DIRKS – A Strategic Approach to Managing Business Information

STEP D – ASSESSMENT OF EXISTING SYSTEMS

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D.1 WHAT DOES ASSESSING YOUR BUSINESS INFORMATION SYSTEM INVOLVE?

The purpose of Step D is to survey your organisation's existing recordkeeping and other information systems to measure the extent to which they provide evidence of business activities, or have the required functionality to do this.

To do this, you will draw on the requirements for evidence identified in Step C and information on the required characteristics of recordkeeping systems described in Part 1 of this manual. This analysis will reveal any gaps between your organisation's prioritised recordkeeping requirements and the performance and capabilities of its existing systems. It will also identify such things as duplication of information, systems that might be replaced by a new records system as well as areas where there are recordkeeping strengths.

To complete Step D you need to:

- identify existing paper-based, electronic and hybrid business information systems within the organisation (Section D.4.1);
- analyse whether your organisation's prioritised recordkeeping requirements are being met (Section D.4.2);
- determine whether current systems have the capacity to meet them (by measuring the 'gap' between 'what you have' and 'what you want') (Section D.4.2); and
- prepare a report describing the strengths and weaknesses of existing information and records management practices (Section D.4.3). This can form the basis for subsequent design or redesign of systems, policies or procedures (Steps E and F).

D.2 BENEFITS OF ASSESSING YOUR EXISTING BUSINESS INFORMATION SYSTEMS

The introduction of technology, changes to organisation structures and new management approaches have substantially affected traditional business processes and systems. Automated systems and processes have largely replaced paper-based systems and processes. In many cases, recordkeeping practices that existed in the paper environment have been neglected or discarded in the transition to electronic business environments.

Much of today's business relies on a combination of electronic and paper-based systems. While it is appropriate in some circumstances for electronic systems to provide up-to-date business information, in many cases the system must also maintain a history of past transactions that can be accessed as evidence of its business activities. If an electronic system is not designed to do this, or cannot be modified to do so, an organisation may expose itself to business and accountability risks. Paper-based systems that do not meet organisational requirements for recordkeeping will present similar risks.

By determining whether recordkeeping requirements are being met and identifying the functionality or characteristics of the systems, Step D will help you determine which systems used in the conduct of your business provide:

- timely, manipulable information (information systems);
- evidence of business transacted (recordkeeping systems); or
- timely, manipulable information, but need to record business transacted.

In practice, conceptual distinctions between types of systems are likely to be blurred, with organisations expecting, if not assuming, that their business information systems satisfy both information and recordkeeping needs.

Failure to meet requirements may be caused by a number of factors, such as:

- inappropriate policies or procedures;
- staff who are unaware of their responsibilities; or
- electronic systems missing necessary functionality.

From this it is clear that, in assessing your organisation's existing systems, the supporting infrastructure such as policies, procedures and the knowledge of staff who operate the system must also be considered.

By completing an assessment of your existing business information systems you will have:

- an understanding of the strengths and weaknesses of your organisation's existing records and information management practices;
- an appreciation of your organisation's potential exposure to records-related business and accountability risks (caused by the strengths and weaknesses of your organisation's existing practices); and
- an informed basis for developing strategies to address your prioritised recordkeeping requirements.

Products of this step include:

- an inventory of your organisation's existing records and information systems; and
- a report outlining the extent to which your existing business information systems address your organisation's prioritised recordkeeping requirements.

D.3 RESOURCES AND PREREQUISITES

Before starting Step D you should consider whether to:

- begin this step after Steps A to C to ensure that your assessment of existing systems draws on a comprehensive understanding of your organisation's recordkeeping requirements;
- undertake parts of this step concurrently with Step A so that your preliminary investigation of the organisational and technological environment includes an inventory of existing systems; or
- use this step as the starting point to establish a business case for a more extensive recordkeeping project.

In order to conduct a detailed assessment of your existing business information systems you will need:

- personnel with an understanding of your organisation's recordkeeping requirements, familiarity with existing systems and associated policies and procedures and the ability to assess the current and potential capabilities of these systems; and
- documentation arising from Step C that clearly sets out your organisation's prioritised recordkeeping requirements. If you have not undertaken Step C, your assessment of existing systems will be less rigorous.

D.4 ASSESSING YOUR EXISTING SYSTEMS

D.4.1 Identify existing information systems

Business information systems may function as information systems or recordkeeping systems. They may be totally paper-based, totally electronic, or hybrid systems which include both electronic and paper-based information. You should survey, document and assess all the business information systems within your organisation as part of this step.

In broad terms, records systems are a subset of information systems. They can be distinguished from information systems in a number of ways, including:

- the operations they perform (eg maintaining a tamper-proof history of business transacted);
- the controls they have in place (eg registering and dating business transactions and linking them to a classification of the business activity); and
- the business rules they implement (eg requiring documentation, or minutes, of business transacted during formal meetings).

The characteristics of systems that keep records are outlined in Part 1, Section 4 – Characteristics of systems that keep records.

When identifying systems it is also necessary to examine the supporting infrastructure that makes the system work. This includes:

- the people who use the system;
- the people who manage the system;
- policies governing the use of the system;
- rules and procedures on operating the system; and
- associated tools, such as a controlled language thesaurus or data dictionary.

A failure to meet recordkeeping requirements can be caused by problems in any of these areas as well as deficiencies in the system itself.

It is common for an organisation to have more than one business information system. For example, the National Archives of Australia identified at least 70 systems in use across its own organisation in early 1998, including 49 computer-based systems and 21 paper-based systems. These included the official registry system for correspondence files, the financial management system, library serials register, case files for reference enquiries, and duplicate ready reference sets of current disposal authorities.

There are a variety of techniques available to help you identify the existing business information systems within your organisation. These include the use of records survey and information inventories.

D.4.1.1 Records surveys

Start by identifying a significant but discrete collection of records in your organisation such as accounting records, case records, or general correspondence. Each collection of records will usually be managed by a separate business information system, although some of the supporting factors such as people, policies or equipment may be the same. Then identify all the records that relate to the collection. These records should include control documentation (such as file registers and indexes). Next, identify the business units, work groups and individuals that use these systems. This may involve interviewing relevant staff and observing systems in operation. Move on to another collection after you have surveyed one collection.

A data collection form should be completed for each collection of records and system identified. As you survey each collection, you can check it for compliance with relevant recordkeeping requirements and check whether the system has the necessary recordkeeping functionality.

Traditionally, records surveys have been used to identify and document recordkeeping systems, but this technique can also be applied to information systems.

D.4.1.2 Information inventory techniques

An information inventory identifies and documents information systems in an organisation.

The NSW Office of Information Technology has developed an Inventory Guideline that describes how to compile a physical inventory and produce an 'information directory' of your organisation. The guideline describes how to plan, perform and document the inventory. Attributes for each collection of information are listed as part of the inventory, including the type, source and custodian.

D.4.2 Analyse your existing systems

In recordkeeping, the purpose of assessing existing business information systems is to identify the extent to which these systems satisfy your organisation's needs for evidence. Gaps may exist with respect to:

- the functions that the system must perform (known as recordkeeping functionality of the system); and
- the evidence of business that must be created, captured and managed (known as recordkeeping requirements).

Before undertaking a 'gap' analysis, it is necessary to establish a measure or 'benchmark' against which your organisation's systems can be assessed. For this assessment, there must be two benchmarks: one for the system or recordkeeping functionality, derived from the generic characteristics of good records systems identified in Part 1, Section 4 – Characteristics of systems that keep records and the endorsed recordkeeping requirements from Step C. A gap analysis will include the following steps.

- Identify which system(s) to assess. This will be easier if you have an understanding of the relationship between your organisation's business activities and existing systems.
- Assess whether the existing practices and system(s) meet recordkeeping requirements for evidence. It may be helpful to reframe the requirements as a series of questions. The answers to these questions should help to determine whether the requirement is satisfied or not.
- Assess whether the system(s) used to manage the records is satisfactory or not. This phase also requires questions to be framed. The answers to these questions should help to determine whether there are systems capable of ensuring that records are made, captured, managed and made accessible.
- Document the assessment. This may simply involve posing the general question: 'Is this requirement for evidence satisfied by existing systems?' (recordkeeping requirements) and 'Is the system capable of supporting the requirements?' (recordkeeping functionality). Or it may warrant a more detailed explanation of how or why the requirement is or is not satisfied and fails in its recordkeeping functionality. This may involve answering 'yes' or 'no' to a series of specific questions.

Gap analysis can also be used in information management to assess whether an organisation's information stores meet its information requirements. Consult the NSW Office of Information Technology's Inventory Guideline for further advice.

The following example illustrates how a gap analysis may be undertaken with respect to a sample business activity, registering patents. Table 1 outlines the requirements for evidence arising from Step C. Note that Step D draws on the risk assessment conducted in Step C.

Table 1 Sample gap analysis

Originating authority	Parliament of Australia
Source name	*Patents Act 1990* (No. 83 of 1990)
Effective date	30 October 1990
Source type	Legislation
Reference	Section 186 – Register of Patents Section 190 – Inspection of Register
Function/ activity	Patent, Trade Mark and Design Rights Management – Registration
Citation	Section 186 (1) A Register of Patents is to be kept at the Patent Office. (2) The Register may be kept wholly or partly by use of a computer. (3) If the Register is kept wholly or partly by use of a computer: (a) references in this Act to an entry in the Register are to be read as including references to a record of particulars kept by use of the computer and comprising the Register or part of the Register; and (b) references in this Act to particulars being registered, or entered in the Register, are to be read as including references to the keeping of a record of those particulars as part of the Register by use of the computer; and (c) references in this Act to the rectification of the Register are to be read as including references to the rectification of the record of particulars kept by use of the computer and comprising the Register or part of the Register. Section 190 (1) The Register must be available for inspection at the Patent Office by any person during the hours that it is open for business. (2) If a record of particulars is kept by use of a computer, subsection (1) is to be taken to be complied with, to the extent that the Register consists of those particulars, by giving members of the public access to a computer terminal which they can use to inspect the particulars, either on a screen or in the form of a computer printout.
Recordkeeping requirement(s)	A register of patents, in either hardcopy or electronic form, must be created and maintained. The register must be kept at the Patent Office [now IP Australia]. The register must be accessible to members of the public. If all or any part of the register is in electronic form, the appropriate hardware and software must be available at IP Australia to enable access by members of the public.
Stakeholder	Parliament, general public
Requirement type	Creation / Access / Form
Risk assessment	High – requirement mandatory

The following questions will help test whether requirements for evidence are met by the existing system(s).

- Is there a register of patent decisions?
- Is the register at the patent office?
- Does the public have access?

There would also be other recordkeeping requirements related to the content of the register.

The following are examples of questions that will help test whether the system has the necessary recordkeeping functionality.

- Is mandatory metadata captured?
- Does the system have sufficient security to prevent unauthorised alteration?
- Can access be maintained over time?

The answers may reveal that a register is being used, but insufficient information is being captured, and no plans are in place to manage the migration of the electronic information. Therefore the requirements are only partially satisfied.

D.4.3 Prepare a report

It is important to prepare a status report on your organisation's existing systems and practices before starting to design or redesign business information systems or develop new policies and procedures. Depending on the nature of your recordkeeping project, the report may provide a brief summary of the gap analysis, an outline of the strengths and weaknesses of your business information systems and recordkeeping practices, or detailed documentation highlighting the extent to which systems satisfy each recordkeeping requirement. While the preparation of such detailed documentation is resource intensive, it will provide a sound basis for developing functional specifications for any new or enhanced recordkeeping systems (Step F).

D.5 ISSUES

D.5.1 Flexibility

The sources that you used in Step C contained implicit and explicit references regarding the form, content and quality of evidence your organisation should satisfy. It is important that the survey techniques you use in Step D are flexible enough to assess the variety of recordkeeping requirements identified in the earlier step.

D.5.2 Assessing housekeeping functions

Earlier steps have focused on your organisation's core business activity. However, it is also important to assess systems relating to housekeeping functions, such as financial management and personnel, to ensure that the right records are being created and managed in these aspects of your business. Many familiar automated systems, such as accounting or payroll systems may not function as recordkeeping systems. The same benchmark should be used to assess the recordkeeping functionality of these systems. The National Archives is currently preparing advice on recordkeeping requirements for housekeeping functions, based on research undertaken for the development of the Administrative Functions Disposal Authority.

D.5.3 Duplicate systems

Your survey or inventory may reveal the presence of duplicate information, or informal, personal systems that duplicate information kept in formal systems. While the removal of this duplication can increase efficiency, it can also be a sign that something is wrong with current systems and practices. By asking staff why they retain their own copies or run information systems, you may discover:

- poor response times from existing recordkeeping staff and systems hamper work;
- lack of trust in the current system;
- no knowledge of official systems; or
- lack of accessibility to official systems.

These problems should be included in your analysis. Strategies to address them can be identified in Step E – Strategies for recordkeeping.

D.6 CHECKLIST

Before proceeding further check that you have:

- established a benchmark to assess your organisation's existing systems and practices;
- identified, surveyed and documented relevant systems;
- assessed whether the systems have the capacity to function as records systems;
- determined whether the systems currently create, capture and manage evidence consistent with your prioritised recordkeeping requirements; and
- prepared a report describing the strengths and weaknesses of the existing practices.

D.7 WHAT'S NEXT?

After completing Step D you may now move on to Step E – Strategies for recordkeeping, including the design of new systems or redesign of existing systems. No further action is warranted if your assessment reveals that your organisation's existing systems are fully functional and satisfy requirements for evidence.