their content.

For this to be achieved, records must be created and maintained systematically. Sufficient measures are needed to allow proof 'that records are what they purport to be and that their purported creators have indeed created them' (AS 4390.3-1996, clause 5.3). Weaknesses in these areas will diminish the weight of a record as evidence of an activity. Records may be destroyed when no longer required, but for as long as they are kept they should remain unaltered. Moreover their usability

must be protected so that they can be retrieved, consulted and interpreted when they are needed. Systems to manage the content, structure and context of records, and to ensure their integrity and usability over time, are discussed in later chapters of this book.

Records provide information as well as evidence

Records can be used as sources of information as well as evidence. The information in a textual record may be in the form of raw data (name, address, etc.) or may be derived from narrative. Records typically contain information relating to the parties involved in an activity and to the contents or subject matter of the activity itself, but may also contain information relating to other matters such as the political, organizational or social environment within which the activity occurred. Users may refer to a record to obtain information of this kind, quite independently of any need to use the record as evidence. Users are also likely to employ other methods of obtaining information, and may not consciously distinguish between records and other information sources.

In the past, information professionals often made a distinction between published sources (which were the responsibility of the librarian) and unique or unpublished materials (which were seen as the province of the records manager). However, this distinction is no longer as valid as it once was: with the growth of computer technology and the proliferation of copying devices in the modern office, a record is no longer necessarily seen as a unique object. Even the distinction between an original and a copy of a record has become increasingly blurred in the digital era. Moreover the establishment of a corporate website or intranet means that materials can be 'published' without creating multiple physical copies, while the intranet may also be used to provide access to repositories of organizational records. In a world where electronic objects can be viewed remotely on demand, the traditional division between published and unpublished materials is hard to maintain.

However, there remains a critical distinction between records, which provide evidence of activities as well as information, and materials produced for informational purposes alone. Information products are consciously designed to disseminate information or ideas on a defined subject, and the importance that an organization attaches to them will relate directly to the comprehensiveness, accuracy and currency of the information they contain. An online reference source or a CD-ROM containing inaccurate or obsolete information is of little value, and a librarian is unlikely to recommend it. Records generated outside the organization

are assessed differently: an incoming business letter containing false information has little value as an information source, but as a record it may still be valuable as evidence of the writer's ignorance or intention to mislead. Most records can be expected to contain information that is accurate at the time of their creation, but if they are to function as evidence they cannot be updated after their capture in a records management system. The use of records as information sources often involves using them for a purpose that their creator did not intend.

While library materials and other information products are usually managed as discrete objects, a record normally forms part of an accumulation of related records. Library systems are focused on information, but records management systems have to meet both informational and evidential needs. A records management system should provide search tools that allow records to be used for reference purposes, but must also ensure that users can interpret records in their context. These issues are explored further in Chapters 3 and 7.

Records, documents and data

What is a document?

The term *document* is used in many ways, both in popular speech and in technical areas such as law and computing. Some records managers have used *document* and *record* as if they were synonyms; others have defined a document as 'work in progress, not yet captured as a record'. Neither usage is followed in this book.

A more helpful definition is given by Robek, Brown and Stephens (1995, 4) who state that a 'document' usually 'means "the smallest unit of filing", generally a single letter, form, report, or other item housed in a filing system'. Roberts (1994, 19) identifies two further characteristics: a document is 'discrete and identifiable from other documents', and there are logical relationships between each of the textual (and sometimes visual) elements of which it is composed. These definitions can be applied to both paper and electronic documents.

Not all documents are records

Completed application forms, letters, invoices, register books and hard-copy ledgers are all documents. They are also records, since each of them provides evidence of activity.

Blank forms, picture postcards, advertising posters and reference books are also documents, but they are not records (see Figure 1.6). The form can become a record

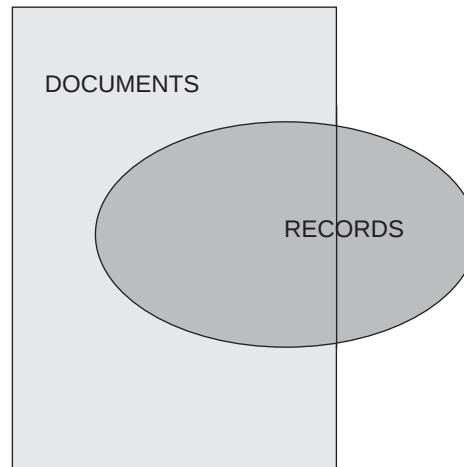


Fig. 1.6 Relationship between records and documents

if it is completed and transmitted to initiate some action; the postcard can become a record if it is used to send a message. Until then they are documents but not records, because they have not participated in a business activity.

What are data?

Data are ‘raw’ facts or figures, usually represented in a formalized manner. Typical data are names, titles, locations, dates, quantities, costs, and so on. Data *elements* are commonly organized using pairs, with each pair consisting of an *element name* (for example, ‘location’ or ‘price’) and a *value* (for example, ‘London’ or ‘\$100’).

In the pre-computer era, the maintenance of data was largely confined to documentary formats: data were typically kept on index cards, and processed manually using tabulated analysis on paper. Computer systems allow data to be maintained independently of documentary formats.

Data used in current information systems are not records

Organizations need data about their operations, finances, stock levels, customers or suppliers, and about the wider business environment, in order to provide information to managers or other staff. The usual requirement is for such data to be as up to date as possible, and to be capable of reuse in different parts of the organization. Data of this kind are processed, manipulated, analysed or interpreted to support decision making, business control or operational tasks.

Computers allow data to be updated, to flow wherever they are needed and to be processed electronically in current information systems. Systems of this kind include many corporate and departmental databases, single 'line of business' applications and integrated business support applications such as enterprise resource planning (ERP) systems. Data in these systems are clearly distinguishable from documents:

- 1 Data in current information systems are processed chiefly at the output stage. Their internal structure need not be visible in output.
- 2 Documents are processed at the point of creation; when viewed subsequently they are intelligible without further processing, and their internal structure is always reflected in output.

Data are frequently extracted from documentary records, and sometimes from other documents, for processing and analysis in a current information system. Data extracted from records are ultimately derived from business activities, but data used in this way are not themselves evidential records. Electronic data in current information systems are dynamic, in the sense that they are manipulable and subject to update, whereas records are stable and fixed in time.

Data in electronic transaction systems are records

Before the advent of technology, records of transactions were also inextricably tied to the documentary format; a business activity could not be recorded without using a document. However, in an electronic environment records need not be in the form of documents. Computer technology allows a transaction to be recorded using data alone.

In many areas of work, data entry has replaced the creation of documents as the preferred method of creating records of completed activities. For example, staff operating a telephone helpline may enter data such as name, date and subject of enquiry into a database and these data may constitute the sole evidence of the handling of each enquiry. These data are not dynamic, since they are not subject to update after they have been entered in the database. Some computer systems include both dynamic data and evidential data.

Besides their use in recording an activity that is already complete, data-centric systems can also be used to perform the activity itself. Systems of this kind are increasingly employed in automated transactions for ordering goods or transferring money. Examples include electronic data interchange (EDI) and internet

commerce, as well as electronic funds transfer (EFT) and bank cashpoints (automatic teller machines or ATMs). In these technologies a standard set of data is transmitted from customer to supplier in order to effect a transaction, and the data that comprise the record of the transaction exist independently of document constraints. As electronic commerce develops, there will be more records of this kind.

Evidential requirements apply equally to records such as these. To function effectively as a record, the data that form the evidence of the transaction must have context and structure as well as content. Although there is no documentary structure, it is nevertheless essential to have a structure that identifies and binds together the set of data representing each transaction. The record must also be compliant with legislation and regulations; and measures will be needed to ensure its authenticity and integrity. While current informational data are intended to be updatable, evidentiary data need to be fixed in time. The issues are the same for all records, whether they take the form of documents or data.

The complexity of digital records

At present, most records in most organizations are paper or electronic text documents, produced using word-processing or similar software. Data are usually seen as the domain of separate applications built around database technology.

In one sense, however, documentary records themselves contain data. The data are the words, numbers or images used by the creator of the document. Data of this kind may not be composed of named 'elements'. Instead, in a record such as a letter, the creator conveys meaning by imposing a sequential structure on the words that are used.

The association between document and data can be seen most clearly in the use of forms. A completed form is a documentary record, but its content is less closely tied to the documentary structure than is the content of a letter. While the documentary structure is essential to an understanding of the meaning of a letter, the text on a form is composed mainly or wholly of discrete elements of data. Element names are provided by headings or prompts on the form, and if the ordering of the elements were to be changed their meaning would not be lost. The user's understanding of the data on a paper form is determined largely by the element names, not by the order in which the elements are presented.

Particularly in electronic systems, forms can be seen as documents that are designed to facilitate the capture of data. An electronic form may be posted as a document on a website, but it is the set of data that a customer enters that will be used to process a transaction and will constitute the record.

Conversely, some digital records are created and captured as data, but may acquire something resembling a documentary format when they are output to a printer or converted to another medium for long-term storage. Voicemail and other spoken messages acquire documentary characteristics when they are transcribed or when voice recognition technology is applied.

In the future many records are likely to be seen as ‘digital objects’ composed of both document and data characteristics. Particularly in the areas of enterprise resource planning and customer relationship management, automated systems are being developed where data forming evidence of routine transactions can be associated with non-standard documentary materials such as correspondence. At the time of writing, extensible markup language (XML) is seen by many as the key to managing composite records of this kind, because of its utility in combining data and document functionality in a single environment. XML is likely to be the language of choice for web-based transactions both on the internet and on corporate intranets and extranets, and research is in progress into its use in areas such as medical records and in supply chain management, where it is seen as a catalyst to enhance the value of EDI.

Even within the world of documentary records, the growth of technology has led to the creation of more complex records than was possible when paper was the only medium. ‘Compound’ records are those where the electronic document is composed of several parts, each created in a different computer application. Text documents that include spreadsheets or graphics are now common. More complex multimedia records, in which the document includes video or sound files, are also possible (though still relatively rare in the transactional environment). With the growth of remote conferencing and web technologies, multimedia records may become commonplace.

Records management and related disciplines

How does records management differ from document management?

While the future may bring many new types of record, at present most records are in documentary format and most records management activities involve dealing with documents. At a physical level it is the document that is filed, consulted, moved, retained or destroyed. The term *document management* is usually associated with computer packages sold as ‘electronic document management systems’, and these sometimes provide much (though rarely all) of the functionality that is required for managing electronic records.

Much of this book is devoted to the management of documentary records in paper and electronic media. However, records management has to deal with records in all formats and not just those that are documents. Records management also emphasizes the need to maintain the authenticity and context of records, with which document management is rarely concerned. 'A document management system which is used to ... provide access to documents which have no or insufficient evidential characteristics is an information system not a recordkeeping system' (O'Shea, 1996).

How does records management differ from information management and knowledge management?

Like records management, *information management* is concerned with materials in any format. However, information management focuses on information products used to support business activities, rather than the evidence of the activities themselves. These products include in-house publications, reference books, journals, technical manuals, CD-ROM publications, data mining and decision support systems, and websites and informational databases whether maintained by the organization itself or externally. Some may be the province of the librarian, while others may be managed by computing specialists. All these products have content and structure, and their reliability and accuracy are seen as important, but where their context is recognized as an issue it is likely to be perceived as a matter of authorship or publication rather than business activity.

The term *knowledge management* has been used to mean many things, but generally signifies an integrated approach to the management of various types of information resource, often in association with attempts to capture 'tacit' knowledge, particularly the expertise of members of staff and the knowledge that they as individuals bring to their jobs.

Information management and knowledge management are also concerned with the information that is contained in records. Most definitions of knowledge management explicitly mention information to support corporate memory (for which records are a prime source) as well as dynamic information typically associated with database applications. Records management on the other hand is concerned with managing records for their value as evidence of activities, as well as for the information they contain.

Managing records and other information sources

In practice the distinction between records management and information management is often blurred, especially in smaller organizations where records management may be undertaken by an information manager. In organizations that support a dedicated records management service, records managers are often expected to maintain information sources that are not records. Information management is sometimes perceived as concerned only with current information, and older or historic information may then be seen as the province of the records manager. Records managers are rarely asked to manage externally generated information products (whether published texts or external data) but may have custody of, or some responsibility for, information products generated internally in paper or electronic form.

Records managers may be interested in information products for a number of reasons. First, internally generated information products are created within a business context. The data in a typical corporate database are collected in the course of business, to provide an information tool. The existence of internal publications or a corporate website indicates that organizational activity occurred when they were created.

Secondly, information products are used in the course of business activities. Just as the actions involved in creating and editing the product are business activities, so are the actions involved in using it. Although consultation of a database or a procedural manual usually leaves no trace, sometimes it may be necessary for a record of each consultation to be maintained. In some cases a record may not be complete, or fully understandable, unless the information sources used in its preparation are identified. Sometimes an information product such as a database is compiled for the purpose of a single activity; in such cases it can be appropriate to retain the product in close association with the record of the activity concerned.

Thirdly, the use of information products may involve transmitting or publishing them. A common business activity is the sending of information products from one person or organization to another: for example, brochures are sent to clients, or news cuttings attached to a memo to the boss. When an information product is included in a transaction of this kind, it is normally appropriate either for the product to be incorporated into the record of the transaction, or for its identity to be documented so that it can be traced when the record is used on a later occasion.

Finally, the use of websites is of interest to records managers. Websites may be consulted as information sources but are also used for carrying out business. Web transactions are effected by transmission of data from one party to another, but the static content of a website can also form part of the evidence surrounding the