

MANAGING PUBLIC
SECTOR RECORDS

A Training Programme

Analysing Business Systems



INTERNATIONAL
COUNCIL ON ARCHIVES



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MANAGEMENT TRUST

ANALYSING BUSINESS SYSTEMS

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A STUDY PROGRAMME

General Editor, Michael Roper; Managing Editor, Laura Millar

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Analysing Business Systems

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INTRODUCTION TO *ANALYSING BUSINESS SYSTEMS*

Analysing Business Systems introduces students to a method of studying the way an organisation functions, in order to improve work processes and increase efficiency and effectiveness in all areas of an organization's operations, including records and information management.

Business systems analysis (BSA): An analytical framework that involves analysing organisations as systems or the process of systematically and objectively gathering information about business systems and subjecting that information to formal analysis. This includes identifying broad organisational goals and supporting business areas and processes, and business process definition and decomposition.

The process of business systems analysis involves identifying and then examining the component parts of an organisation, in order to gain information about how the organisation functions and the relationships between various tasks, jobs, people, structures and other elements. BSA projects can lead to enhanced organisational performance by improving the way work is done in an organisation. For example, available resources can be linked more directly to the aims and goals of the organisation; similarly information systems can function more effectively if they are more closely linked with the institution's day-to-day work.

This module consists of six lessons:

- Lesson 1: An Introduction to Business Systems Analysis
- Lesson 2: Business Systems Analysis and the Management of Recorded Information
- Lesson 3: A Method for Conducting Business Systems Analysis
- Lesson 4: Techniques and Tools for Business Systems Analysis
- Lesson 5: Management Issues and Business Systems Analysis
- Lesson 6: What to Do Next?

Lesson 1 examines the theoretical aspects of business systems analysis; Lesson 2 examines how BSA relates to the management of recorded information. Lessons 3, 4 and 5 deal with practical aspects of BSA, including how it works, techniques that can assist the process and management issues to consider when planning a BSA project. Lesson 6 examines priorities for conducting business systems analysis work and discusses where to go for more information on the subject.

AIMS AND OUTCOMES

This module aims to impart an awareness and understanding of how BSA relates to strategies for organisational change, public sector reform and the management of public sector records. It also aims to introduce some of the basic methods, techniques and tools of BSA that can be used to achieve more effective management of records.

Aims

This module aims to explain

1. the theoretical basis for business systems analysis
2. the relationship between BSA and the management of recorded information
3. methodologies used to conduct business systems analysis work
4. the techniques and tools available for business systems analysis
5. management issues related to the application of BSA
6. where to go for more information on business systems analysis.

Outcomes

At the end of this module, you should be able to

1. explain the concept of BSA
2. explain the relationship between BSA and record keeping
3. understand at least one method available to conduct a BSA project
4. understand and be able to use the techniques and tools available for BSA
5. understand the management issues affecting the success of a BSA project

6. know how to find more information on the topic of BSA.

METHOD OF STUDY AND ASSESSMENT

The five lessons of this module should occupy about 70 hours of your time. You should plan to spend about

15 hours on Lesson 1

10 hours on Lesson 2

15 hours on Lesson 3

15 hours on Lesson 4

8 hours on Lesson 5

7 hours on Lesson 6.

This includes time spent doing the reading and considering the study questions.

At the end of each lesson there is a summary of the major points. Sources for additional information are provided in Lesson 6.

Throughout each lesson, activities have been included to help you think about the information provided. Each activity is a 'self-assessed' project; there is no 'right' or 'wrong' answer. Rather, the activity is designed to encourage you to explore the ideas presented and relate them to the environment in which you are studying or working. If you are studying these modules independently and are not part of a records or archives management organisation, you should try to complete the activities with a hypothetical situation if possible. If the activity suggests writing something, you should keep this brief and to the point; this is not a marked or graded exercise and you should only spend as much time on the activity as you feel necessary to understand the information being taught. At the end of each lesson are comments on the activities that will help you assess your work.

Following the summary at the end of each lesson are a number of self-study questions. Note that these self-study questions are designed to help you review the material in this module. They are not intended to be graded or marked exercises. You should complete as many of the questions as you feel will help you to understand the concepts presented. External assessments, such as assignments or exams, will be included separately when this module becomes part of a graded educational programme.

ADDITIONAL RESOURCES

This module assumes that you have access to a records office, records centre or archival institution or that you have some involvement with the management of records. The various activities may ask you to draw on your own experiences and compare those with the information provided in the lessons. If you do not have access to records or archives facilities within your organisation, you may need to develop a fictitious scenario for your activities. You do not have to be in a senior management position to work through the activities in this module, although you may wish to discuss this module with friends or colleagues who are in decision-making positions in the organisation or who are involved with the analysis of the organisation's systems. You can discuss principles and concepts with them in order to compare your understanding with theirs.

Manual

Associated with this module is the training manual *Restructuring Current Records Systems: A Procedures Manual*, which examines methods for reorganising systems that have collapsed or are not functioning properly. Again, users will find this manual provides more detailed procedural information than is contained in this module, particularly with regard to restructuring activities.

Case Studies

The MPSR Study Programme includes a series of case studies on various records-related topics. The following case studies are particularly relevant to the business systems analysis; users of the module may wish to review these case studies as they work through the module.

Case Study:

- 12: Vicki Lemieux, Jamaica, 'The University of the West Indies: Registry Filing Room Procedures Improvement Project: The Use of Total Quality Management in a Records Management Environment.'
- 14: Cassandra Findlay, Australia, 'Development and Implementation of the Immigration Department's New International Traveller Movements System.'

AN INTRODUCTION TO BUSINESS SYSTEMS ANALYSIS

This lesson examines the theoretical concepts underlying business systems analysis (BSA). At the completion of this lesson you should understand

- the concept and functions of a system
- the meaning of ‘systems thinking’
- how systems thinking underlies business systems analysis
- the concept of the organisation as a business system
- how BSA can be used to make organisational changes
- why records managers need to understand BSA
- the relationship between BSA, record keeping and public sector reform.

WHAT IS A SYSTEM?

In order to practice systems thinking, it is essential to understand the concept of the system and how a system operates.

System: A perceived whole whose elements ‘hang together’ because they continually affect each other over time and operate toward a common purpose. Systems consist of sub-systems or functions, processes, activities and tasks.

Examples of systems can be found everywhere. A flower is a system, which stays alive through the relationship between the roots and the stem, the petals and the seeds. A computer is a system, which operates because the central processing unit, the keyboard and the monitor ‘hang together’, operating toward a common purpose. A car is a system, where the engine, wheels, and chassis work together to provide a particular means of transportation. The ocean is a system; fish, mammals, algae,

coral, and water continually affect each other and change the nature of the ocean over time.

Systems can exist on any scale. An example of a large system is the solar system, which is made up of planets, moons, stars and gases. The human circulatory system is a smaller system, with its own specialised parts: the heart, the arteries and the veins.

Systems often contain sub-systems. For instance, the solar system is a 'system'. Within the solar system the earth is a sub-system; it is part of the overall system that includes all the planets, moons, stars and gases. However, the earth can also be viewed as a system in its own right. When the earth is viewed as a system, the ocean can be considered a sub-system of the earth.

Whether an object is considered a system or a sub-system depends largely on why it is being examined. If the object being analysed is the earth, then it is the 'system' for the purposes of that analysis. Its links to other systems (for example, the solar system) might be taken into account as part of the environment in which the Earth exists, but the principal focus would be on the earth. If the ocean were being analysed, its relationship to the earth would be recognised but the main focus would be on the ocean.

Activity 1

Can you think of another example of a system? Think about things in the environment, or parts of the human body, for example. Write down a description of the system and indicate whether or not it consists of sub-systems.

THE FUNCTIONS OF A SYSTEM

Systems have functions.

Function: The means by which an organisation or system fulfils its purpose.

Consider the circulatory system, for example. The function of the circulatory system is to carry blood through the body. In order to fulfil this function, the circulatory system is organised or structured into different specialised parts: the heart, the arteries, the veins. The heart is a major component of this system with its own unique function, the pumping of blood through the body. The heart also has its own specialized structural components or parts: the aorta, the pulmonary artery, the left atrium, the left ventricle, the right ventricle and the right atrium.

The circulatory system
↓
consists of the heart, the arteries and the veins
↓
which function together for the purpose of carrying blood through the body
↓
by executing the process of pumping blood.

Each of the specialised parts of a system also has a specialised function. In the heart, the aorta carries blood from the heart to be distributed by branch arteries through the body; the atria receive blood from the veins and carry it into the ventricles and so on in a continuous cycle of inter-dependent functions. Thus, just as with the concept of the system, there can be functions within functions.

A function is carried out by a ‘process’.

Process: The means whereby a system’s functions are performed.

Consider the heart again. The beating of the heart is one of the main processes involved with the function of pumping blood through the body. This process of beating is, in itself, comprised of a number of more specialised processes and activities, all of which combine to make the heart contract and force blood through to the rest of the body.

Processes consist of input elements, output elements and transformation elements. For example in the process by which the heart contracts, electrical impulses to the heart muscle comprise input elements. Transformation elements are the activities the heart performs to transform these electrical impulses into a contraction. The heart's output element is the actual contraction or heart beat.

input element	→	transformation element	→	output element
electrical impulses reach the heart muscle	→	the heart transforms these impulses into a contraction	→	the heart contracts

Activity 2

Consider the system you identified for the previous activity. What is its function (or one of its functions if it has many)? What are the processes by which it achieves that function?

Activity 3

For the system you identified select a process. Can you identify the input elements, transformation elements and output elements that make the process happen?

SYSTEMS THINKING

As explained above, a system is a complex interrelationship between a number of discrete objects or phenomena. 'Systems thinking' is the process of thinking holistically and in terms of inter-relationships between these objects or phenomena, rather than seeing them as unrelated entities.

A Sufi tale illustrates the concept and value of systems thinking. In the tale, three blind men encountered an elephant. Each examined a different part of the elephant with his hands. The first grasped an ear and exclaimed 'it is a rug; it is a large rough thing, wide and broad.' The second, holding the trunk, said, 'I have the real facts. It is a straight hollow pipe.' The third, holding the front leg, said, 'No, it is actually a pillar; it is mighty and firm.' Given each man's way of knowing, based only on touching a small part of the whole, they will never know that they are touching an elephant. Systems thinking is the holistic process of 'seeing' the elephant, not just its ear or trunk or leg.

The analytic approach now referred to as 'systems thinking' only came into existence in the early twentieth century. Before the development of systems thinking, analysis of the natural world, society, individuals and all else was mechanistic in approach. It was thought that objects could be understood in terms of discrete parts and operations without reference to the entire object and its ends or purposes.

Since its beginnings as an analytic approach, systems thinking has come to be used in a number of disciplines, including architecture, biology, geology, physics, chemistry, sociology, economics, organisational theory, cybernetics, computer science and management. In each discipline, systems thinking has helped people move beyond examining specifics to understanding the broader scope of various phenomena. Systems thinking has also been used in the analysis and management of records. Records are the results of the functions and processes of an organisation or individual, and a clear understanding of the entire process behind the creation and use of records

helps records managers and others manage their information resources more effectively.

Seeing and analysing objects as wholes, rather than as discrete entities, is important because it allows us to gain a fuller understanding of those objects. Analysing only a part of an object or problem provides only partial information. The solutions chosen may only address part of the problem, leading to serious decision-making errors.

When we understand how systems operate, we have the power to change them. This is one of the reasons BSA often goes hand in hand with the restructuring of systems. For example, public sector managers frequently use BSA to re-engineer business processes as part of wider public sector reform initiatives. Managers of public sector records can also use BSA to restructure and strengthen record-keeping systems.

Systems Thinking and Business Systems Analysis

BSA involves applying systems thinking to understanding organisations and solving their structural or operational problems. As already defined in the introduction,

Business systems analysis (BSA): An analytical framework that involves analysing organisations as systems or the process of systematically and objectively gathering information about business systems and subjecting that information to formal analysis. This includes identifying broad organisational goals and supporting business areas and processes, and business process definition and decomposition.

When applied in organisational settings, system thinking sees the organisation as a business system. Like systems in the natural world, business systems are made up of a set of interacting and interrelated processes that function together to attain a common purpose. Just as a heart beats in order to pump blood in order to maintain the circulatory system, an organisation is structured into parts that execute processes and activities to fulfil the organisation's mission.

BSA is the act of identifying, defining and examining in detail the component parts of a business system, or organisation, to gain insight into how the organisation functions and the interrelationships between various tasks, jobs, people, structures and other elements. By examining the organisation's systems, BSA also identifies threats the organisation faces. What part of the system is working well? What part needs improvement? This information can be used to redesign the organisation's functions and increase efficiency and effectiveness.

Business systems analysis allows managers to see their organisations as an integrated whole, preventing them from getting lost in the complexity of the organisational structure or the details of their day-to-day job. When managers apply systems

thinking to understanding their organisation, they see that the best performance will be achieved when all the component parts of the organisation, or business system, are working together harmoniously to achieve the organisation's mission and objectives and structured to fit the external environment. Optimal performance can only be achieved when organisational change or redesign takes into account the entire system.

BSA helps managers to understand why attempts to redesign only one component of an organisation does not always work. For example, many public sector reform projects aimed at improving financial and human resource management systems have failed because they have overlooked how these functions interrelate with and need to be supported by record-keeping systems. Similarly, many projects aimed at redesigning record-keeping systems fail because they are not integrated with and do not support other organisational systems. BSA helps managers avoid such problems by providing information about how all the interrelated parts of an organisation function as a whole and in relation to the external environment.

The Importance of Mission and Objectives

Understanding organisations as business systems underscores the importance of having a clearly defined organisational mission statement and appropriate related objectives.

Mission statement: A written articulation of an organisation's purpose or mission.

Objective: The statement of a specific goal in support of an organisation's aims, which it is intended to achieve within a specified period of time.

When the purpose of the business system is not clear, its elements cannot be structured effectively. Sometimes an organisation will have conflicting objectives. For example, a government agency might be directed on the one hand to reduce its budget, while on the other hand instructed to provide local employment. In such cases, redesigning the business system to achieve one objective could result in a failure to achieve others. Determining the best organisational redesign, or what will optimise performance, often involves the difficult process of weighing conflicting values, interests and objectives. Again, BSA information will assist in this process by identifying how the parts of the business system interrelate with different objectives.

For a more detailed discussion of mission and objectives, refer to Strategic Planning for Records and Archives Services.

The Importance of Stakeholders

Many people are involved in controlling and performing the activities and tasks that comprise organisational processes. These people are called stakeholders.

Stakeholder: Any person, group or other organisation that has a claim on an organisation's attention, resources or output or is affected by that output.

Consider the system in all governments to pay salaries to staff. The stakeholders in the system – those people with a vested interest in the system – include the chief accountant, the human resources manager and the employees. Each of these stakeholders has different needs.

Imagine that the payroll system in the government is being redesigned. If the function of paying staff is redesigned to accommodate only the needs of the chief accountant, the general ledger and cheque-writing systems may work well but the cheques may not be issued in a timely manner. The needs of the human resources manager and the employees – the other stakeholders in the system – have not been met.

Likewise, an information manager who does not see programme managers, information security managers and records managers and archivists as stakeholders in the design and implementation of an electronic document management system is almost certain to develop a system that does not function at its best. When this happens, records managers and archivists may try to make the best of the situation by developing an electronic records management system totally separate from the electronic document management system.

Each system may operate to meet its own limited functions, but together they are 'suboptimal': that is, they do not work to their best capacity. They may bring greater costs to the organisation as a whole and great frustration to end users. Thus, the business systems analysis and any proposed system changes must take into account the needs of key stakeholders throughout the system.

BSA allows the manager to see his or her organisation in a holistic way, rather than in the traditional structural, bureaucratic and hierarchical way. By applying systems thinking to an analysis of the organisation, he or she will gain a better understanding of the whole organisation and the interrelationships between its various parts. As a result, those inter-relationships can be changed to allow the system to operate optimally: at its best capacity. Changes to organisational systems are sometimes made as part of 'business process re-engineering'.

Business process re-engineering (BPR): The fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed.

Business process re-engineering entails abandoning long-established and often outdated procedures to rethink and redesign the processes required to carry out an organisation's functions. At the heart of business process re-engineering is business systems analysis, which provides the analytic framework needed to diagnose and develop strategies to solve organisational problems and redesign processes.

WHY RECORDS MANAGERS NEED TO UNDERSTAND BSA

As has been pointed out in many modules in this study programme, records management is critical to the effective operation of any organisation. In the public sector, efficiency and good governance depend on access to information. Records are central to such key government tasks as defence, public order, crime prevention and environmental care. To achieve the objectives of good governance in the public sector, it is often necessary to restructure the processes of government: in other words, to reorganise its 'business systems'. Business systems analysis is the analytic framework underlying these restructuring exercises.

Business Systems Analysis, Record Keeping and Public Sector Reform

The goal of public sector reform is good governance, which is characterised by

- public accountability
- freedom of public information and association and protection of personal privacy
- a clearly established legal framework to foster a secure and predictable living environment for ordinary citizens and a conducive environment for economic factors
- bureaucratic accountability and transparency
- effective and efficient public sector management
- improved detection of corruption.

The management of public sector records throughout their life is critical to administrative reform of governments around the world. Without access to authentic and valid information, efforts to establish the elements of good governance cannot be fully realised.

Yet in many countries, timely access to reliable information is not possible. With the introduction of photocopiers and computers and the growth of government administration, many old registry systems are unable to cope with the mass of

documents and have therefore broken down. Old files are found piled high in corridors, and filing cabinets are crammed with files that have grown so thick that they are cumbersome to use. Policy documentation is intermixed with routine correspondence, making retrieval of important information difficult. Generally, the quality of files has deteriorated dramatically.

Information and records are of critical importance to the functioning and controlling of systems in general, including organisational systems. Given the central importance of information and records to systems operation, including public sector organisations and the societies they exist to govern, we should not be surprised to learn that public sector reform efforts that overlook the information component often fail to meet their immediate objectives and the longer-term goal of establishing a framework for good governance.

Efforts to improve the management of public sector records in many countries have been hampered by a gap between the National Archives and the government's record-creating departments. The result has been that most of the records in the custody of the Archives are over forty years old, while the records in government departments remain unmanaged. Some National Archives have inspecting powers, but there are few professionals trained to manage current records. Moreover, there are rarely systems in place to ensure that semi-current and non-current records are transferred to secure accommodation or appropriately destroyed. The introduction of computerised systems, often a key part of public sector reform projects, is compounding existing record-keeping problems. These computerised systems are using information that may be seriously flawed and based on collapsed paper-based systems.

It is because effective management of records is so crucial to achieving public sector reform objectives, which lead to good governance, that restructuring must encompass the management of records. Restructuring of records and archives management processes must be seen as an integral part of the restructuring of core government processes to ensure the success of public sector reform efforts.

In order to ensure that records and archives management processes are restructured in parallel with other government processes and that record-keeping requirements are built into these processes, records managers and archivists must understand and know how to carry out business systems analysis as the analytic framework that underlies public sector reform initiatives. Without knowledge and practical skills in the use of this essential analytic tool, records and archives management practitioners will be unable to participate in public sector reform initiatives and to insert record-keeping requirements into the process. The end result will, in all likelihood, be failure to achieve public sector reform objectives and to arrive at a state of good governance.

For further discussion about the link between public sector reform and the management of recorded information, refer to The Management of Public Sector Records: Principles and Context and Developing Infrastructures for Records and Archives Services.

BSA as a Tool for Records Managers

As with any support function in government, redesign of records and archives management functions and requirements can, and ideally should, take place as part of wider public sector reform exercises. However, not all government agencies are committed to undertaking such organisation-wide restructuring. When this is the case, those responsible for managing public sector records will face limitations on the scope of the changes they can make to organisational functions and processes.

Even if there is no government-wide reorganisation of business functions underway, or if the record-keeping component of public sector reforms is limited, records managers can still use business systems analysis as a tool to restructure registry operations, develop file classification plans and disposal schedules, automate record-keeping functions and carry out a number of other projects designed to improve the record-keeping process.

Lesson 5 examines the different levels of work records managers might undertake when applying business systems analysis to record-keeping systems.

BSA is relatively new to records and archives management professionals. Traditionally, particularly when appraising records and developing disposal schedules, records managers and archivists have concentrated on relating records to their administrative origins, in keeping with the archival principle of provenance. They generally have not linked records to organisational mission, functions, processes and transactions.

BSA is a tool that records and archives managers can use to map the relationship between an organisation's mission, administrative structure, functions, processes and transactions and the records it generates over time. With this understanding and knowledge, records managers are better positioned to improve the state of records in their care, improving access and also making their own work easier. Ultimately, good record keeping will contribute to strengthening the organisation and, in the public sector, achieving the goals of efficiency, accountability and good governance.

It is important to note that, while BSA originated with and has been more widely used in the private sector than in the public, the BSA approach is equally applicable in the private and public sectors, including in records and archives management. The word 'business' in the phrase 'business systems analysis' is used in its more general sense of any purposeful work or activity rather than in its more particular sense as commercial trade.

Regional Differences in Records Management Practices

It is important to recognise that records and archives management functions are not carried out in every country or region in the same way. In some countries, records and archives management are integrated into a single office. In other countries, records

management and archives administration are seen as quite separate functions, found in totally different parts of the organisation. Similarly, in many countries the records management function is focused around a central registry of records. In others, records management has been decentralised, with responsibility resting with the unit creating the records.

This module does not attempt to differentiate between these different approaches but generally takes the integrated approach to records and archives management, viewing them as aspects of a single function. Local traditions and practices should be taken into consideration when applying the concepts and principles introduced in this module. Similarly, it is important to distinguish between traditional records and archives management functions and the changing nature of those functions in the emerging electronic environment, where there is increasing integration of records and archives management with information technology management.

SUMMARY

Lesson 1 has shown that business systems analysis (BSA) involves thinking about and analysing organisations as business systems. It has also examined why records managers need to understand BSA.

Like other types of systems, business systems function to fulfil their mission as a set of interrelated component parts (such as sub-systems, structures, processes, activities and tasks) operating in and influenced by the external environment. BSA is an analytical tool that uses the systems view of organisations to understand how they function. This information can, in turn, be used to solve organisational problems.

For example, information from BSA is used to identify and eliminate organisational problems, often through business process re-engineering. When redesigning organisational components, care must be taken to ensure that all parts of the organisation work together harmoniously. The redesign must support the attainment of the organisation's mission and objectives and fit with the external environment. In addition, competing objectives must be balanced; all stakeholders need to be consulted; and redesign concepts and principles must not be applied inappropriately and out of context. BSA information, if used properly, can help to avoid these redesign pitfalls.

BSA can be seen as a valuable tool for organisational change, improved record keeping and, ultimately, public sector reform.

STUDY QUESTIONS

1. Define the following terms:
 - system
 - function
 - mission statement
 - objective
 - business systems analysis
 - stakeholder.
2. Examples of a number of systems are given in the main text. What other examples of systems can you think of? Why do you think these are systems?
3. What are some of the advantages of systems thinking?
4. Describe the component parts of a system. How do they relate to one another?
5. What is the significance of the environment in systems theory?
6. What is BSA and how might it be used?
7. How do mission and objectives affect the processes of an organisation?
8. What may be the consequences for the performance of an organisation if all stakeholders are not consulted during a BSA exercise?
9. Why do records managers need to understand BSA?
10. Explain the relationship between BSA, record keeping and public sector reform.

ACTIVITIES COMMENTS

Activity 1

The digestive system is a system. It includes a number of sub-systems, such as the intestines, the mouth, and the stomach. Another system might be the respiratory system. Its sub-systems would include the oesophagus, lungs and so on. In the working world, human resources management could be considered a system, the sub-systems of which are to maintain adequate staffing levels and deal with human resource problems or issues.

Activity 2

The primary function of the digestive system is to digest the food we eat, so that we can absorb calories and nutrition and keep alive and healthy. The processes of digestion include chewing and swallowing food, absorbing food into the stomach, converting the food into energy, and eliminating the leftover waste. In the human resources management system, the key business processes might include hiring, appraising, employee performance, and manpower planning. Note that processes are action oriented and, as such, tend to be labelled by the use of a verb.

Activity 3

We eat food: an input element. The body uses the calories in the food to transform the food into energy: a transformation element. The energy is expended in running, walking or performing work: that is the output element. In the respiratory system, air would be an input and carbon dioxide would be an output. The transformative process takes place as the lungs take oxygen from the air so that we can breathe.

In human resources management, each business process will consist of a number of activities that are inputs, transformative elements, and outputs. For example, the process of hiring a new employee might include such activities as advertising the job vacancy, processing applications, obtaining reference checks and conducting interviews. Each of these activities, in turn, consists of several tasks; for example, processing applications might involve sorting the applications according to qualifications, reading the applications for those with suitable qualifications, and ranking the applications according to established criteria for the job.

What happens when a new employee joins the organisation? Various business processes take place. For example, in order to ensure an employee is paid, his or her bank account details are required. These are included on a new employee form; these are inputs. The form is processed by the human resources department, which then sends the relevant details to payroll. That is the transformative element. The money is deposited into the employee's account at the end of the month; that is the output.

BUSINESS SYSTEMS ANALYSIS AND THE MANAGEMENT OF RECORDED INFORMATION

As explained in Lesson 1, it is possible to understand organisations as systems that share common characteristics with other kinds of systems. Biological organisms, the atmosphere, diseases, ecosystems, communities, families and so on are all systems. Like these systems, organisations are also systems, and they rely on information to carry out and control their processes, maintain their stability and achieve their purposes.

Information and communication are critical to the success of an organisational system. An organisation's ability to operate effectively and maintain control will be directly proportional to the development of its information processing and communication technologies. Without information, organisations, whether public or private, could not function. Information is essential to supporting decision making in an organisation, to helping control work processes and activities and to ensuring the organisation continues to grow and develop over time. And much of an organisation's information is found in its records.

Lesson 2 discusses the theoretical links between business systems analysis (BSA) and the management of recorded information. At the end of this lesson you should understand

- the importance of information in the functioning of business systems
- the nature of records from a systems perspective
- how BSA can be applied to the management of recorded information
- the links between BSA and the redesign of records and archives management functions
- the issues associated with the redesign of records and archives management functions.

BUSINESS SYSTEMS ANALYSIS AND RECORDS

As discussed several times throughout this study programme, records include documents containing data or information of any kind and in any form. Typically, the word 'records' conjures up images of correspondence, minutes, reports and other documents that have been placed on a file. However, records may be created in or transferred to another medium, such as microfilm or optical disk, and still be records. Even types of documents not usually thought of as being records may, in fact, be records, including maps, plans, photographs, sound recordings or moving images.

Records need not be physical entities in the traditional sense of something you can touch or feel. Electronic mail messages, text, drawings or a combination of these forms stored on magnetic tape or disk may also qualify as records. The fact that these are stored in an automated form does not matter.

To qualify as a record, information, no matter what its form, need only be created or received and used by an organisation (public or private) or person in the transaction of business or the conduct of affairs and are later kept as evidence of those transactions. These transactions take place as part of organisational processes, processes which, in turn, form part of the sub-systems or functions that, together, comprise the entire organisational system and cause it to operate. It is the context of their creation which gives records that special quality as evidence of organisational transactions.

Records, then, are much more than static artefacts or forms, although the forms they take often follow the functions they serve. They have information content, structure and context. Take away any of these crucial elements and there is no longer a record. When all three elements come together, the records provide evidence of the informational inputs and outputs of the many transactions that form part of the dynamic processes of organisational systems.

A powerful way to understand records, and therefore to manage them effectively, is to analyse them in relation to organisational systems, in relation to the context of their creation. BSA offers a tool for this analysis of records. Following is an example of how to apply systems thinking to gain an understanding of records, using a payroll ledger as an example.

1. First, you need to link the record to the transaction and process that it represents. Think for a moment about what activity led to the creation of the payroll ledger and of the process of which this activity forms a part. The payroll ledger represents the action of listing those entitled to pay and what amounts are due to each; its creation is part of the process of paying employees. Here you see an example of how the form of a particular record follows its function.
2. Next, you need to understand the process of paying employees in the context of the entire system. In this example, assume that you are paying government employees. If so, what is the system? If you answered that it is the government

entity for which the employees work, you are correct. Take a moment to think about the system's environment. Of what does it consist? The private sector and citizens are external to the system and, therefore, part of its environment. What is the function or mission of the system? One answer to this question might be good governance of the country. What sub-systems does it have in place or functions does it require in order to fulfil this mission? Assume that one of the sub-systems or functions is the management of public servants, and one of the business processes is paying employees.

3. In order to carry out the process of paying government employees you must have certain pieces of information. This may include information about how many employees must be paid, what each should earn per pay period and whether the employee's pay for the period must be adjusted owing to an absence from work or for some other reason. In order to find out how many employees must be paid, you could conduct a census of employees every pay period. Fortunately, you should not have to undertake such tedious and time consuming work if you can refer to records, such as employee rolls or lists in paper, microfilm or electronic form, which contain information about how many employees work in your organisation. These records should themselves have been created and updated as part of another ongoing organisational process, namely hiring employees. You can obtain the information you need from these records now because the individual who created them in the process of hiring new employees ensured that the records were placed in your organisation's record-keeping system as evidence of the hiring transaction and for future reference.
4. Next you need to know how much each employee is to be paid. Again, you do not need to come up with a figure on the spot or go ask the 'boss' because you can refer to the records. As with records containing information about the number of employees to be paid, records documenting the current rates of pay and salary levels for employees will have been generated as a result of other transactions and processes, such as collective bargaining, classifying employees, appraising employees and budgeting. For instance, the current collective agreement with a union of public sector employees may be one of the records you consult in order to obtain information on how much to pay each employee.
5. Having obtained all of the information you need in order to pay our employees, you then use this information to produce the final output of the process: a paycheque for each employee. These paycheques are also records. If you are using an automated payroll system, in the process of producing the paycheques you may create data entry logs and batch lists as outputs of the payment process. You may retain the data entry logs and batch lists as well as the payroll ledger, in electronic or hard copy form, in the organisation's record-keeping system as evidence and for reference should there be any question about the payments. In turn, the organisation's accountants or internal auditors may use these records as inputs into the transactions they perform and the processes for which they are responsible.

The steps above show a number of processes in addition to the payroll process. The outputs from these processes form the inputs to the payroll process.

As the above example shows, you can gain a much deeper understanding of records when you use a systems approach as opposed to seeing records simply as discrete physical objects. The systems approach allows you to understand records in relation to organisational transactions, processes and sub-systems or functions. Consequently, you are able to see

- how your organisation's records support its processes, the functions that these processes have been designed to carry out, the structures that surround those functions and how these relate to the mission of your organisation
- how the records generated as outputs of one process serve as the informational inputs into other processes in a continuous feedback loop held together by information processing
- what kinds of records, and the information they contain, are needed to perform or control organisational processes and related functions.

Moreover, because records are clearly linked to core business processes, by using BSA, you will be better positioned to understand the organisation and to gain much needed advocates among programme managers and executives outside of the records and archives management arena.

Activity 4

The steps above cover far more than the simple payroll process; they involve several process and stakeholders. This activity should be divided into two parts. First, draw a chart identifying all the stakeholders mentioned in the five steps above, showing their relationships and the different processes they are part of. Some stakeholders will be part of more than one process. Then, draw a flow chart of the payroll process showing inputs and outputs.

The kind of understanding derived from a BSA exercise supports the effective management of organisational records.

Records management: That area of general administrative management concerned with achieving economy and efficiency in the creation, maintenance, use and disposal of the records of an organisation throughout their entire life cycle and in making the information they contain available in support of the business of that organisation.

Although they vary considerably depending on the country and its traditions, records and archives management functions typically include

- tracking and locating records and determining their status

- managing correspondence, reports and forms
- developing, documenting and communicating records and archives management policies, procedures, practices and standards
- designing and implementing record-keeping systems
- training records and archives management practitioners and other employees
- collaborating with programme managers to assess retention requirements for, and the long-term value of, records and developing records retention schedules
- selecting filing equipment and supplies
- inventorying records
- protecting vital records
- planning and operating records centres
- processing and administrating archival records
- automating records management functions
- collaborating with programme managers and systems experts on the selection of electronic document management, imaging and other information systems
- conducting records and archives management audits to measure compliance with policies, procedures, practices and standards.

For more detailed information about records and archives management, see the core modules in this study programme.

BSA can be used to achieve records and archives management objectives by building record-keeping requirements into organisational processes. For example, records professionals can use BSA to help with the following.

- To understand the kind of information required to operate and control organisational processes to ensure that written communications, such as correspondence, reports and forms, are limited to only those absolutely necessary to these processes and to the most appropriate format.
- To understand the kind of information required to operate and control organisational processes to develop procedures manuals.
- To analyse the link between records and organisational processes and the functions that these processes have been designed to achieve to provide information that can be used to design better record-keeping systems.
- To analyse the link between records and organisational structures and processes for the production of freedom of information legislation directories.
- To understand the interrelationships between functions, processes and structures to understand better the factors influencing retention of records and make appraisal easier.

- To understand the link between organisational records and the organisation's mission to identify vital records, which are critical to the organisation's operations.
- To understand records as inputs and outputs of organisational functions, processes and activities to see where information technology may be usefully applied to improve workflow and the quality of information.
- To strengthen the records and archives management professional's ability to communicate with information management and technology colleagues and articulate record-keeping requirements in information systems in a way that information technology professionals can act upon in designing workflow and electronic document management systems.

The application of BSA to carry out records and archives management functions is dealt with in Lesson 5.

In addition to its employment by records managers to restructure record-keeping systems, BSA can help archivists to understand old records-creation systems and thereby contribute to the proper appraisal, arrangement and description of the archives created using those systems.

For more information on appraisal, see Building Records Appraisal Systems.

Activity 5

Records inventorying is a records management function. How might data gathered from BSA assist in conducting a records inventory? Can you think of any other records management functions for which BSA could be of use?

BSA AND THE REDESIGN OF RECORDS AND ARCHIVES MANAGEMENT FUNCTIONS

BSA can be used to understand records and the transactions, processes and functions that lead to their creation, receipt or use within organisations. But BSA can also reveal how those functions, processes and transactions might be redesigned to optimise performance or achieve organisational objectives more effectively.

However, records managers may use BSA to identify organisational processes requiring redesign, but they may not 'own' these processes: that is, they may not be the individuals responsible for and involved in carrying out the processes. Therefore, records managers may not be in a position to initiate the changes that could improve the performance of the processes and the entire system.

Records managers must decide between three options. One is to forego making any changes to the flow of information and associated record-keeping systems, since they can change only one part of the system. Another is to forge ahead with changes, knowing that the entire system has not been changed but that at least some processes will be strengthened by the improved management of records. Changing records systems on their own, when the underlying processes are not operating efficiently, is not recommended. Consequently a third option is for records managers to find out who is responsible for systems and processes and try and get permission at senior level to undertake a project.

In order to make effective changes, the records manager or archivist should participate in the larger organisational redesign process. This participation rests on a commitment from senior management to the comprehensive re-engineering of processes; often this commitment does not exist. Indeed, programme managers may resist the recommendations of records and archives management professionals because they perceive records and archives managers as not understanding their business or, worse, interfering with their work. This is where records professionals need to sell their ideas to senior management and strive to be treated as equals.

For more information on promoting records and archives services, see Strategic Planning for Records and Archives Services.

The ideal approach occurs when process owners have initiated and are committed to re-engineering their processes, and records managers and archivists work with a team comprised of process owners, technical experts and other stakeholders. The team works together to design processes that function optimally in all areas, including records and archives management. When this approach is taken, experience shows that process owners develop a much greater appreciation of the importance of records to the functioning of their processes and more readily accept the requirements for effective management of recorded information.

Unfortunately, records managers and archivists are often forced to deal with less than ideal situations. With files piling up in offices, hallways and any other available space and the complete collapse of registries, they may be forced to take a more pragmatic approach. Short-term quick fixes, such as the immediate removal of files, may be necessary but do not strike at the root of the problem. There is a need to convince senior managers that quick fixes do not solve the problem in the long term and that there is a need for changes in business processes if real progress is to be made.

For more information on the recommended processes involved with restructuring records systems, see Restructuring Current Records Systems: A Procedures Manual.

Records and archives management specialists also have scope for redesigning processes and driving organisational change for the processes that they own. These may include processes carried out in records offices, records centres and archival institutions. When processes form part of the record-keeping system of the

organisation, records managers and archivists can carry out a BSA project and make changes to functions, structures and processes.

However, even here records and archives management staff may experience some difficulty because organisations carry out their record-keeping functions through a variety of organisational structures. Records creation and management may be divided up between any number of ministries, divisions, branches and agencies. The people involved in each of the offices may have differing organisational and professional allegiances. For example, the records manager and the archivist may each work within and be responsible to separate ministries. Consequently, the structures that specialise work and fragment processes can create significant barriers to re-engineering even those processes over which records managers and archivists have a large degree of control.

To succeed at redesigning record-keeping systems, records and archives managers must become adept at working with people in all parts of the organisation. Just as senior management must remember to include records and archives professionals in organisation-wide BSA activities, records managers and archivists must also include other stakeholders – including programme managers, information technology specialists, information managers, legal experts, internal auditors and other stakeholders – in the analysis of records systems.

These common obstacles to redesigning record-keeping systems are not encountered where the traditional demarcation between the functions of the registrar, records manager, records centre supervisor, information manager and archivist have been replaced with an integrated structure that recognises the contribution of professional specialities in managing records throughout their life. Thus, those involved in the management of public sector records can remove barriers by restructuring the National Archives to enable it to serve as a National Records and Archives Institution.

See The Management of Public Sector Records: Principles and Context and Developing Infrastructures for Records and Archives Services for more information on this recommended organisational structure.

Activity 6

Think about some of the processes you undertake within your organisation. Which do you 'own'? Which are 'owned' by others?

Activity 7

Assume you have been asked to establish minimum record-keeping requirements for a process that you do not own. What are the issues you would have to face? What approach might you take?

SUMMARY

Lesson 2 has explained that information is essential to the operation, management and control of business systems. It has noted that records are important sources of information, serving as evidence of business transactions. BSA can be applied to better understand records and how to manage them. BSA can be used to restructure records systems. Two approaches were discussed. First is the ideal approach, where process owners initiate and support re-engineering of their work processes and managers of public sector records work with them to restructure record-keeping systems in support of redesigned processes. Second is the pragmatic approach, where managers of public sector records focus on restructuring their own record-keeping systems.

STUDY QUESTIONS

1. In this lesson are listed different types and forms of records. What other examples can you think of?
2. How do the form of records relate to their function? What examples of how form follows function in records can you think of?
3. Why do we need to keep records?
4. Think about a process with which you are familiar. Who would some of the key stakeholders be? What are information requirements of this process? What records might be produced by this process? What kinds of records are needed to meet these requirements? Where would persons responsible for this process access these records? Are any of these records created or received as part of other organisational processes?
5. Assume you have been asked to establish minimum record-keeping requirements for a process you do not own. What are the issues with which you would have to deal? What approach might you take?
6. Why might it be easier for records managers and archivists to make process changes in registries than in, for example, an accounting section? What obstacles might they face? How might these be overcome?

ACTIVITIES: COMMENTS

Activity 4

The payroll process requires two basic types of input: rules of the system (such as the grade structure, pay rates and so on) and information about individuals. This information may come from many different sources (such as stakeholders in other processes). These inputs are separated on the chart shown in Figure 1 below.

If you were actually conducting this analysis within your organisation, you would probably identify more stakeholders and inputs and outputs than have been included in these charts. The chart of stakeholders is included below as Figure 2.

Activity 5

Records come in many different forms; paper and electronic are the most common. Managers of public sector records must communicate this idea to operations managers and others within their organisations so that they understand that record keeping encompasses the management of records in all media, not just paper files.

Activity 6

In this lesson you learned that the 'owners' of processes are those individuals responsible for and involved in carrying out those processes. If you are a registry manager, you own the processes that take place within your registry. Users of registry services will be stakeholders in those processes, but not owners. Similarly, as a registry manager, you do not own the processes performed in the national archives, but will be a stakeholder in those processes.

Activity 7

Some of the issues with which you might have to deal include the following.

- Process owners may not be supportive of the restructuring.
- Line staff may resist change.
- You may not be technically competent to effect a redesign.
- Process owners and line staff may not have an appreciation of the importance of information to the operation and control of the process.

Some of the strategies that can be used to deal with these issues are dealt with in Lesson 5.

Management of Public Servants – Payroll Process

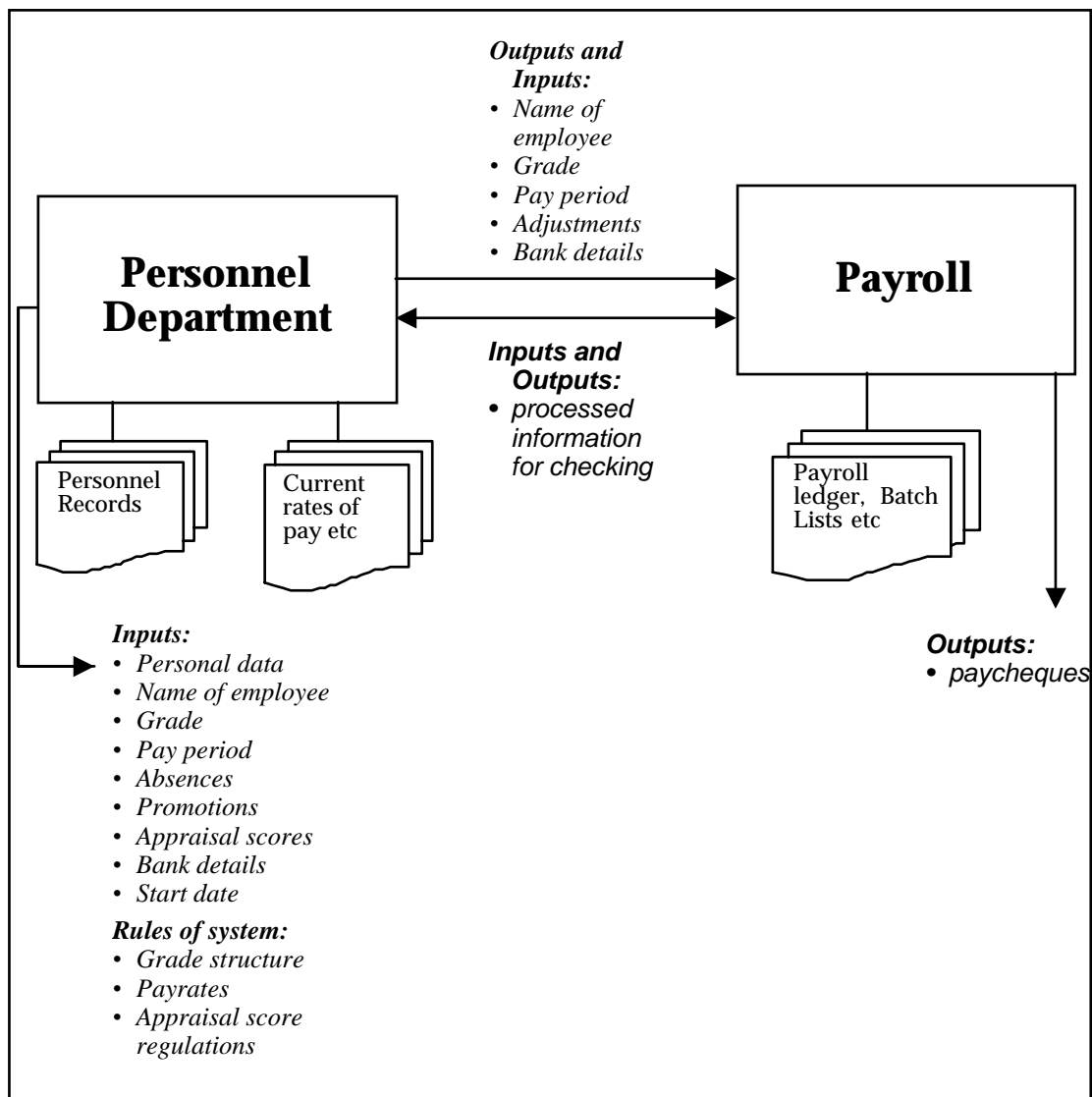


Figure 1: Management of Public Servants: Payroll Process Inputs and Outputs

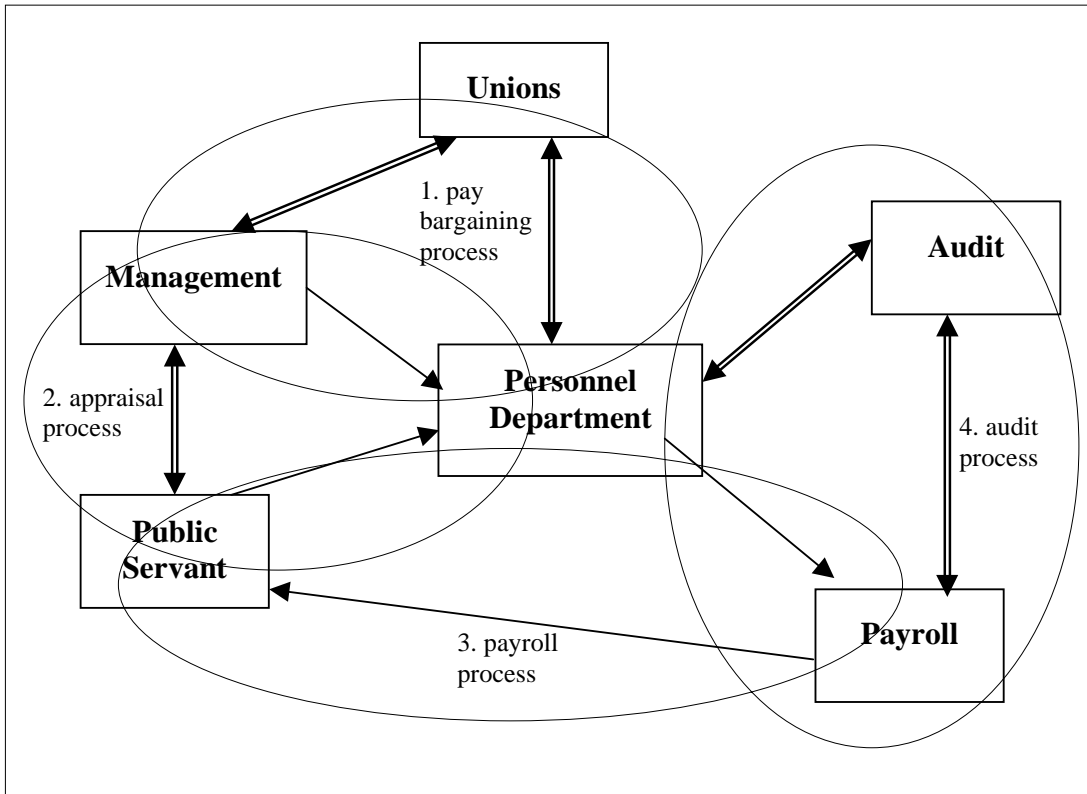


Figure 2: Analysis of Stakeholders and Relationships

A METHOD FOR CONDUCTING BUSINESS SYSTEMS ANALYSIS

Lessons 1 and 2 dealt with the theory of systems and business systems analysis and discussed how business systems analysis (BSA) relates to the management of recorded information. The purpose of this lesson is to introduce records managers and archivists to the practice of BSA.

At the completion of this lesson, you should have a working knowledge of

- the phases involved in conducting a BSA project
- the activities and tasks to be undertaken in each phase of a BSA project
- who should perform the activities and tasks in a BSA project
- the type of training that participants in a BSA project may require
- the elements of a BSA project terms of reference
- typical business systems problems that a BSA exercise may reveal
- strategies for resolving typical business systems problems.

BUSINESS SYSTEMS ANALYSIS AS A PROJECT

Business systems analysis is an analytical approach to organisational change. When used as a tool, BSA usually takes place as part of a specific organisational project. The project may be designed to serve a range of different purposes, such as redesigning business processes, designing automated systems, restructuring registry operations, developing file classification systems, or developing records retention schedules.

Project: A formally established, single-time work effort with a well-defined beginning, scope and objectives, end product, completion and success criteria and end point.

Critical to the success of a BSA project is the willingness, and ability, of managers of public sector records to manage change, to undertake analysis and to run a project efficiently.

Managing change is a critical BSA project management skill and includes identifying and taking into consideration the point of view of all project stakeholders; identifying and minimising points of resistance; assessing and encouraging people's willingness to change; and evaluating the process of change.

The project specific aspects of project management include budgeting, assessing and acquiring project personnel; developing a project organisation structure; determining the scope of the project; scheduling project activities; and evaluating the project.

Elements of project management are discussed in much more detail in *Strategic Planning for Records and Archives Services*. Therefore, they are only discussed here as they related specifically to the development and execution of a BSA project. In particular, the following stages are examined:

1. planning the BSA project
2. analysing the organisation
3. designing solutions
4. implementing the BSA design
5. evaluating the results.

It must be remembered that good project management is not achieved by adherence to a set of procedures but requires a flexible and dynamic application of methods, tools and techniques appropriate to the situation, to achieve desired results.

The bibliographies to this module and Strategic Planning for Records and Archives Services include some useful works on project management.

PLANNING A BSA PROJECT

The decision to embark on a BSA project often begins with a recognition that there is some deficiency in an organisation or a programme. The deficiency may have any number of causes. For example, there may be a change in the organisation's activities or systems as a result of a new regulatory requirement or technological advancement, or there may be a rising number of customer complaints about service. Recognition of the deficiency often comes when the organisation starts to experience operational problems, although some far-sighted organisations recognise deficiencies and decide

to undertake a BSA exercise even before problems occur. Whatever the nature of the deficiency, however large or small or what its cause, the problems it is (or may in future be) creating for the organisation must be clearly identified.

Identifying the Issue

It is not always easy to identify an issue or problem. Different people in the organisation may have very different perceptions about the nature of the issue. Consider a fictitious problem with an organisation's records and archives management system. The general concern is that information is not made available as quickly as possible. How might different people in the organisation perceive that issue?

- A senior manager may perceive this to be a records and archives management issue: 'no one knows what information is being created and where to find it when it is needed.'
- A mid-level programme manager might see the issue as resting in the office: 'uncontrolled and duplicate files are building up in filing areas.'
- The organisation's records and archives management specialist might identify the issue as a resting with the registry: 'staff in the organisation have stopped using the registry because of the poor service it provides.'

All of these differing perspectives must be taken into account in order to define the issue accurately and effectively.

It is extremely important not to define the issue too narrowly. This could result in analysing the wrong level of the business system. For example, if only the perspective of the records and archives management specialist were taken into account in defining the issue, the focus of the analysis would be on the registry. However, the perspectives of the mid-level programme manager and senior manager suggest that a broader definition of the issue is preferable. Perhaps the focus of analysis should extend beyond the operation of the registry.

If the wrong level of the system becomes the focus of analysis, the redesigned component of the system may function perfectly well within its strictly defined limits but reduce the overall effectiveness of the organisational system, thereby creating additional problems. Further, if the definition of the issue focuses only on one functional area, such as the registry, important relationships between that functional area and other parts of the organisation may be overlooked.

One way to ensure the issue is not defined too narrowly is to take a comprehensive view of the organisation. This can be done by examining the organisation's environment, resources, goals, activities, achievements and probable future trends. The investigation may involve holding discussions with selected managers and other key people both inside and outside the organisation. In doing so, it is important to start with a general overview and move to the more specific. Avoid becoming immersed in too much detail. At this stage, it is important just to try to define the

issue to be investigated, not to undertake the detailed analysis of the issue; this in-depth study will take place later.

Also note that, at this stage, no attempt should be made to analyse the causes of the problem nor to suggest solutions for it. None of the statements above discuss causes or propose solutions. For example, the records and archives management specialist has not jumped to conclusions about the causes or solutions of the problem by saying: 'we need to re-engineer the work processes in our registry.' The issue may be the very existence of a registry. The solution may be to do away with the registry altogether and decentralise record keeping. Making assumptions at this stage can be detrimental. Incorrect assumptions may lead people to rule out important possibilities.

Activity 8

Identify an operational issue in your organisation. For example, could a particular task be done more quickly or more efficiently? Is there a regular loss of information or confusion of tasks in one area of work? Describe the issue as you see it, then restate the issue from different perspectives. Ask yourself how your supervisor might understand it? How might senior management understand it?

Note: this issue will become your 'BSA project' throughout this lesson, so be sure to identify an issue that is neither too simple nor too complex. You will continue to work with this for some time. Your issue may be real or hypothetical, whichever works best for you.

Defining a Vision for the BSA Project

Once the issue is identified, it is possible to define a vision for the outcome; that is, to identify broad project objectives and benefits. Remember, BSA involves examining systems and the vision should be based on how you and key system stakeholders want the system to work. It is therefore essential to consult with system stakeholders in order to formulate a coherent vision.

For the records and archives issue above, the organisation's vision may be

to establish an effective record-keeping system that provides the right information in the right form to the right person at the right time.

Remember to leave the project's focus very broad at this point; do not get immersed in details.

Activity 9

For the issue you identified in the earlier activity, define your vision for an effective, workable system for that function or activity.

Defining the Project Scope

The question of focus raises the issue of the BSA project's scope or, in other words, the boundaries of the project. Defining the scope of the project is extremely important. BSA projects can quickly become unmanageable if their scope is defined too broadly, and they can be ineffective if their scope is too narrow.

Defining the project scope entails assessing the feasibility and likelihood of successfully realising the broad project objectives: that is, achieving the vision. To arrive at the project's appropriate scope, it is necessary to refine the broad project objectives to ensure a greater likelihood of success.

A number of factors may bear on the feasibility of a project, including

- the authority of the person undertaking the project (for example, whether the person is the 'owner' of the business functions or processes under analysis)
- organisational capabilities (such as, levels of expertise, numbers of available workers and affect on other operations or projects)
- resource commitments (such as, labour costs, costs of material, funding)
- anticipated benefits of the project (for example, whether large or small, time elapsed before benefits are fully realised and duration of the benefits)

In order to maximise the likelihood of success, it may now be necessary to narrow the focus of the project to a particular component or area of the organisation, such as information systems or the archival institution, and to establish a time-frame. Consequently, we might restate the vision for our records and archives project with a specific objective:

to review the operations of the registry with a view to establishing an effective record-keeping system that provides the right information in the right form to the right person at the right time, and to report within three months.

As discussed in Lesson 2, records managers and archivists must be aware of the potential pitfalls associated with limiting the scope of a BSA project to records and archives management functions. The ideal approach is always to establish record-keeping requirements in the context of a wider review and redesign of transformation and control aspects of organisational processes.

However, this approach is not always possible, especially when there is no organisation-wide commitment to business process re-engineering. In such cases, records managers and archivists must decide whether it is better to forge ahead in redesigning records and archives management functions and requirements, despite a lack of commitment to total process re-engineering within the organisation, or to wait until more commitment develops.

It is usually wise to limit the scope of the BSA to one or two key business processes, as it can be unmanageable to implement such fundamental organisational changes on any wider scale. But deciding which processes to focus on can be difficult. Generally speaking, it is best to concentrate first on those processes that

- contribute most to the problem under review
- promise to have the greatest impact or make the most significant improvements to organisational operations
- are likely to be successfully redesigned.

Cost is another factor to consider when making a decision about the likely success of the re-engineering effort. If a costly investment, such as an information system, is the only means of improving the process, you may have to forego re-engineering if you know that funds will not be available. Nevertheless, it is still worthwhile to fully analyse the problem to ensure that you do not overlook other, less costly, options for solving it.

Remember, the larger the process and the more organisational boundaries it crosses, the more difficult it might be to redesign. However, such processes often have a greater impact on the organisation when they are redesigned. Remember also that the scope of the project can be reviewed and altered, if appropriate, as work progresses.

Having determined the project's vision, scope and objectives, the next step is to identify the activities and tasks required to complete the project. There may be literally thousands in a large BSA project.

For example, the organisation's vision for our records and archives project is to

establish an effective record-keeping system that provides the right information in the right form to the right person at the right time.

The objective is to

review the operations of the registry with a view to establishing an effective record-keeping system that provides the right information in the right form to the right person at the right time, and to report within three months.

The tasks involved within the review might include

- interviewing registry personnel (part of the data gathering phase)
- assessing the quality and effectiveness of forms and procedures (part of the analysis phase)
- determining the way the registry is used by members of the organisation (part of the analysis phase)

and so on.

Although it is not possible or logical at the beginning of the project to know what actual tasks will be undertaken when a solution is implemented, it can be helpful to consider what tasks might have to be undertaken. Therefore, at this stage it is useful also to consider briefly the possible tasks that might be involved in establishing an effective record-keeping system, such as

- revising forms and procedures as required

- reorienting members of the organisation to the purpose and functions of the registry
- retraining registry personnel in the new procedures.

Remember, though, that the precise activities and tasks will not be determined until the actual problem has been defined and strategies developed for solving it.

Activity 10

Define the scope of your BSA project based on the project objectives you defined earlier. What exactly would you try to accomplish? Also think about the specific tasks and activities that might be involved. Write down as many tasks as you can think of.

Responsibilities of Project Personnel

Once the what and how of the project have been determined, it must be decided who will carry out the project work. Although it is possible for a single person to conduct a BSA exercise, it is much easier when the BSA is performed by a team of individuals consisting of the system's stakeholders. Moreover, when the purpose of the project is to redesign business processes, wide-scale input and involvement is critical in order to reduce resistance to organisational change. Thus, establishing a temporary organisational structure is an important part of project planning.

A typical organisational structure for a BSA project will consist of a

- sponsor
- business system or process owner
- BSA team
- steering committee
- project manager.

Again, this module only introduces project planning issues; for more information on project management, see Strategic Planning for Records and Archives Services.

The project sponsor is the person who initiates the project. This role may be filled by the political directorate, a senior manager, or a person with overall responsibility for the system or process under review. It is important that this person has authority over the area that is subject to the BSA in order to motivate the people who work in that area to accept the magnitude of organisational change that a BSA project can entail.

The business system or process owner is the person with overall responsibility for the system or process under review. In the case of a BSA project focusing on records and archives management operations, the records and archives management practitioner will fill this role.

The BSA team consists of a group of individuals responsible for carrying out the BSA project activities and tasks. This team ideally should number between five and ten people and consist of individuals who work in the functional area or on the system or process under review and are most likely to be affected by the impending change. In addition, the team should include individuals from outside the area likely to be affected by the change who can bring an objective, outside opinion to the work at hand.

If you are aware of BSA projects taking place within your organisation and consider yourself a stakeholder in the functions or processes under review, do your best to become involved. It is an unfortunate fact that BSA projects often fail to take into consideration record-keeping requirements. As a result, project sponsors and others often overlook records managers and archivists as stakeholders with a valuable and necessary area of expertise. For this reason, managers of public sector records must be particularly vigilant in watching for BSA projects within their organisation and must do their best to raise the level of awareness about what they might contribute to the process.

Team building is discussed in greater depth in Strategic Planning for Records and Archives Services.

The steering committee is an optional group that approves the commitment of resources to the project, oversees the general direction of the project and monitors its progress. Usually the project sponsor chairs the steering committee and the business system or process owner and project manager both report to the committee. It is recommended that membership on this committee be limited to no more than five people.

The project manager is the person responsible for the day-to-day management and coordination of the activities of the BSA team and for teaching team members basic tools and techniques. This person must be someone with

- knowledge of BSA methods, techniques and tools
- change management skills and ability
- project management skills and ability
- effective communication skills and ability
- analytical skills and ability.

The duties of the project manager include

- assisting the business system or process owner with the selection of the BSA team members

- providing necessary training to BSA team members
- keeping the project on schedule
- managing project resources
- using project management tools, such as project management and flow charting software
- obtaining approvals at various stages of the project
- identifying problems with the project and ensuring corrective action is taken
- maintaining effective communication among BSA team members and the various individuals at all levels involved in or likely to be affected by the project
- ensuring completion of the project.

The role of the project manager may be filled internally by someone with the required skills and abilities, or by an external consultant. There are advantages and disadvantages to either approach. An external consultant will not have the knowledge of the organisation and understanding of its corporate culture that an 'insider' will have and will cost more. In some cases, an internal project manager may be more readily accepted by other employees because they are known and are not considered to be 'outsiders'. In other cases, the opposite may be true, and an external consultant may be perceived as being more objective or as having greater expertise. Ultimately, however, the choice between an employee of the organisation or an external consultant as the project manager may well be determined by the availability of resources, either financial or human.

While the above represents a model organisational structure for a BSA project, such a formal and complex structure may be neither necessary nor possible. For example, if the scope of the project is limited to a review of a single process, the project sponsor and the business system or process owner may be one and the same person, and the steering committee and the BSA team may be collapsed into one team with combined responsibilities. Further, it is not inconceivable that managers of public sector records may have to serve as project managers in organisations in which other employees have had little or no exposure to BSA and are unprepared or cannot afford to commit resources for an external consultant. The key point to remember is that the project organisational structure must be adapted to suit the scope and objectives, the available resources (human and financial), and the sociocultural and organisational context of the project.

Activity 11

Think about the kind of project structure that would be appropriate for your BSA project. Should it be formal and complex, or can it be less formal and relatively simple? Draw up a chart or list breaking down the various project responsibilities and identifying who should do what. (It is best to identify positions, not specific individuals.)

BSA Training

Once the project organisational structure has been determined, it is important to consider whether the participants have the necessary knowledge and skills to fulfil the roles they have been assigned. For example, do those selected for the BSA team have a good general understanding of what BSA is all about? If not, some training will have to be provided.

Typically, participants in a BSA project require two types of training:

1. training that imparts a general knowledge of BSA and gives an overview of the various steps and activities involved in the project
2. training in the specific tools and techniques used to accomplish the project activities and tasks.

General BSA training is best provided at the start of a project to give participants a sense of what the project is all about and where it is heading. This information should also be communicated to the stakeholders: anyone concerned with or affected by the changes that the project promises to bring about. Communication with these stakeholders can help build support and acceptance of the project as well as reduce resistance to change.

Topics to be covered in training sessions on the nature of BSA might include

- what BSA is
- the organisational problems that BSA will address (be specific here to relate it to the daily work experience of the group being addressed)
- the scope and objectives of the BSA project (again, it is important to be specific so that the session participants realise how the project will affect their work)
- the various phases and activities comprising the project
- the duration of the project
- the role that the session participants will have in the project (even individuals who will not be directly involved in the organisational structure outlined above need to understand their role in supporting the BSA project team).

Activity 12

Think about the people you identified for your own BSA project and the project responsibilities you would assign to them. What kind of training do you think they would need to perform these responsibilities effectively?

Project Scheduling

Once the planners have considered the project's scope and objectives, activities, participants and training, it is possible to develop an overall schedule for the project. This aspect of project planning entails estimating how long each activity will take, who will carry it out, and the sequence of the activities. In developing a project schedule, the following factors must be considered:

- the urgency of the need to resolve the problem
- the organisation's technical, manpower and financial capabilities
- the feasible and optimum rate of change
- the desirability of a phased approach to implementation.

Developing the Project Terms of Reference

Having completed the project planning, the project manager is usually responsible for preparing the project terms of reference. Terms of reference are like the project's road map: they are there to guide the project participants to their final destination and help them to get back on track when they veer off course. Terms of reference should include

- the problem to be addressed (project rationale)
- objectives and benefits
- scope
- activities
- methodologies for carrying out the activities
- time lines
- participants
- resource requirements
- critical success factors.

Once the preparation is completed, it is time to start the actual BSA project.

Activity 13

Think about your own BSA project. Write down the following information:

- What is the problem?
- What activities do you anticipate undertaking as part of the BSA exercise?
- What are the time frames for the project?
- Who will participate in the project?
- What resources will be required?
- How will you know that the project has been successful?

ANALYSING THE ORGANISATION

The next step is to analyse the organisation. This involves

- data gathering
- analysing the data
- redesigning aspects of the organisation based on the findings of the analysis

Data Gathering

In order to carry out a BSA of an organisation, the person or team performing the analysis must understand not only the concept of systems thinking but also the workings of the organisation itself. If the BSA team have limited knowledge of the organisation, data must be gathered.

Interviews are the most important part of data gathering. Interviews should be conducted with strategic staff at all levels of the organisation. It is best to begin with the 'big picture' from senior managers before getting more detailed information from operational staff. When conducting the interviews, ask people about how they do their job, and what functions and activities they are responsible for. Questions about records can come later in the records survey.

Records surveys can also provide very useful information about what records currently exist and how they fit into the business processes identified in the interviews.

Records surveys are discussed in more detail in Building Records Appraisal Systems and Restructuring Current Records Systems: A Procedures Manual.

The following documents may also be consulted for information:

- organisation charts
- work plans
- organisation histories
- annual reports
- press releases
- legislation
- standing orders and operating directives
- job specifications and descriptions
- policy and procedures manuals
- systems planning and architecture documents.

Activity 14

For your own BSA project, make a list of the sources you might consult to gather information. Remember, your sources can include printed materials or documents, people, publications: anything that provides the information you need.

When collecting data try to get answers to the following questions.

- What is the statutory mandate and general purpose of the organisation?
- What specific functions (or 'sub-systems') exist within the organisation?
- What parts of the organisation are responsible for those functions?
- What are the organisation's relationships with other organisations?
- What records are kept and how do they fit in with the functions?

For the purposes of discussion below, it is assumed that the BSA project involves examining and perhaps restructuring the way in which a particular office function is performed and the resulting records are created, maintained and used. For example, our project may be to restructure record-keeping systems based on our objective identified earlier:

to review the operations of the registry with a view to establishing an effective record-keeping system that provides the right information in the right form to the right person at the right time, and to report within three months.

Analysing the Organisation's Environment

BSA must include an evaluation of the environment within which the particular function or activity takes place. This is often called the 'business environment'. Even when the BSA project is limited to a particular process, we must seek to understand the business environment both at the level of the entire organisation and at the level of the system under review. For example, if the project's scope is limited to an organisation's registry, the analysis must take into consideration the specific environment of the registry as well as the larger environment of the organisation within which the registry works.

Having gained an understanding of the business environment, the next step is to understand and analyse the organisation itself. Remember, we are examining the organisation as a 'system', so we need to look at all factors that affect how the organisation works. In our example, we want to look at the functions of the registry itself. There are normally five steps to analysing the organisation as a system. These are outlined below.

Activity 15

For your BSA project, identify and describe the business environment. Is there more than one layer to the business environment? For example, is your office part of a larger department? Does your office have subordinate units within it? How do all the units relate to each other? If so, what is the business environment in which this department functions?

Some of the techniques and tools available for analysis and planning are discussed in more detail in Lesson 4.

Research and Analyse the Mission and Functions of the Organisation

The first step involves gathering information about and analysing the mission and functions of the organisation. If your BSA project is aimed at redesigning a current function or process, focus your analysis on the organisation's current mission and function. However, if the purpose of your BSA project is to develop retention schedules for records created in the past, you will need to gather information and look at changes that have occurred over time in the organisation's structure, mission, functions and processes. Changes in these functions will affect the organisation's records and record-keeping practices. This historical analysis must take into account both internal and external factors. The analysis may be shown as a chart, specifying the functions and processes carried out by the organisation for a given period and the organisational units responsible for these functions and processes, as indicated in Figure 3.

This figure shows a snapshot of a National Archives Administration from 1965 to 1975. Several functions flow from the archives mission: appraisal, conservation, arrangement and description and reference. The diagram includes lines indicating the organisational units, or structures, responsible for each function. For example, it indicates that both the Historical Manuscripts Division and the Government Archives Division performed the appraisal function. The appraisal function has been broken down further to show one of its major processes: disposal scheduling. In a completed diagram of this type, all of the processes would be shown. If the objective of our BSA project is to develop retention schedules for records created as a result of the disposal scheduling process, a diagram like the one in Figure 3 helps identify in which organisational units we will find records documenting the disposal scheduling process.

If we were to prepare such a figure for our hypothetical BSA project to redesign the operations of our registry, we would focus our analysis on the current mission and functions of the registry, including information about other departments or agencies as required.

Activity 16

Think of your BSA project. What are the main functions? What organisational units are responsible for performing them? What processes are performed to achieve these functions? Can you draw a diagram to illustrate this like the one in Figure 3?

Analyse the Organisation's Business Processes

Identify their inputs, outputs, transformation activities, tasks and control mechanisms in terms of records and information. Remember that the records of a given organisation, public or private, are created in response to and will reflect the mission, functions, processes, activities and tasks of that organisation.

Process mapping, described in Lesson 4, can be used to enhance our understanding of the transformation, control and information aspects of business processes. Records surveys also can provide valuable information about types of records being created. This information then can be analysed to determine the records relationship to the business process.

For our project, we would examine the way the registry operates: its processes and their inputs, outputs and transformation activities that allow records to be received, processed, used and stored.

Activity 17

Think about the functions involved in your BSA project. What processes flow from these functions? Select a particular process and think about its records-related inputs, outputs, transformation activities and tasks, and control mechanisms. Try adding these to the diagram you prepared in the earlier activity.

Analyse the Technological Processes of Record Creation

Determine what effect technological changes have had on records generation over time. In our registry, we would look at whether typewriters or computers -- and other technologies such as photocopying or micro reproduction -- have had an effect on how records have been created and managed. This task is particularly important when the goal of the BSA project is to develop retention schedules for records created in the past and may involve research into the history of the organisation's activities.

Analyse the Records Series Resulting from the Same Function

The basic means of relating records to function is through the series, which is based on functions. Once this is right, all other records controls can be built on this, such as classification, appraisal and so on. Remember the definition of a series:

Series: The level of arrangement of the files and other records of an organisation or individual that brings together those relating to the same function or activity or having a common form or some other relationship arising from their creation, receipt or use. Also known as a file series or records series.

If the goal of your BSA project is to redesign current functions and processes, as in our hypothetical example, you can focus your analysis on the records series resulting from current functions and processes.

When the goal of the BSA project is to develop retention schedules for records series created in the past, you will need to conduct an analysis of the evolution of functions and their related records series. This analysis should be done regardless of which organisational unit was responsible for the function over time.

Again, drawing a diagram may assist in this analysis. In our registry, we would want to examine the records generated by the process of receiving and registering records, so that we could understand the functions themselves and the records generated by those functions. Some research will be necessary.

Activity 18

Write down a list of the sources you could use to conduct the research and analysis outlined earlier.

Analyse the Relationships between the Organisation's Records and Related Records Created by Different Organisations

The research and analysis of these relationships should result in a chart or table showing relationships between series in different organisations. If there were relationships between the record series created, maintained or used in our registry and another part of the organisation, we would want to identify this.

To summarise, when analysing the organisation, we want to understand what it does, who does it, how it relates to other agencies or offices, what records it creates and how it manages its functions and records.

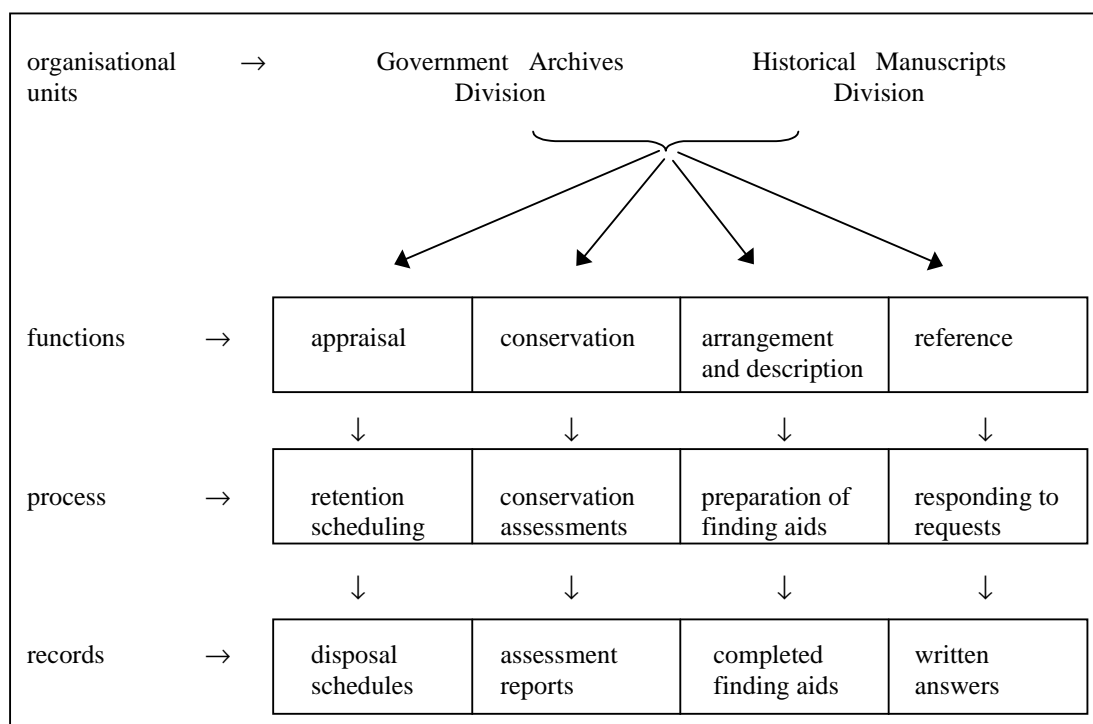


Figure 3: Organisational Chart

Identifying Areas for Improvement

Once the research and analysis has been completed, it is possible to identify the organisational issues that may underlie the problem being investigated. In our registry example, we have gathered all the data and we can now examine this and determine what is or is not working well and what needs to be improved.

A BSA exercise often reveals a number of typical organisational issues. These include the following.

- The organisational mission, functions and structure do not fit with its environment.
- The organisation's mission is not clearly defined.
- The organisational functions and structure do not support its mission.
- Business processes do not support organisational functions.
- Business processes are poorly structured and performing suboptimally.
- Record-keeping requirements do not support business processes.

Perhaps the registry no longer serves the needs of the larger organisation. Perhaps its mission is unclear and so its functions are not as valuable as they could be. Maybe the processes are out of date and do not work with newer technologies. Or maybe the records management process is obsolete and no longer keeps information in such a way that it is easily accessible.

Once the problem has been diagnosed, a strategy can be developed to solve it. There is no set methodology available to develop solutions to organisational problems; each organisation must determine its own solutions based on what is best for that organisation. Following is a brief discussion of some strategies used to resolve the types of problems noted above, using our registry as an example.

Not all organisations grow or adapt equally well to their environments. Organisational problems that relate to the environment can arise for a number of reasons. For example, people within the organisation may have a negative perception of a particular change, such as freedom of information legislation, which registry staff may perceive as creating more work for them in retrieving information in response to requests from the public. The solution to this problem may be to change the perception held by registry staff so that they see the opportunities presented by the new legislation, such as greater support and recognition for the work they perform. Changes in perception are not easy to bring about but can be accomplished through education and awareness programmes

On the other hand, individuals within the organisation may have no control over unstable events. For example, staff in a registry might be frustrated and unable to keep pace with the volume of work they have because they have no control over the demands of registry users. The solution to this environmental problem may be to gain some form of control over the environment to make it more predictable. Registry staff might meet with users to discuss their information needs and to find out when and how often they need information. In this way, the staff can gain an understanding of when they are likely to experience peak demand periods and gain control over their environment by planning for these periods (for instance, they might hire temporary workers to assist during these times).

The structure or functions of the organisation are not well adapted to the environment. In the context of a registry, the unit may be unable to provide a high level of service because its structure has become too specialised (such as when staff have responsibility for only one task). The solution, in this case, may be to restructure

work to give each staff member or group of staff members responsibility for an entire process, from beginning to end.

Many problems arise when an organisation lacks a clear mission. There is a saying that goes: 'if you don't know where you're going, any road will take you there.' Leaders of organisations can end up wandering down many roads and getting nowhere when they have not clearly defined the organisation's purpose in a mission statement. Further, it is impossible to determine whether the organisation's functions and processes are strategically aligned without a clear sense of the organisation's purpose. To rectify this problem, a clear mission statement must be developed.

Mission statements are discussed in more detail in Strategic Planning for Records and Archives Services.

To achieve optimal organisational performance, the organisation's environment, mission, sub-systems, structure, processes, activities and tasks must all fit together. An analysis of the organisation, as we discussed above, may reveal a lack of alignment. If the organisation's mission suggests that functions or processes should exist where they do not, these must be created. If existing functions and processes do not support the accomplishment of the organisation's mission, these must be altered or eliminated. For example, having changed the operations of its core business sub-systems, an organisation may find that its employee reward and incentive policies and practices are no longer appropriate. Thus, management may have to change the organisation's human resources sub-system or function to bring the organisation back into alignment.

Records and archives management functions or sub-systems often require realignment when other sub-systems change. Unfortunately, record-keeping systems frequently are overlooked to the detriment of organisational effectiveness.

In addition, an organisation's structure may not support the smooth working of its sub-system and processes. For example, when records and archives management functions are divided among several organisational units, they are difficult to co-ordinate and may perform inefficiently. An integrated records and archives management structure works better to accomplish the management of public sector records throughout their life.

Although records and archives managers do not usually have the scope to affect changes outside of their areas of functional responsibility, they almost always have some scope to affect changes within their areas of responsibility. As discussed in Lesson 2, in cases when records managers discover operational problems in functional areas over which they have no control, they may be able, and have an obligation to try, to influence programme managers to implement the necessary changes.

Activity 19

Consider your own BSA project. What types of organisational problems do you think might be causing or affecting your problem, based on the work done so far in this lesson?

DESIGNING SOLUTIONS

Changes to the organisation's business processes might range from a complete redesign of systems to small improvements in select functions. The choice made will depend on a number of factors, including

- the seriousness of the problem
- the scope of the records manager's or archivist's authority
- the likelihood of successfully re-engineering the process
- the degree to which staff members might accept dramatic changes in their work.

There are no cut and dried methodologies, techniques or tools for redesigning or improving business processes. However, the following are points to keep in mind when thinking about how to resolve internal process problems.

- Be creative; try to think in new ways.
- Challenge assumptions (for example, ask: 'What is the worst thing that would happen if we just did not perform this activity or task any more?').
- Look for duplications in activities or tasks which can be eliminated or combined.
- Look for activities or tasks that can be moved to another stage in the process, simplified or carried out simultaneously.
- Look for ways that information technology can be used to eliminate the need for certain activities and tasks or increase process performance.
- Ask: 'How would we do this work if we only had one staff member to do it?' This can be a controversial question to ask because people often fear that they will be made redundant. In fact, reduction of staff may not even be a desirable aim where unemployment rates are high and citizens depend on government to supply jobs. However, asking this question can help to focus thinking, and if the number of staff required to perform a particular process can be reduced, existing staff become free to work on new and more strategic processes and tasks.
- Organise new processes around outputs not activities.

- Seek the ideas of outsiders (those unfamiliar with the specific process under review), as they usually find it easier to look at a process objectively and challenge assumptions.
- Look for who is performing each activity (for example, ask: ‘Do several people in different organisational units assist with the process?’). This may indicate areas where too many ‘hand offs’ in the process are slowing it down.

Determining Record-keeping Requirements

It is always important to review and establish record-keeping requirements for a given process when examining or redesigning the process itself. A process may require records to

- perform and control the process
- maintain evidence about work done, as determined by laws or regulations
- provide information for the organisation and the community about the work done.

For example, consider again the process of paying employees. The final product of the process is a paycheque. As in the example given in Lesson 2, it must be determined what information is required in order to prepare an accurate and complete paycheque and then assess whether the process as currently structured meets the information requirements.

However, it is also important to keep in mind that the organisation may require the information to meet more than the immediate requirements of the business process. It may also be necessary to retain the information in order to meet the information requirements of related business processes, to meet regulatory requirements, for public information purposes or for cultural and historical research.

Once the record-keeping requirements of a process have been determined, it is possible to assess how well existing record-keeping systems meet requirements, and identify strategies for satisfying them. These could be redesigning record-keeping systems, developing records retention schedules, establishing document tracking systems, altering the method of storage and handling and so on. Various strategies may be used separately or in combination to meet identified record-keeping requirements. The degree of risk involved in failing to satisfy record-keeping requirements, the existing systems environment and the corporate culture will all determine which strategy or combination of strategies is most appropriate and will be most effective.

Activity 20

Consider the process you examined in the earlier activity. What do you think the record-keeping requirements of this process should be?

IMPLEMENTING THE BSA PROJECT

Once the analysis and design has been completed, the next step of the project is implementation. While undertaking analysis, organisational problems were identified and recommendations developed on how to redesign elements of the business system in order to solve these problems. The first step in implementing these solutions is to assess in detail the anticipated benefits of implementing each recommendation.

Assessment of the benefits must be SMART: Specific, Measurable, Achievable, Realistic and Timely. For example, if you recommend the establishment and implementation of a records retention schedule, the benefits might be expressed in terms of the number of linear metres of records or the number of filing cabinets that destruction of valueless records will release.

Of course, certain benefits associated with the redesign of a business system may be difficult to quantify. For example, it may be impossible to measure improved reliability or greater customer satisfaction. Nevertheless, where possible, benefits should be defined in measurable terms.

Next, it is necessary to assess the requirements and time frame for implementation of the recommendations. Funding, for example for the acquisition of new equipment, is an obvious type of requirement to be considered. But remember that it is important to factor in the time involved in rewriting policies and procedures to incorporate proposed changes. Staff training must also be considered when determining a time frame. Again, do your best to quantify your requirements in measurable terms.

The activities and requirements associated with the implementation of each recommendation then should be documented in an implementation plan. The steps involved in developing an implementation plan are very much like the steps involved in developing a detailed project plan and schedule. Remember, an implementation plan must be flexible, as adjustments are often needed to respond to unforeseen circumstances.

A report with findings and recommendations must be sent to senior management, and be accepted, before any implementation can take place. Progress reports will probably have been submitted to management at regular intervals throughout the project, but until the final report has been approved, no further action can be taken.

To obtain this approval, a clear and logical rationale must be developed to prove the benefits of change and to justify the cost and work involved with implementation. For example, if you have decided to recommend of an automated system for managing the registry, it is important to state clearly the benefits of spending the money for the system. You may want to present your case to senior management in the form of a cost-benefit analysis.

Once senior managers give their approval, the requirements for implementation have been met, and employees to be affected by the changes have been advised of the plan, implementation may begin. Effective management of change is critical to the actual implementation of the recommendations.

The management of change is discussed in more detail in Strategic Planning for Records and Archives Services.

Throughout the implementation phase, the project manager is responsible for ensuring that the project stays on target in terms of meeting its objectives, remaining on schedule, not exceeding allocated resources and making necessary adjustments to the implementation plan.

EVALUATING THE BSA PROJECT

Evaluating the success of any BSA project is critical to ensuring its success and sustainability. One method of evaluation is to conduct an ‘audit.’

Audit: The process of reviewing, verifying, evaluating and reporting by an independent person on the adequacy of a unit of analysis against a predetermined set of criteria. In the case of a business systems analysis project, the criteria for the audit derive from implementation objectives.

In the case of a BSA project, the criteria for the audit derive from implementation objectives. An audit of a BSA project involves assessing whether the recommendations outlined for implementation have been met. In other words, was the project implemented as planned, and is it working? If the objectives are specific, measurable, achievable, realistic and timely, the audit should reveal that they have been successfully achieved.

Evaluating management systems is discussed in more detail in Strategic Planning for Records and Archives Services.

The audit will also identify recommendations that have not been fully implemented and it will highlight those recommendations that are not producing the desired effects. If approved recommendations have not been fully implemented, it will be necessary to determine the reason and take steps to ensure their full implementation. If, however, implemented recommendations are not producing the desired effects, there will be a need to review the original problem again in order to ensure that root causes have been properly identified and that solutions address the causes.

SUMMARY

This lesson discussed how to organise and conduct a BSA project. In the planning phase of the cycle, instructions were given for

- defining organisation problems as the focal points of BSA projects
- defining project objectives and benefits
- articulating the scope of BSA projects
- planning and scheduling project activities
- setting up the project organisational structure
- determining project risks
- developing the project terms of reference
- obtaining senior management approval
- training and communicating with project participants and others.

This lesson also dealt with the activities of data gathering and analysis, as well as with aspects of organisational and process redesign to address operational problems and the implementation of recommendations.

The importance of studying the results of organisational and process changes was emphasised. Audits were identified as useful tools for studying the results of redesign efforts.

STUDY QUESTIONS

1. What is an audit?
2. What are the typical phases of a BSA project? What are the typical activities performed at each phase?
3. Why might you initiate a BSA project?
4. What is the purpose of defining the project scope? What factors determine it? Why is it critical to the success or failure of the project?
5. On what basis would you decide to redesign a business process?
6. What knowledge, skills and characteristics mark a good project manager?
7. What are the two types of training that project participants may require? When should the different types of training be delivered and why?
8. What elements should the project terms of reference contain?
9. What sources might you use to gather information for a BSA study?
10. What steps would you carry out to conduct an analysis of the functions of an organisation?
11. What types of organisational problems might a BSA study reveal? What strategies might you use to resolve them?
12. Why is there no specific methodology for diagnosing and resolving organisational problems? Why is it important to understand the dynamics of system operation in order to diagnose and develop solutions to organisational problems?
13. Why must implementation objectives be specific, measurable, achievable, realistic and timely?

ACTIVITIES: COMMENTS

Activity 8

BSA is a flexible tool and analytic approach that can be used to address a wide variety of operational and records and information management problems in organisations. For example, public sector managers might use BSA to address a problem in the government's system of financial management. Managers of public sector records also can use BSA techniques to address problems in financial reporting and information management. In terms of typical records management functions, BSA can be used to restructure registries, redesign file classification systems, develop retention schedules for records, identify automated system requirements and so on.

This activity is intended to help you focus your attention for the rest of the work in the lesson. By applying the principles and ideas introduced here to your own problem, whether real or hypothetical, you will begin to see how the process of analysing business systems is accomplished.

Activity 9

Defining the project's vision is really a question of turning the problem around to describe what the situation might look like after the problem has been solved. For example, if a problem with the organisation's financial management system is the project's focus, the vision and objective might be to ensure that the organisation's financial position is known at all times, it retains sufficient capital and cash flow to meet liabilities and remain within budget. Again, no attempt should be made at this point to indicate how this vision might be achieved. Do not confuse objectives with solutions.

Activity 10

In defining the scope of the BSA project, you must critically analyse what it is possible to do. Perhaps, using the example above, it is only possible to focus the project on the budgeting sub-system and processes of the organisations financial management system. This does not mean that the other aspects of the system are ignored in the analysis. It is important to ensure that, whatever the sub-system, process, activity or task on which the project will focus, you always retain the holistic organisational view and analyse the particular in relation to the general. If this is not done, important interrelationships might be overlooked which could cause sub-optimal performance or lead to new, unforeseen organisational problems.

Activity 11

Large projects involving an organisation's core systems and processes usually require more formal and complex organisational structures. Smaller BSA projects, such as redesigning a registry process, will require a relatively less formal and complex structure. When establishing the project's organisational structure, you should think about the available personnel. What are their strengths and weaknesses? What special skills do they have? Defining their characteristics will assist you in matching the right person to the project responsibilities.

Activity 12

Once you have identified the strengths and weaknesses as well as the special skills of each project participant it is easy to see what might be missing. Using this information, you then can establish a training strategy to meet the needs of each person.

Activity 13

This activity should help you focus more clearly on your BSA project and understand the importance of clarifying its purpose and scope. As you work through this activity, think carefully about the various parts of the project: if ten people are involved, what are the resource requirements? If four people are removed because there are not enough resources, what effect does that have on the time frame?

Activity 14

Some of the sources of this information include those listed earlier of this lesson.

Activity 15

One of the best ways to outline the environment within which an organisation works is to draw an organisational chart or flow chart. An example of this is shown in Figure 3.

Activity 16

It often clarifies analysis to draw diagrams representing objects, such as functions and processes, and their relationships. Lesson 4 describes a number of techniques for graphically representing business systems.

Activity 17

Lesson 2 illustrates how you would apply systems thinking to examine a business process and conduct the kind of analysis discussed earlier in this lesson.

Activity 18

Some possible sources of this information include those listed earlier in this lesson. You can use the records themselves as well. For example, an examination of the types

of documents found in a records series at different times can reveal how the function has evolved or changed and which organisational units have been responsible for it over time. Be selective in your reading, however!

Activity 19

The section on additional resources in Lesson 6 may assist you in identifying the problem and its possible solutions. Keep in mind that much of the literature of organisational redesign and business process re-engineering comes from a North American, private-sector perspective which may not be appropriate to your organisational or cultural context. Use your discretion.

Activity 20

Record-keeping requirements flow from the records needed as inputs, outputs, controls and for transformation of a process. Ask yourself: are the records needed as inputs to the process available? Are the outputs from this process that are inputs to another process available to that process? Are the records needed to control this process available? If not, think about what must be done to ensure that they are available. These ideas will become your record-keeping requirements. In addition, BSA information about records-related process inputs, outputs, controls, and transformations will help you identify if there are other relevant record-keeping requirements set out in legislation, regulation or elsewhere.

TECHNIQUES AND TOOLS FOR BUSINESS SYSTEMS ANALYSIS

There are a number of techniques and tools available to assist with the work of business systems analysis. While a great deal has been written about the many BSA techniques and tools available, this lesson will concentrate on basic ‘best practice’ approaches.

Additional techniques and tools and the various contexts in which they are or have been used are covered in a number of the readings listed in the select bibliography.

At the completion of this lesson, you should be familiar with the following techniques and tools and how they can be used in a BSA project:

- Gantt charts
- affinity diagrams
- process mapping
- flow charting
- fishbone diagrams
- causal loop diagrams
- statistical analysis
- checklists
- Pareto charts
- histograms
- scatter diagrams.

Remember, more than one technique may be used to analyse data.

Other general management techniques and tools relevant to BSA are described in Strategic Planning for Records and Archives Services.

THE GANTT CHART

Gantt charts are used in developing project schedules and implementation plans. They are bar charts that graphically portray the type, duration and sequence of activities and tasks that must be performed in order to complete a project.

Gantt Chart: A type of bar chart that graphically portrays the type and duration of activities and tasks that must be performed in order to complete a project.

To prepare a Gantt chart, undertake the following steps. First prepare a list of all of the activities and tasks that must be performed in order to complete the project. Be sure to list the activities and tasks in the order in which they will be performed. For example, in a project to clear up a backlog of registry filing, the following activities may need to be carried out.

- Separate documents by category.
- Sort documents by file number.
- Place documents on appropriate files until the filing backlog is cleared.

After the activities and tasks have been listed, draw a large L. Along the vertical axis of the L, list all of the activities and tasks to be carried out. Start at the bottom with the first activity or task and end at the top with the last activity or task. Along the horizontal axis, list times in appropriate increments (such as, minutes, days or months). For each activity or task, draw a horizontal line. Start this line at the point indicating when the activity is scheduled to begin and end it when the activity is scheduled to end. The entire line should show when the activity is to start and how long it will take to complete.

Although it is easier to construct a Gantt chart from the bottom up, for presentational purposes it may be better to re-draw it from the top down as in Figure 4. You can add more information to a Gantt chart by using colours or symbols to represent people or times.

Activity 21

Think of the day ahead of you. What activities and tasks do you need to complete? How much time is needed to complete each one? Which activities must be completed before others can start? Which can be carried out simultaneously? Prepare a Gantt chart scheduling the rest of your day.

Records Office Extension Project

No.	Action	Months														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		1998												1999		
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
1	Submitting estimates	xxxxx														
2	Estimates process		xxxxx													
3	Detailed design			xxxxx	xxxxx											
4	Prepare tender documents				xxxxx	xxxxx										
5	Seek tenders						xxxxx									
6	Report, instruct and lead in							xxxxx								
7	Construction								xxxxx	xxxxx	xxxxx	xxxxx				
8	Fit out shelving												xxxxx	xxxxx		
9	Inspect construction														xxxxx	
10	Sign off and official opening															xxxxx

Figure 4: Gantt Chart

AFFINITY DIAGRAMS

The affinity diagram is a tool that is often used to understand business systems and perform functional analyses as well as to reveal and diagnose organisational problems. It can be used to identify

- how organisational functions, processes, activities, tasks and records interrelate
- functions carried out by the organisation over time
- customer requirements and whether or not they are being met
- gaps in service provided or offered
- possible new directions for growth or new service opportunities.

Affinity diagram: A tool used to represent pictorially the relationships between elements of a business system.

To prepare an affinity diagram, follow these steps:

1. List the organisation's structures, functions, processes, activities, tasks and records series separately on three by five inch index cards.
2. Sort the cards by function, placing those cards that relate to a given function together. Some cards may belong in more than one group, in which case you may create a duplicate card.
1. Create header cards for each of the groups of cards that relate to one another to identify the function.
2. Within and between each group, determine the relationship between the individual cards. Draw arrows to represent these relationships.
3. Correlate the records series, tasks, activities, processes, functions, and organisational structures within the groups of cards with the organisation's mission and/or customer requirements. Observe the alignment or lack thereof as a means of diagnosing organisational problems.
4. Graphically portray the results as in the diagram in Figure 5.

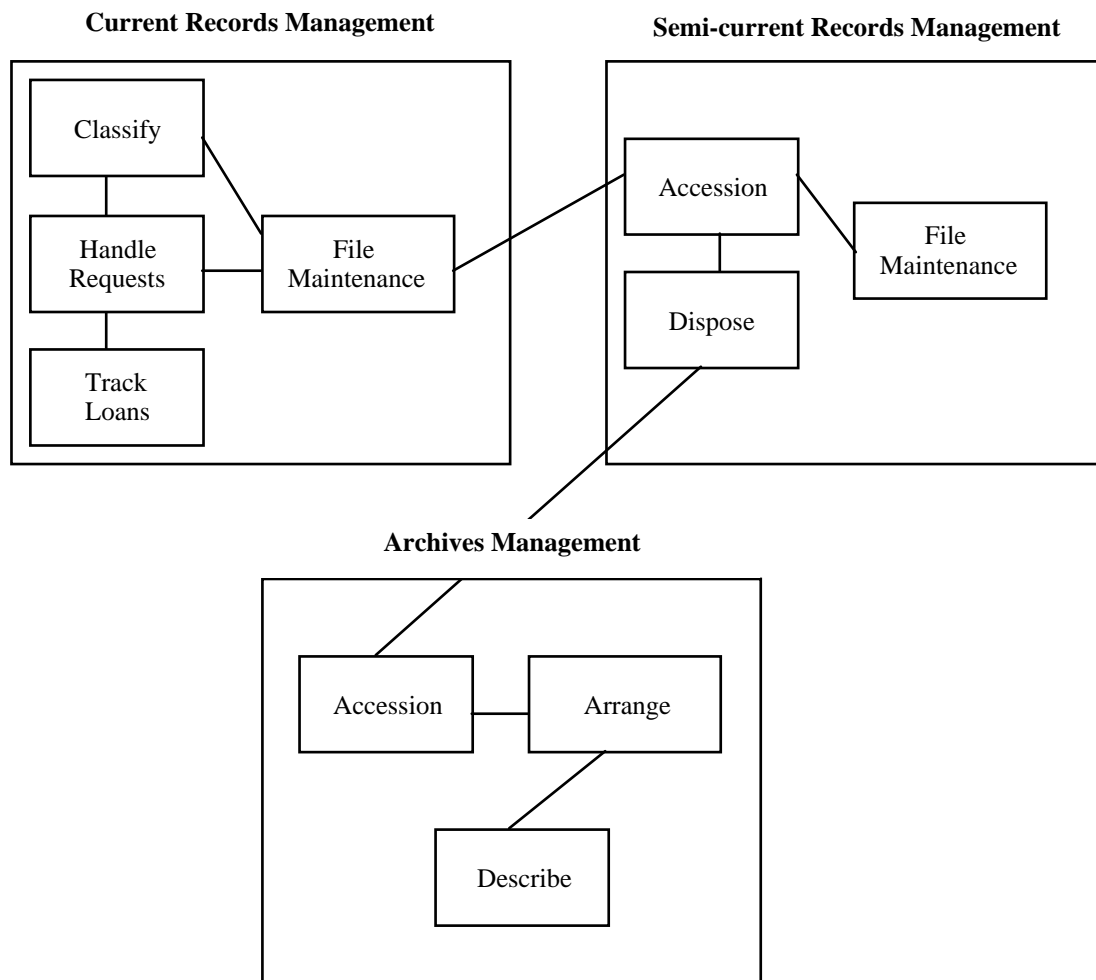


Figure 5: Affinity Diagram

Figure 5 shows an affinity diagram for a records and archives management programme. The ‘index cards’ have been grouped into three main functions: current records management, semi-current records management and archives management. The diagram shows index cards for the main processes associated with each function. For example, current records management includes the processes ‘classify’, ‘handle requests’, ‘track loans’ and ‘file maintenance’.

Activities, tasks and records series are not shown in this diagram in order to avoid complicating it. These can be depicted in a separate but related diagram using the same approach as in the higher level diagram. Relationships between processes are also shown, using connecting lines. For example, the file maintenance process in current records management and the accessioning process in semi-current records management are linked to show that part of regular file maintenance includes transferring closed files to the records centre.

An analysis of an affinity diagram can reveal a lack of alignment between the requirements or mission of the organisation and its organisation’s functions and processes.

To determine whether there is a lack of alignment, look for

- functions that do not seem to relate to the organisation's mission or requirements
- processes that do not seem to relate to any other processes or functions
- aspects of the organisation's mission or requirements that do not seem to have any associated functions or processes.

By means of analysing the affinity diagram, you should be able to pinpoint gaps in functions or services within the organisation and identify functions or processes that do not support the attainment of the organisation's mission or help satisfy requirements. These areas can then be targeted for correction by creating new functions and processes, or by altering or eliminating ones that are unnecessary.

Activity 22

Prepare an affinity diagram showing the activities, tasks and records series associated with one of the processes identified in Figure 5.

PROCESS MAPPING

Process mapping is a powerful tool used to organise and portray factual information about a business process. Process mapping may be defined as the act of creating a pictorial representation showing the inputs, all of the activities and/or tasks associated with, and the outputs of a given business process. Instead of using words to describe a process, the process map uses a combination of symbols, lines and words.

Process map: A pictorial representation of the inputs, activities, tasks and outputs of a given process.

For example, the process of walking might be described as follows:

- lift left foot
- move left foot forward
- place left foot down
- lift right foot
- move right foot forward
- place right foot down
- repeat process.

We might represent walking in a process map as follows:

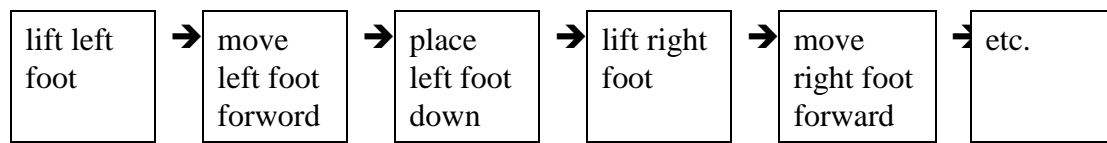


Figure 6: A Process Map for Walking

The level of detail in a process map may vary. Some maps may show only higher-level activities that form part of a business process while others also may show the tasks of which the higher-level activities consist. The level of detail chosen will depend on the complexity of the process and the map's purpose. For example, a high-level map of a complex process may not include enough detail if the purpose of the mapping exercise is to track the flow of a particular document.

For example, the process map for walking might be a part of the larger process map for moving from one room to another. The larger map might refer to getting out of a chair, opening a door, and walking to the next room. The specific process of walking may not be analysed in this high-level process map.

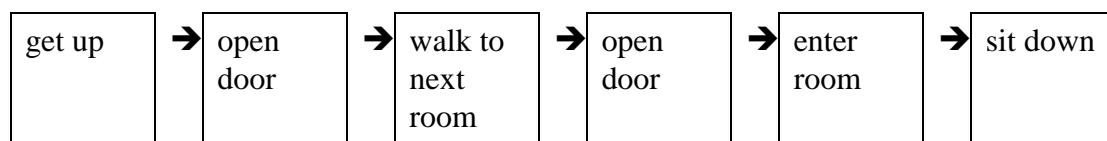


Figure 7: A Process Map for Moving from One Room to Another

The Value of Process Mapping

Process maps can provide exact information and details on

- what activates a process
- the activities and tasks associated with a particular process
- the flow of information between different activities of a process
- the records that are created or updated as part of the process
- the value of various records in terms of the purpose of the process
- areas of duplication or unnecessary work performed as a result of the process.

A process map can be used to develop records inventories, forms, policies and procedures, work plans, position descriptions, records retention schedules, file classification systems, automated systems or re-engineered business processes.

Process mapping is a technique that can be used in the context of a BSA project to describe the current business processes, identify areas of current business processes

that will benefit from a redesign and model redesigned business processes. Process mapping has the added advantage of presenting the data in a form that makes it easy to interpret and analyse.

It is easy to see internal process problems when process maps are analysed. Following the linear and horizontal flow of the process map, you should look for such problem signs as

- the same activities being repeated many times
- processes which consist of many review, approval and signature activities
- documents which are passed to many different individuals for processing
- processes which cross many organisational boundaries.

Further, process mapping helps in the identification of information and related record-keeping systems needed to support a current business process or one which has been redesigned. Once the information supporting the business process has been identified, it is possible to create records inventories, file classification plans and records retention schedules.

Process maps also may reveal the need for additional information to complete or control a business process, in which case records and archives management specialists can set up record-keeping systems that provide and manage the necessary information.

Preparing a Process Map

See Lesson 6 for references to valuable publications that include discussions of process mapping.

To prepare a process map, you will need to familiarise yourself with the activities and tasks of the process you are mapping. You will need to consult with individuals involved in carrying out the process to gain an understanding of what is involved. This consultation will be done in the data gathering phase. Remember that many processes cross organisational and functional boundaries, so the individuals with whom you need to speak may work in different departments, sections or units. Keep in mind that each of these individuals may only be familiar with those process activities that they perform themselves, so you may have to put together information from different individuals, like pieces of a puzzle, in order to get a picture of the entire process.

It is best to begin by mapping at the highest level or most abstract view of the process (for example, the process as seen as a single activity) and then gradually break this activity down into its component sub-activities until the desired level of detail has been reached. In the figure below, the highest process level is shown.

In the following example, the process of answering a request for a file is broken down into three main activities: receive request, locate requested file and send file to customer. The activity 'Locate Requested File' is further broken down to show two main tasks: search database and retrieve file from shelving.

First level of detail

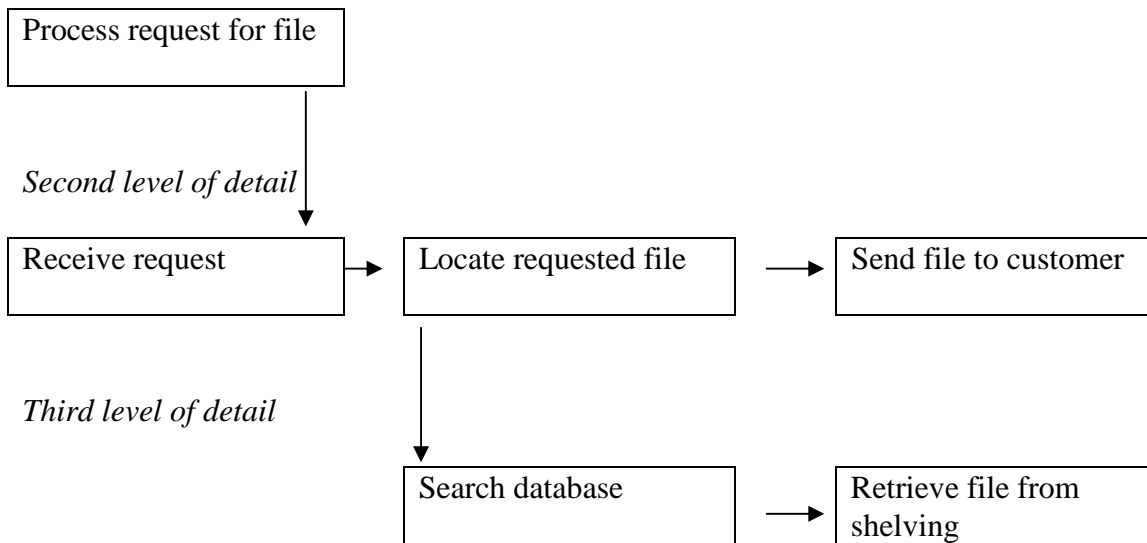


Figure 8: Hierarchical Breakdown of a Business Process

To prepare a process map, follow these steps.

1. Give the process map a title. Usually this begins with the name of the organisation followed by the process name. It is wise to assign codes to each map for ease of identification. For example,

RM-01 RECORDS MANAGEMENT OFFICE - REQUEST PROCESSING

In this example, the RM stands for the Records Management Office and the 01 is the code representing the request processing work process.

2. Start by drawing a rectangular box to represent the activity that initiates the process. For example, if the process begins with the receipt of a request, the process map will start with this activity.
3. Label the activity box. The label should include the name of the activity and a code. Use a verb to create the activity name. To construct a code, combine the map code with a unique code for each activity (for example, RM-01-1).

Each successive activity box should be given a code comprised of the map code and a unique number. Normally, the numbers run consecutively from the first activity box to the last activity box in the process map (for example, RM-01-1, RM-01-2, RM-01-3, and so on). The second level of detail will incorporate the code of the activity box to which the subordinate activities relate, a period and a second number (for example, RM-01-1.1).

The code indicates the level of detail of the activity box. The code also shows the relative position of the activity in the process map and indicates which higher-level activity includes that activity box.

If the activity involves a document, indicate the name of the document. If dealing with a multi-part form, indicate how many parts there are to the form. Note that if the process is initiated by receipt of a multi-part form or of multiple documents of the same kind, you need only map in the singular because the activity is the same each time a request is received. Thus, if a registry normally receives 50 request forms, you will need to draw only one activity box. Notes can be made about the number of parts to a multi-part form or the volume of documents received inside the activity box as in the example below. Figure 9 provides an example.

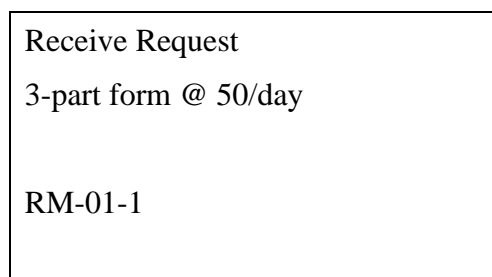


Figure 9: Activity Box

4. Draw a line or lines with directional arrows entering the left-hand side of the activity box for each input of material or information into the process.

Input: Any resource required for the functioning of a process, in the course of which it will be transformed into one or more outputs.

You may want to distinguish between the two types of flows – material and information – by using a single line for information inputs and a double line for material inputs. Figure 10 offers an example. It shows both the request for a file (the information) and the actual form on which the request arrives (material) as inputs.

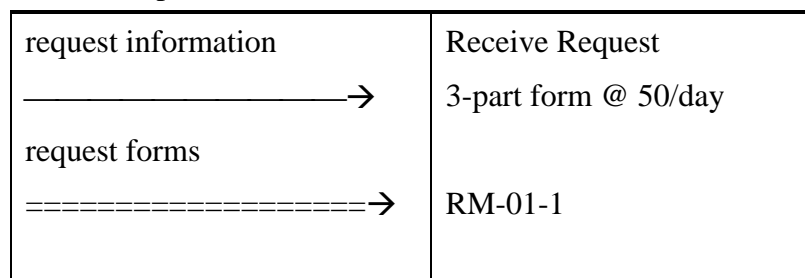


Figure 10: Activity Box with Input Flows

5. Draw a line or lines with directional arrows exiting from the right-hand side of the activity box for each output of material or information.

The process mapping can continue to even more detailed levels, using the same techniques. Repeat each of the steps, continuing to map the process one activity or task after another, until you reach the final activity in the process (output). You will find process mapping much more flexible if you start by drawing on index cards or yellow sticky notes that can be easily moved around the page rather than large pieces of paper.

Output: The product of the transformation of inputs by a process.

Activity 23

Continue the process map in Figure 10 above to show both the material and information outputs for this process.

FLOW CHARTS

A number of different techniques can be used to produce flow charts, depending on what you want to achieve. The following example shows functions, activities, external bodies, information or material flows and records.

Again, these examples are simple. Further reading and training will be required to take the subject to any depth. This example shows the records management function of an organisation.

First, draw a large rectangle on a sheet of paper. This is the top-level diagram and shows all the functions of the records office. The heading of the diagram is numbered 1 (see Figure 11).

Each function is drawn as a separate box and numbered sequentially 1.1 to 1.4. The outside bodies that have a connection with the functions are shown outside the box in ellipses. Arrows show the movement of information or materials between the outside bodies and the records office functions.

At the second level, each of the functions is drawn on a separate piece of paper (see Figure 12). The heading of the diagram is given the same number as shown on the top level diagram. The activities that make up the function are represented by smaller boxes within the large box. The outside bodies are shown in ellipses outside the box. Where the same body appears more than once outside the box a diagonal line should be drawn across the corner of the ellipse. Flows of information or materials are shown by arrows, and in this example records are also indicated.

Activities can be broken down to a third or even fourth level if necessary. In a complicated environment this will probably be necessary.

In this example the lack of arrows between the activities within the large box does not indicate that they are not connected. The numbering shows the order in which activities take place.

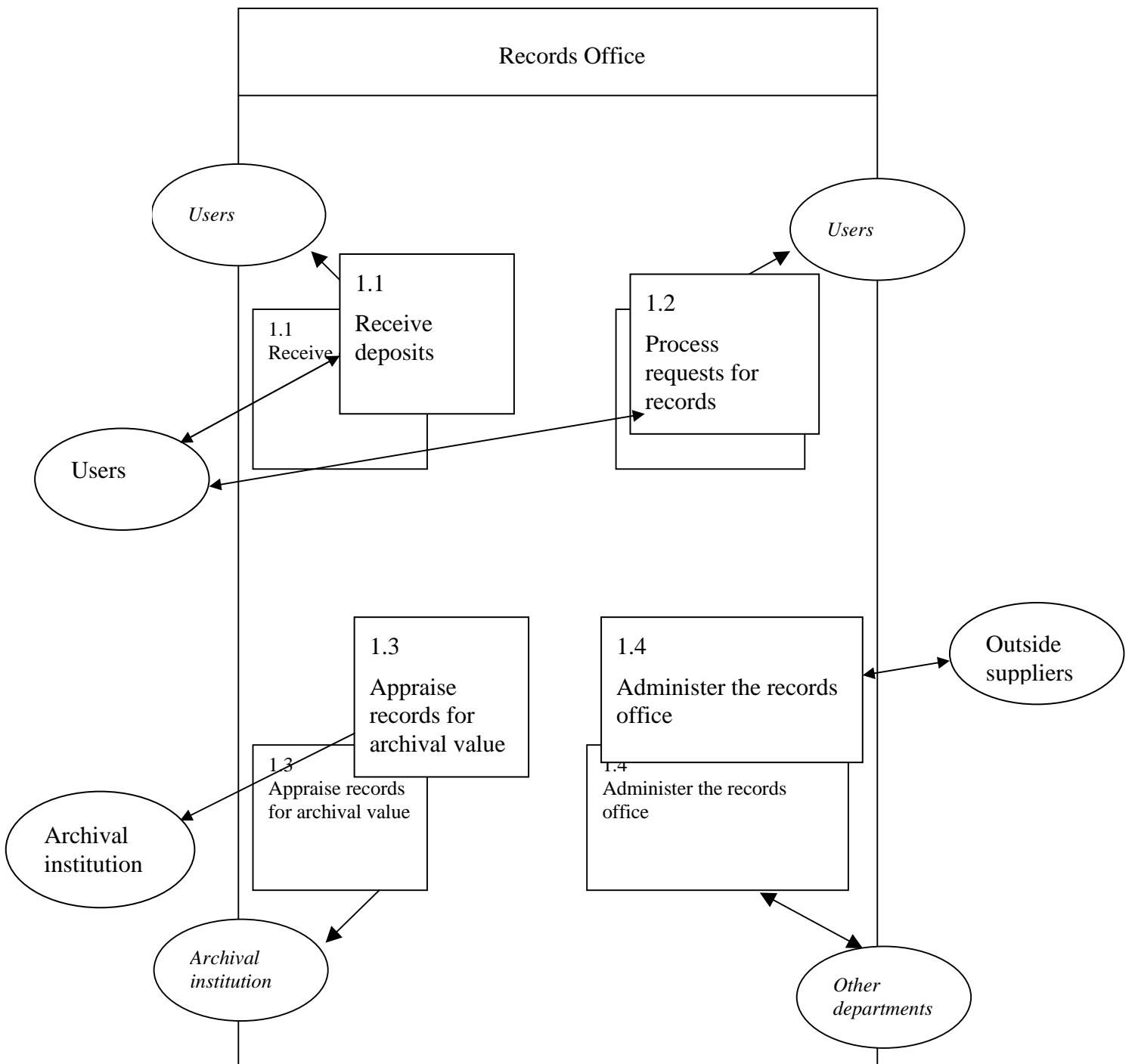


Figure 11: Top-level Diagram of Functions of Records Office

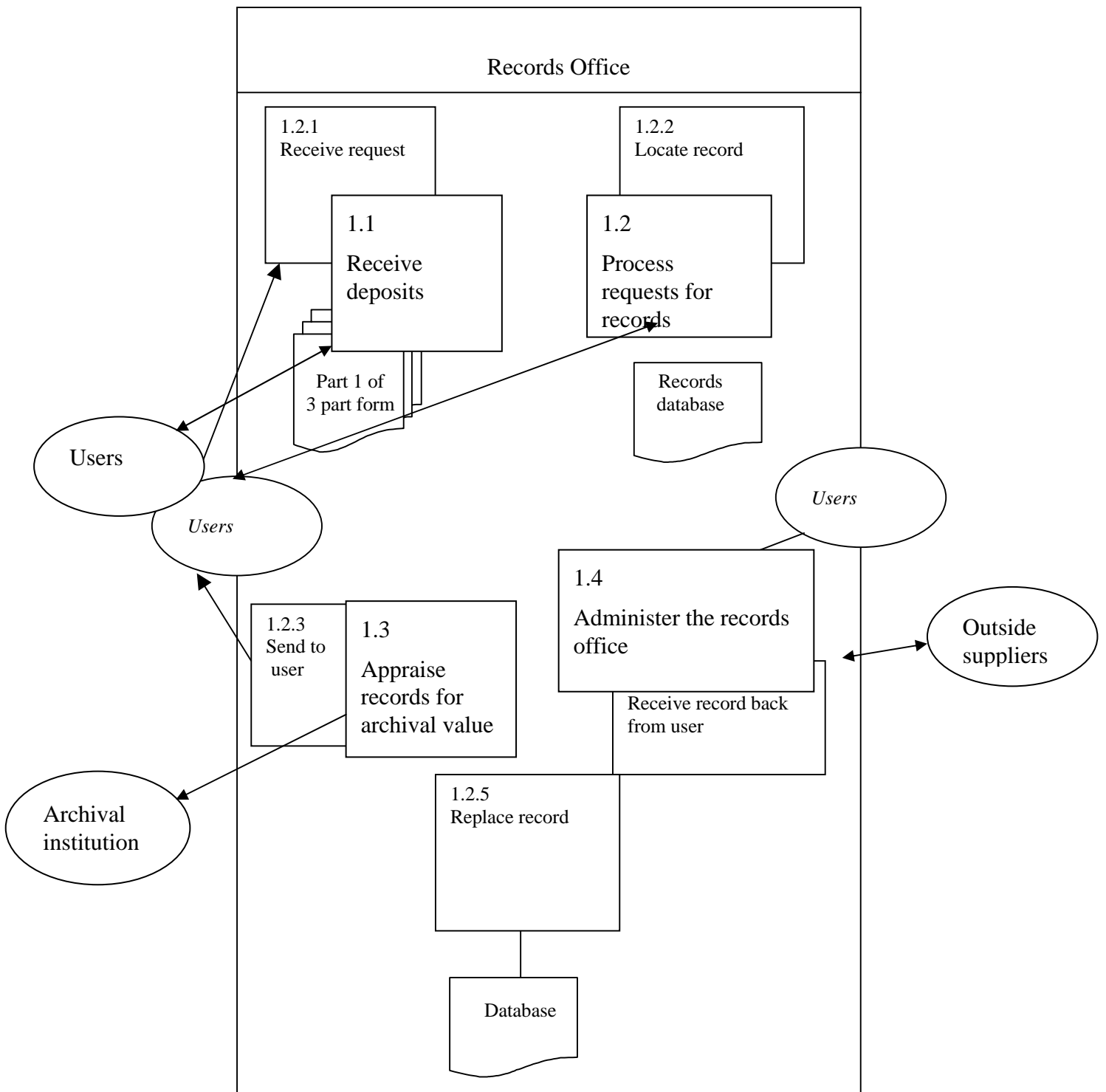


Figure 12: Second-level Diagram of Activities in Processing Requests for Records

FISHBONE DIAGRAMS

Process maps and flow charts do not show cause-and-effect relationships, other than that one activity takes place after another. To uncover the root causes of problems associated with a given business process, you will have to use other techniques, such as the fishbone diagram.

Fishbone diagram: The graphical representation of the relationship between an effect and all possible causes of that effect.

To draw a fishbone diagram, follow these steps.

1. Draw a square to represent the head of the fish on the right-hand side of the page. Inside the square state the effect or problem.
2. Draw a line extending to the left from the head of the fish.
3. Draw four or five lines extending out at angles from the central line, or backbone of the fish. At the end of these lines state the major causes of the problem. For every effect there may be several major causes and several root causes. Major causes on a fishbone diagram are often identified as: methods (procedures), machinery (equipment), human resources (people and their skills) and materials (supplies).
4. Draw lines to represent root causes extending out at angles from the line for each major cause. State the root cause at the end of the smaller lines. For example, under manpower, the root causes you identify might include: too few staff, lack of training, low morale, and so on.

Figure 13 shows a fishbone diagram from the problem ‘many lost files’. Four main causes are identified: methods, machinery, human resources and materials. Root causes are shown as branching off the appropriate main causes (for example, no set filing rules is shown as a root cause of procedural causes of the problem).

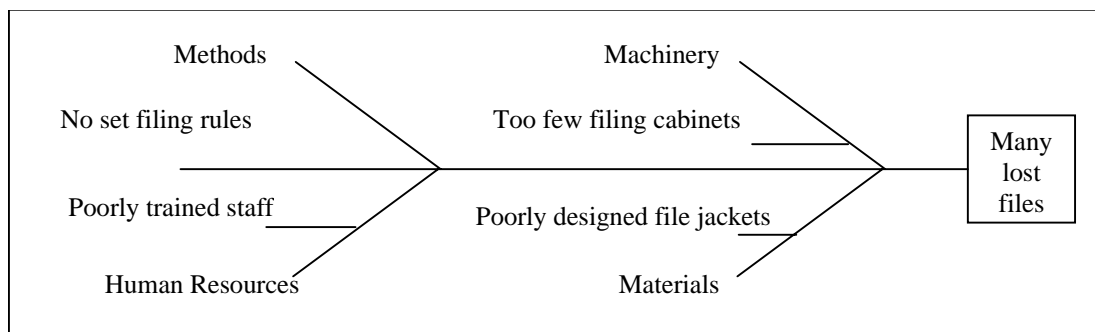


Figure 13: Fishbone Diagram

One of the secrets to producing good fishbone diagrams is to keep asking whether an identified cause is really the root cause of the problem. It is easy to be fooled into thinking that you have identified the cause of a problem. For example, if employees are keying data from one computer into another, you may identify the cause of the problem as excessive keying of data. However, if you dig a little deeper into the problem, you may discover that this need for rekeying occurs because two organisational groups require and use exactly the same information. Thinking even more deeply about the problem might lead to the conclusion that the real causes may be fragmentation of information systems or the handling of one process by two organisational groups. In order to uncover root causes of problems, a good rule of thumb to follow is: never settle for the first cause that is identified. Instead, look for the cause of the cause.

You can construct fishbone diagrams from information gathered from staff, notes made during the process mapping exercise or during brainstorming exercises conducted at a BSA team meeting.

Activity 24

Keep adding to the fishbone diagram in Figure 13. What additional causes can you think of?

CAUSAL LOOP DIAGRAMS

With a process map and a fishbone diagram, it is possible to see where inefficiencies or problems exist within a business process. However, these tools will not show you how one process interacts and affects other processes within an organisation. A different approach is needed for this kind of analysis. Peter Senge and his colleagues at the Massachusetts Institute of Technology (MIT) have refined systems dynamics

techniques for this purpose. Their causal-loop diagrams assist individuals to understand the interrelationships between the various processes in their organisations from a systems perspective in order to diagnose organisational problems and affect organisational change.

Causal loop diagram: The graphical representation of the cyclical nature of cause and effect relationships.

Causal loop diagrams represent causes and their effects. Unlike process maps where the labels on the diagrams are actions, or verbs, the labels on causal loop diagrams are causes, or nouns. These labels are linked together by lines to form a loop or several loops, which illustrate the cyclical nature of cause-and-effect relationships.

To prepare a causal loop diagram, do the following.

1. Pick a recognised problem (for example, file users are unable to obtain requested files from the registry).
2. Reword the problem to indicate whether it is trending upward or downward. For example, as the ability of file users to obtain requested files decreases Write this statement down on a piece of paper and draw a curved, downward or upward-sweeping arrow from it, as appropriate.
3. Describe the affect of this problem on the next element. For example, as the ability of file users to obtain requested files decreases . . . file users loss of faith in the registry increases. . . .

Repeat steps two and three until you arrive back at the original problem. For example, as the ability of file users to obtain requested files decreases . . . file users loss of faith in the registry increases. . . and file users keep more files in their offices rather than return them to the registry . . . the registry cannot locate files because they are not being returned to it but kept in file users' offices . . . causing the ability of file users to obtain requested files to decrease).

The resulting causal loop diagram might look something like the figure below.

The diagram shows how two different processes – handling requests for files and tracking of file loans -- interact in a situation that has become a vicious circle. The power of the causal loop diagram lies in its ability to reveal sometimes destructive organisational patterns. In this case, a pattern has developed that is destabilising the organisation's record-keeping system. Without the clarity of a causal loop diagram, registry staff might have reacted to the problem by working harder to track down files hidden in file users' offices. The causal loop diagram reveals that a more fundamental solution might be to break the cycle by ensuring that all files are returned to the registry regularly.

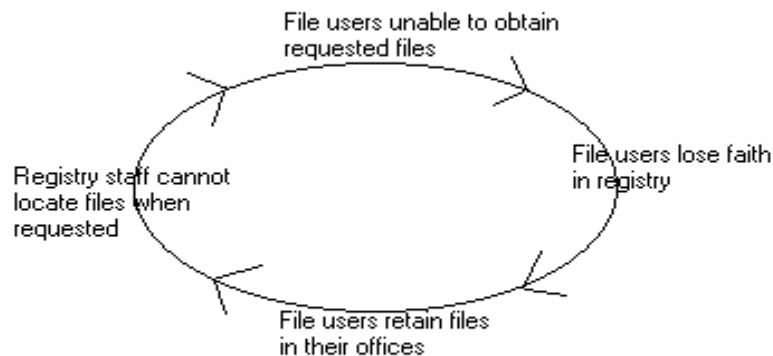


Figure 14: Causal Loop

Activity 25

Draw a causal loop diagram to illustrate the following statement.

‘As personnel registries collapse, computerised personnel management systems are commissioned with project deadlines that are too tight to allow records to be cleaned up for use as data sources. Thus, payroll and surveys must be used as source data, which causes inaccuracies in the data on the computerised management system and results in a database that does not meet user requirements’.

STATISTICAL ANALYSIS TOOLS

In a BSA project, statistics can be used to

- Prioritise problems (for example, you might measure the volume of records generated as a result of several processes to help you decide which records should be scheduled first).
- Quantify the volume of work associated with a given process (for example, the number of forms processed per day). This is called bench marking.
- Look for patterns of error in business processes.

- Establish measurable implementation objectives (for example, based on the current amount of office space occupied by inactive records, implementation of this records retention schedule will release x amount of office space).
- Determine whether implementation objectives have been met.

Following are brief introductions to a number of statistical tools.

The Checklist

A checklist is a useful data gathering tool. A checklist is not necessarily a statistical tool, but it can be used to compile statistical information. A checklist is simply a list to track observations about specific events, such as problems, activities or tasks associated with business processes.

Activity	Day 1	Day 2	Day 3	Day 4	Day 5
Requests for Files	50	75	60	70	20
Average Time (hrs) to Deliver	8	6	8	5	2
No. of Requested Files Signed Out	45	60	55	20	10

Figure 15: Checklist

The information gathered on the checklist can then be charted or graphed using one of several statistical analysis tools. The tools generally fall into one of two basic categories: 1) those that are descriptive and 2) those that show relationships.

The Pareto Chart

The Pareto chart is a descriptive statistical analysis tool used when you want to show the relative importance of all problems or events in order to establish priorities, monitor improvements or identify root causes of problems. To prepare a Pareto chart

1. Select the problems or events that are to be graphed.
2. Choose the standard of comparison or unit of measurement.
3. Gather the data (for example, using a checklist).
4. Compare the data from each category relative to the other categories.
5. Draw a large L.

6. On the horizontal axis, list the categories from left to right in logical order. The categories containing the lowest measurements can be combined into an 'other' category.
7. On the vertical axis, list the units of measurement.
8. For each category draw a rectangle that is as high as the appropriate unit of measurement for that category.

Figure 16 features a Pareto chart showing the number of documents received for filing in a given period by four different registry desks.

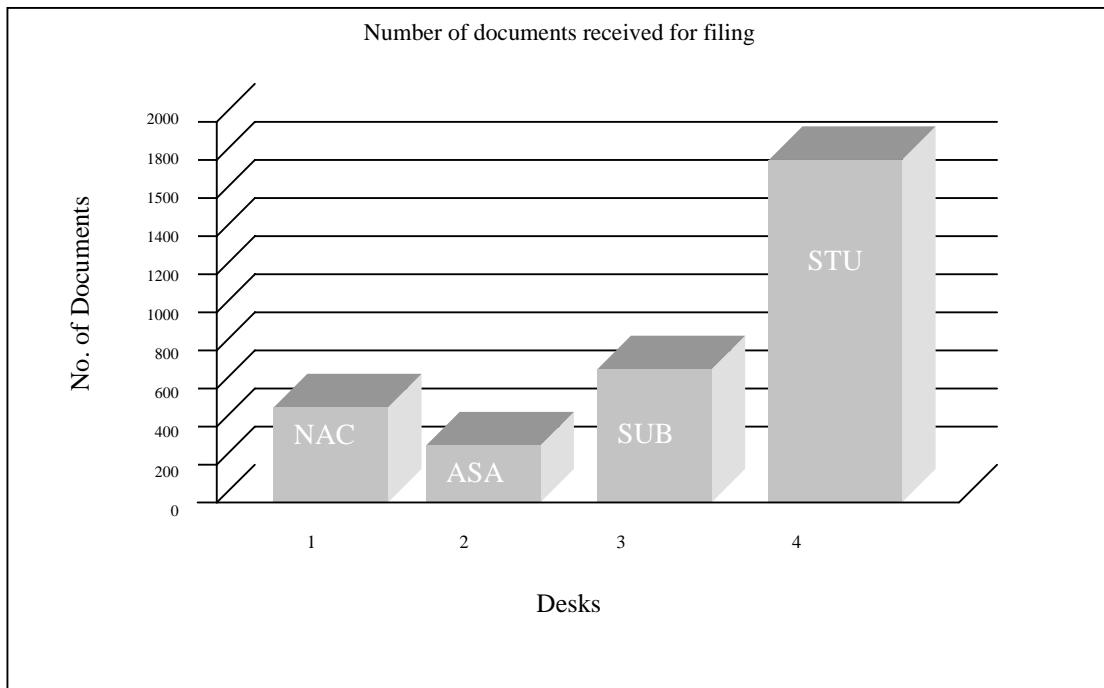


Figure 16: Pareto Chart

The Histogram

The histogram is another descriptive statistical analysis tool. This tool is used when you want to show the relative frequency of all problems or events. Like the Pareto chart, the histogram may be used to establish priorities, monitor improvements, or identify root causes of problems. To prepare a histogram

1. Select the problems or events that are to be graphed.
2. Gather the data (for example, using a checklist)

- Organise the data into classes. To determine the range for three classes subtract the lowest figure (20) from the highest figure (75) and divide by the number of classes (3) (=18). The units of measurement on the graph will therefore go up in increments of 18. For example, the following number of requests for files per day, measured over a five day period, would be organised into the following classes:

<i>Requests per Day</i>	<i>Class</i>
Day 1=50	Class 1=20-37
Day 2=75	Class 2=38-56
Day 3=60	Class 3=57-75
Day 4=70	
Day 5=20	

- Draw a large L.
- On the horizontal axis, list the classes from left to right beginning with the lowest.
- On the vertical axis, list the frequency of occurrence (for example, one, two and three days).
- Draw a rectangular box that is as high as the frequency of occurrence for each day.

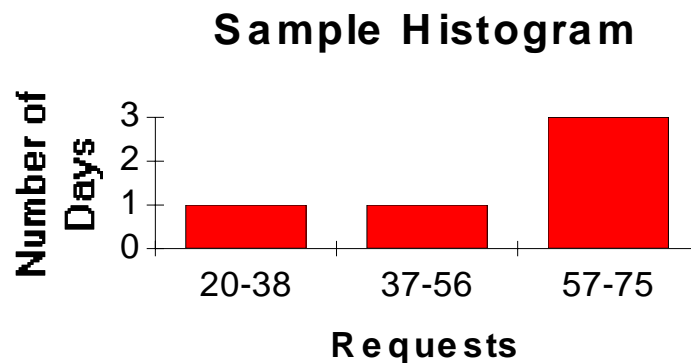


Figure 17: Sample Histogram

The Scatter Diagram

The scatter diagram is a statistical analysis tool used to show the relationship between two variables for the purpose of determining if they are related or cause one another.

This diagram works with pairs of data collected together. To prepare a scatter diagram

1. Collect data about two problems or events that might be related to one another (for example, using a checklist). You may wish to determine if there is a relationship between the length of time for which a file is signed out and the length of time required to deliver a requested file by collecting information about these two variables for every file request made over a set period.
2. Draw a large L.
3. On the horizontal axis, list the frequency or amount of the first variable (for example, the length of time in which a requested file can be delivered).
4. On the vertical axis, list the frequency or amount of the second variable (for example, the length of time a file is signed out to a file user).
5. For each occurrence of an event during the period of measurement, plot the two variables on the chart.
6. Use the correlation patterns below to determine whether the two variables are closely related.

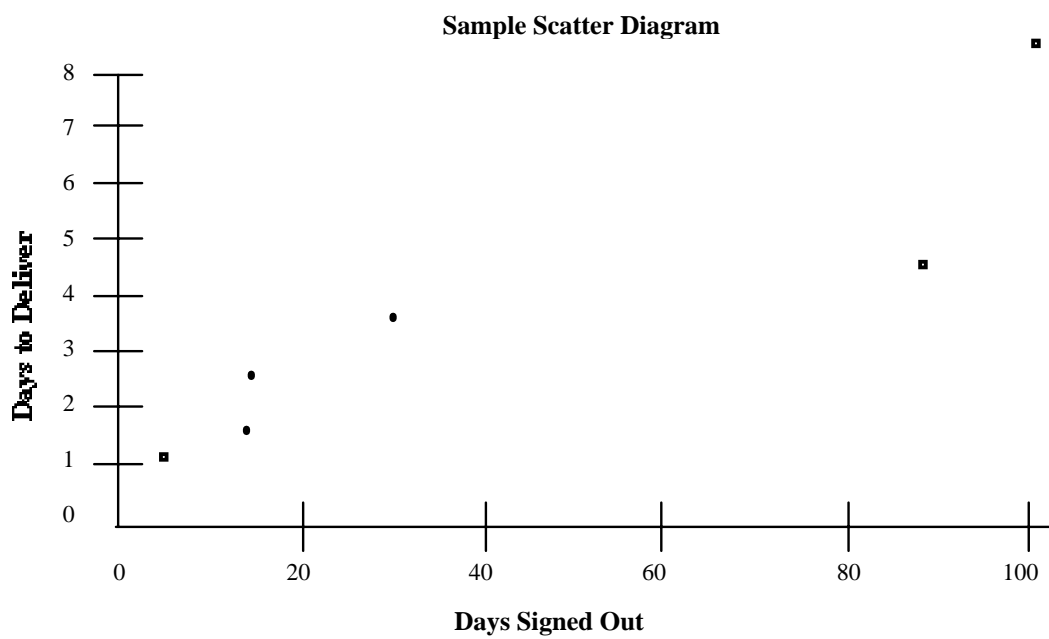


Figure 18: Scatter Diagram

Source: William G Zigmund, *Business Research Methods*, 4th ed. (Fort Worth, TX: Dryden Press, 1994), p. 552.

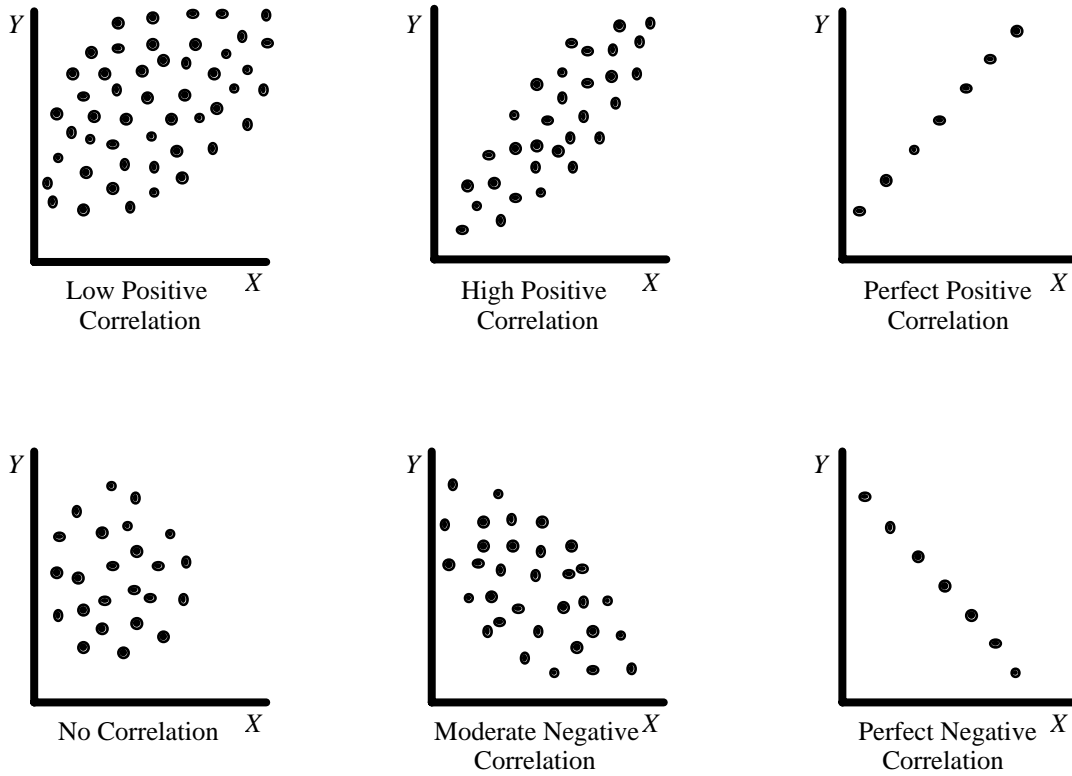


Figure 19: Scatter Diagram Correlation Patterns

Source: William G Zigmund, *Business Research Methods*, 4th ed. (Fort Worth, TX: Dryden Press, 1994), p. 552.

Activity 26

Prepare a Pareto Chart using the data on the average time to deliver a file as shown in the Checklist in the figure above. Then, prepare a Histogram for the number of requested files signed out.

SUMMARY

This lesson has described a number of techniques and tools which can be used in carrying out a BSA project, including

- Gantt chart
- affinity diagrams
- process mapping
- flow charting
- fishbone diagram
- causal loop diagrams
- checklists
- Pareto charts
- Histograms
- scatter diagrams.

STUDY QUESTIONS

1. Explain each of the following tools discussed in this lesson:
 - affinity diagrams
 - causal loop diagram
 - checklist
 - descriptive statistics
 - fishbone diagram
 - Gantt charts
 - Histograms
 - Pareto charts
 - process mapping
 - flow charting
 - scatter diagrams
 - statistical analysis.
2. At what point in a BSA project might you use a Gantt chart?
3. What purpose does brainstorming serve in the context of a BSA project? When is this technique most usefully employed? What are its disadvantages?
4. What are the different ways in which you can categorise and analyse the organisational environment?
5. For what purpose might you prepare an affinity diagram in a BSA project?
6. At what level of detail should you prepare a process map? Why?
7. When would you prepare a flowchart?
8. When might you use a fishbone diagram in a BSA project?
9. How do causal loop diagrams differ from process maps and fishbone diagrams? What might they be used for in a BSA project?

10. Why might you use statistical analysis in a BSA project? What are the categories of statistical analysis tools?

11. For what purpose would you use the following statistical analysis tools?

- checklist
- Pareto chart
- histogram
- scatter diagram.

ACTIVITIES: COMMENTS

Activity 21

A Gantt chart is really just a graphical portrayal of a work schedule indicating what needs to be done, how long it will take to do it, and the order in which each activity must be performed. Some of the readings in the section on additional resources in Lesson 6 contain more information on preparing Gantt charts.

Activity 22

Using the classify process as an example, the diagram might outline the several activities associated with the process of classification, including separate documents by category of file to which it belongs, assign a file number, sort documents by file number and place documents on appropriate files. Records associated with these activities include the classification manual and file list/index. Again, relationships can be depicted by straight lines, as in the link between assigning a file number and the classification manual used to look up the number and that between a new file number and the files lists/indexes which must be updated. See if your diagram compares with this narrative description.

Activity 23

The process map may look as follows. Note that received requests for files and the received request forms are pictured as outputs of the activity.

request information —————→	Receive Request 3-part form @ 50/day	received request information —————→
request forms =====→	RM-01-1	received request forms =====→

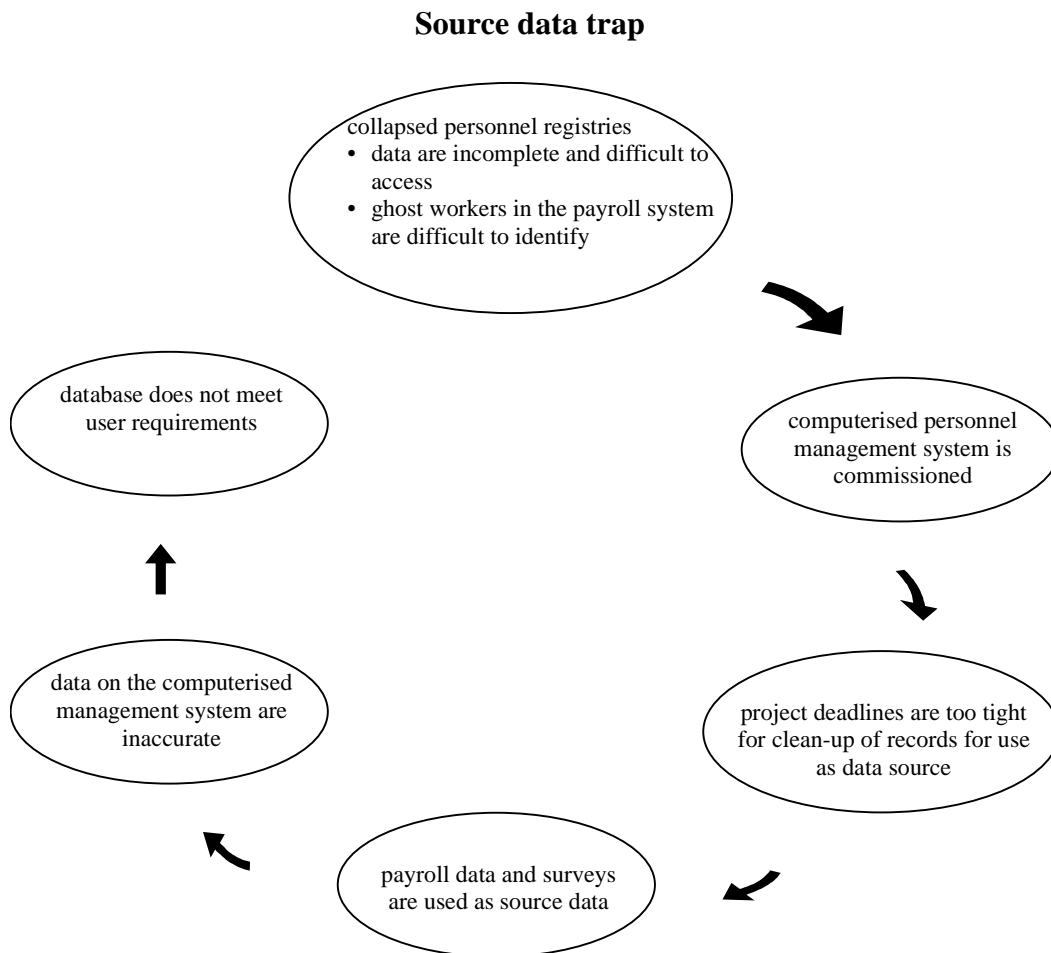
Activity 24

For example, too few filing cabinets might be caused by a growth in the number of files. Looking into this root cause further might reveal that the growth in number of files is the result of not closing off existing files while still adding new files. Digging deeper into the analysis, it may be revealed that files are not being closed off because there are no disposal schedules in place to indicate when they should be transferred to semi-current storage or disposed. Really getting to the bottom, or root causes, of

problems offers a richer understanding of the problem which can help to identify sound solutions. For instance, the initial response might have been to solve the problem of too few file cabinets by purchasing new ones. By analysing the problem, it is possible to see another solution, that is, develop and implement disposal schedules to release space in existing file cabinets. This solution not only saves the organisation money, but also improves overall efficiency.

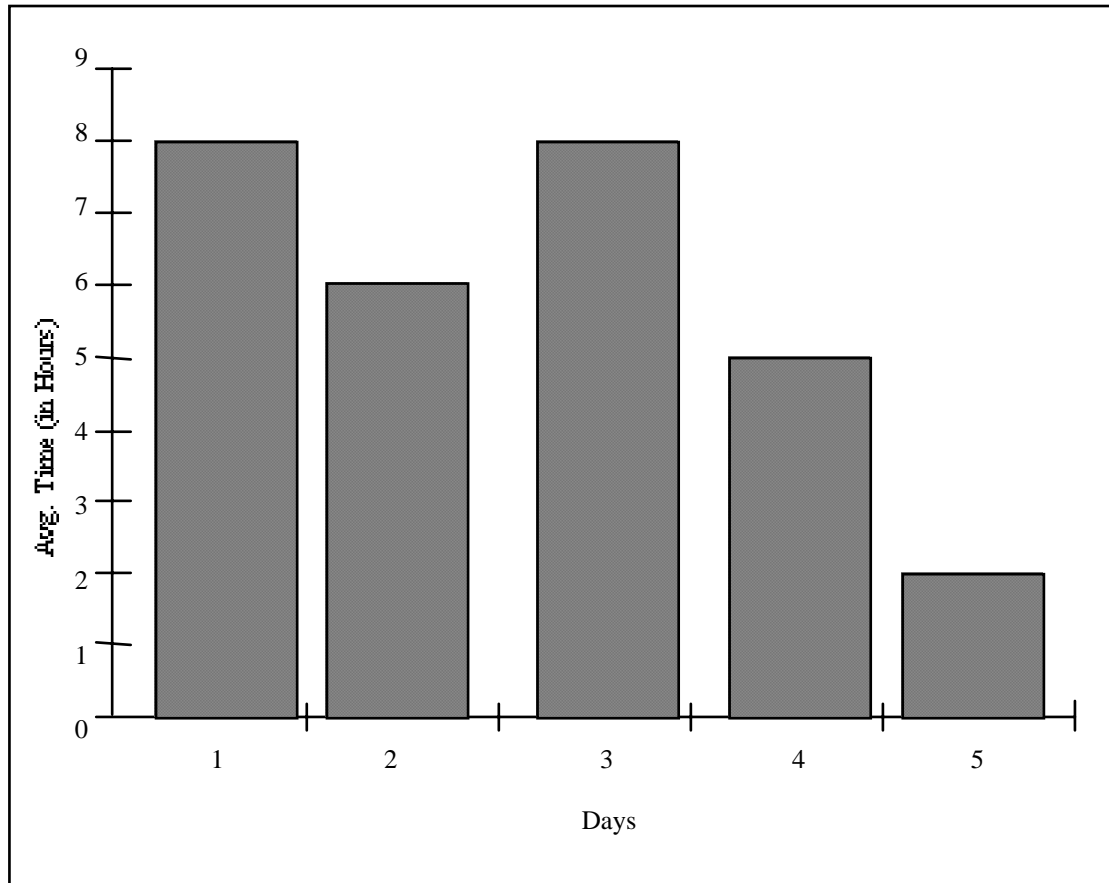
Activity 25

The causal loop diagram below shows how this statement might be depicted.



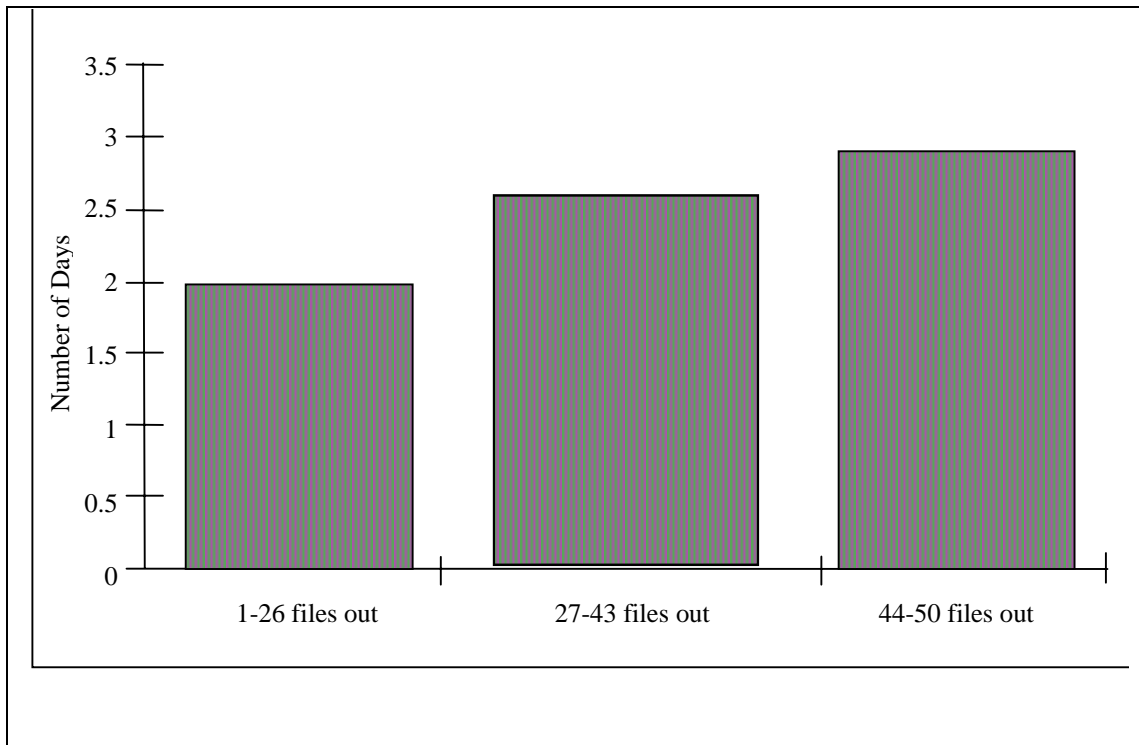
Activity 26

The Pareto chart should look as follows.



Pareto Chart Showing Average Time to Deliver a File

The Histogram should look as follows.



Frequency of Requested Files Signed Out

MANAGEMENT ISSUES AND BUSINESS SYSTEMS ANALYSIS

The last two lessons have introduced the methodology of BSA and discussed some of the techniques and tools that can be used to conduct business systems analysis. However applying the methodologies, techniques and tools discussed in the previous two lessons is not easy. It requires thoughtfulness and creativity in project planning, execution and the management of organisational change.

In this lesson, some of the most common causes for success or failure of a BSA project will be discussed. This lesson examines the management issues that must be considered when embarking on any business systems analysis work; it considers possible risks and how these might be avoided.

Although it may not be possible for you to avoid areas of risk altogether, the project will stand a much greater chance for success if you identify risks at the start of the project, adopt strategies to minimise them and track how well such strategies are working throughout the project.

At the completion of this lesson, you should have an understanding of

- the areas of risk that can result in the failure of a BSA project and how to minimise them
- the importance of selecting the correct level of analysis
- the importance of senior management support
- the importance of communication
- the importance of effective selection and management of BSA project personnel
- the importance of effectively managing change.

LEVEL OF ANALYSIS

Selecting the wrong process or level of analysis for a BSA project can keep you from achieving success. For example, if the scope of the project is too narrow, the project may not yield the anticipated benefits.

Consider a situation where you have been asked to review the operations of your archival institution because employee performance levels are down. It would be a mistake to limit the scope of the project to a review of only the human resource management aspects of the archival institution's operations. Other factors may be contributing to low employee performance. Do not forget that a BSA project must encompass an analysis of the entire organisation, its various components and the environment in which the system operates.

Nevertheless, records managers and archivists may face certain constraints in defining the scope of business systems analysis projects. Lesson 2 dealt with limitations presented when business processes cross organisational and functional boundaries. Given these limitations, it may not be possible to define the scope of a BSA project as broadly as the records manager or archivist ideally should. The project might have to be limited to a review of the operations over which he or she has direct responsibility.

Generally, the greater the authority of the project's sponsor, the greater the potential for the project's scope. While the authority of the records manager or archivist may not provide the kind of scope for analysis that he or she may desire, support can be enlisted from those with wider authority or with responsibility for the functional areas to be examined. It will be up to the records manager or archivist to determine the appropriate course of action by weighing the pros and the cons of the situation, the potential benefits of widening the project scope and the likelihood of success.

Activity 27

List at least two ways in which you can minimise the risks associated with defining your BSA project too narrowly.

SENIOR MANAGEMENT SUPPORT

Senior management support for any BSA project is critical. Such support is one of the means by which the records manager or archivist can overcome the limitations of his or her own sphere of influence in defining the scope of a BSA project. Because senior managers have wider authority, they can ensure that programme managers come together to review a problem.

Furthermore, senior management approval will be needed to obtain the resources (human, financial and technical) required to carry out project activities. In BSA projects involving major organisational changes, such as a public sector reform effort, the support of senior managers also is essential to cultivate acceptance of changes. Because the changes associated with a BSA project may take some time to implement, senior managers must be prepared to support the project over a long period of time

(for example, two to five years). If there is no support from senior management for a project, it is best not even to begin the project at all.

Activity 28

Using the BSA project you identified for the activities in this module, identify the persons in your organisation (by position title, not personal name) from whom you would need approval for your BSA project. Indicate briefly why you selected those positions.

COMMUNICATION

Communication is also essential to the success of a BSA project. Many projects fail because project sponsors and managers do not keep those not directly involved in the project informed about the project's purpose and progress. When communication outside the project organisational structure is inadequate, it tends to separate project participants from the rest of the organisation. Under such circumstances, it can become more difficult for project sponsors and managers to maintain external support for the continuation of the project. It is also difficult to secure support for organisational changes resulting from the project work.

It is a good idea, therefore, to hold education or awareness sessions about the project throughout the organisation to ensure that those not directly involved fully understand and appreciate what is taking place. The project manager must also take responsibility for communicating regularly about the progress of the project with those external to the project's organisational structure. Communiqués in the form of memos, meetings or office visits should focus on the benefits to the target audience and should portray these benefits in practical terms.

Activity 29

List three ways in which project aims and objectives might be communicated throughout the organisation.

SELECTING PROJECT PERSONNEL

The selection and management of project personnel can make the difference between a successful project and one that fails. A common mistake is to exclude people from the project who should be included. All stakeholders, or people with a vested interest in the outcome of the project, must be included, even if they are not fully involved at each step.

Another human resource management problem can occur when individuals are assigned to a project because they are ineffective or redundant in the context of the organisation's current operations. This is particularly common to projects with a low priority. To prevent this from happening, senior management must understand the strategic importance of the project and be prepared to support it by assigning the best staff to carry it out.

For more information on team building see Strategic Planning for Records and Archives Services.

Even when the very best staff have been assigned to the project, they may lack the necessary skills to participate effectively and bring the project to a successful conclusion. The project manager has an important role to play in identifying the skills that project participants will need, assessing each individual to determine their skill level and providing training as necessary. Individuals participating in a BSA project, at a minimum, will need to know about project management, BSA methods, tools and techniques and the organisation that is the focus of the analysis. Their own knowledge may be supplemented by the specific technical knowledge of subject matter experts, such as in the field of records and information management, information technology and so on.

BSA projects, especially ones that involve business process re-engineering (BPR), can continue for long periods of time. It is very unusual for project personnel to remain the same over the period of such long projects. The project manager must be prepared to deal with the inevitable gaps created when key members of the project team leave.

First, the replacement member must be briefed on the details and progress of the project. Second, and even more importantly, the new member must become comfortable with the already established project team values and modes of behaviour and learn to operate effectively as a new member of the team. It can take new members some time to be completely familiar with the project and comfortable with the team they have joined.

It can also be difficult to keep up project participants' enthusiasm for the project over an extended period. Nevertheless, maintaining this enthusiasm is critical to the successful completion of the project. Without it, the creative energy of project participants, which is so essential to identifying problems and finding solutions, will be lost. Furthermore, implementation of project recommendations is likely to be half-hearted without it.

Clearly defined project goals, objectives and benefits will help to prevent flagging enthusiasm. When project participants have a clear vision of the purpose of the project and can see how it will benefit the organisation and themselves, they usually are more willing to persist despite possible setbacks or delays. The project sponsor and manager also have important roles to play by setting examples. Enthusiasm is contagious; if the project sponsor or manager lacks drive, so will the participants.

The human resource demands of a BSA project can be easily underestimated. It can truly be a challenge to undertake such a project and yet at the same time sustain normal operations, especially during the implementation phase. The effort can tax both project participants and those who must continue the work of the functional areas or programmes that fall within the project's scope. This is an inevitable strain, but may be overcome by freeing staff time normally occupied with some lower priority duty or meeting.

For instance, you might decide to cancel all regularly scheduled staff meetings for the duration of the project in order to make time available for project participants to attend project team meetings or carry out project work. Other staff can use the free time to pick up the extra regular work which project participants do not have the time to do.

Also, you should communicate with customers of the functional area or programme under review to ensure that they understand the extra demand that the project is placing on organisational resources. If communication with customers is put in terms of the benefits they can expect upon completion of the project, they usually are open to accepting the short-term inconveniences that the project may cause.

Activity 30

In a project to restructure a ministry or departmental registry, which stakeholders would you involve? Why?

CHANGE MANAGEMENT

Often, a BSA project is initiated because of the need to make some kind of organisational change. Project sponsors, managers and participants must expect resistance to change and be prepared to deal with it. However, it is a fact that no one ever resists change if they think it will be good for them.

There are two key strategies for convincing those who will be affected by changes that those changes will benefit them: 1) involvement in the project and 2) communication about the project. The involvement of all stakeholders, can ensure greater acceptance of the organisational changes that must be made in order to solve system problems. If those who will be affected by the changes and those who have to implement them,

have helped to generate the ideas, they are more likely to see these ideas as their own and to embrace them.

However it is usually not possible to involve every person who might be affected by the project, so communication is another important tool to explain how the proposed changes will benefit everyone in the organisation. It is best to be concrete, practical and specific when describing benefits.

Quite often, the organisational changes that arise from a BSA project ripple throughout the organisation like a stone cast out on a pond. A change in one aspect of the organisation frequently necessitates changes in other aspects. It is precisely because an organisation is a system of interacting and interrelated components that consideration must be given to the possible effects that changes in one area will have on another area.

For example, the organisation's mission statement and guiding values may be re-defined and the structure and functions of the organisation changed to bring them into alignment with the organisation's mission. Once this is done, it may be found that the old way of compensating employees is no longer appropriate in the new organisational context. Failing to anticipate or take into account the ripple effect can, at a minimum, negate the benefits of the BSA project or, at worst, create new organisational problems.

Another cause of project failure is the tendency of participants to 'bite off more than they can chew.' They try to re-engineer too many processes at once. Or, having identified a number of organisational problems and their solutions, they try to make too many changes to the organisation's operations. Not only does the project quickly become unmanageable under these circumstances, but its very success is threatened.

When there is too much going on at once, it becomes difficult for the project manager to control the progress of the project. As a result, changes may not be implemented fully or properly. This can lead to incorrect conclusions about the effectiveness of the change as well as cause project participants and those external to the project to lose faith in the work that has been done. Care must be taken to assess the project's feasibility when defining its scope. Also, during the implementation phase, it is a good practice to implement one change at a time or limit changes to one process or functional area. This allows the effects of changes to be analysed before proceeding.

See Strategic Planning for Records and Archives Services for more on change management.

The benefits of a BSA project may not be fully realised because the project was not completed or was left half finished. A good project plan with clear objectives will increase the likelihood of its completion. However, planning alone will not keep the project on track. The project manager plays a pivotal role in ensuring the project progresses as planned. This person must use all available means, such as winning senior management support, involving stakeholders, communicating and so on, to overcome the hurdles of the project. This can be an immense challenge but is well worth the effort when the benefits of the project begin to materialise.

Activity 31

If you were responsible for initiating and implementing major changes in your organisation, what steps might you take to ensure acceptance of those changes? Outline at least three and explain why you chose those actions.

SUMMARY

This lesson discussed some of the management issues involved with BSA projects. The importance of selecting the correct level of analysis was emphasised. The lesson dealt with strategies for ensuring that the level of analysis does not become too narrow even when the focus of the project is only on one part or aspect of an organisation. Senior management support was also identified as a BSA project critical success factor, as was communication of project objectives and progress throughout the organisation. The importance of effective selection and management of project personnel was also discussed. Training, leadership and allocation of personnel are all essential to the successful completion of a BSA project. Finally, this lesson showed how effective management of change is critical to completing a BSA project successfully.

STUDY QUESTIONS

1. What are the management issues that you may encounter in conducting a BSA project? How many of these issues relate to technical aspects of the project? How many of them relate to human resource aspects of the project?
2. Of the management issues you identified above, which do you think are more difficult to manage: potential technical problems or potential people problems? Which contribute the most to the success or failure of a BSA project?
3. Why is it important to have senior management support for a BSA project?
4. Why is involvement of key stakeholders crucial to the success of a BSA project?
5. What role does communication play in the success or failure of a BSA project?
6. With whom should a project sponsor or manager communicate during a BSA project?
7. What means can a project sponsor use to communicate?

ACTIVITIES: COMMENTS

Activity 27

To overcome the limitations that occur when you are not able to focus the project scope as widely as you should you might consider

- enlisting the support of a senior manager with wider authority so that the scope of the project can be broadened
- enlisting the support of a manager with responsibility for a particular functional area that should be included in the scope of the project
- including areas outside your control in the analysis as part of the external environment and focusing system redesign initiatives on areas under your control.

Activity 28

It is important to ensure that senior managers are involved in and support a BSA project, as the project may require the cooperation of managers in many functional areas and the commitment of organisational resources. It is also important to include all stakeholders in functions, sub-systems and processes that fall within the scope of the BSA project.

Activity 29

The following methods of communication might be used:

- education or awareness sessions with different organisational groups or units
- communiques about the project and its progress in the form of memos or newsletters
- regular meetings or office visits with different organisational groups or units.

Activity 30

Typical stakeholders in registry operations include: registry users, senior management, archives staff and information technology staff. It is important to involve registry users because they are both customers and suppliers of registry processes. Their requirements for registry operations will be essential to determining how the registry should be restructured. Further, it is important to understand how they contribute to those processes in order to effect changes.

Senior managers must be involved to gain support for the resources required to conduct the project and make the necessary system changes arising from the BSA. Archives staff should be involved at the very least to assist in ensuring that registry

records of long-term value are identified and that mechanisms are in place to ensure their regular transfer into archival custody. Moreover, in some countries, the national archives has overall responsibility for managing the records life cycle and therefore should be included in the BSA project. IT staff should be involved when the review includes analysis of how process performance might be improved through the use of technology or when current systems are being reviewed.

Activity 31

You should ensure that people understand how the changes brought about by the BSA project will improve things for them. This can be achieved through involvement in the project of all system stakeholders and communication about the project and its progress throughout the organisation. You must also consider the ‘ripple effect’, that is, the effects when one aspect of the business system is changed on all the other aspects of the system. Care also must be taken not to try and implement too large a change or too many changes at once.

WHAT TO DO NEXT?

SUMMARY OF *ANALYSING BUSINESS SYSTEMS*

This module, *Analysing Business Systems*, has introduced the theoretical aspects of the subject of BSA in the first two lessons, moving from a general discussion of systems theory and how it relates to BSA to a discussion of how BSA relates to the management of recorded information. The last three lessons dealt with practical aspects of BSA, including methodologies, techniques, tools and management issues to help with

- planning and managing a project
- identifying issues and scoping the project
- gathering data
- analysing the data
- designing solutions
- implementing the design
- evaluating success
- managing change

ESTABLISHING PRIORITIES FOR ACTION

This module has introduced the principles and practices of business systems analysis. But which tasks should be undertaken first? Which are high priority and which are low? Each institution will make different decisions based on its present state of development, its needs, and short- and long-term plans. However, it is possible to offer some recommendations for action, to help the institution undertake business systems analysis as appropriate to its own situation.

Activity 32

Before proceeding with this lesson, consider the situation in your institution and the information provided in this module and then identify three priorities you would establish to undertake business systems analysis in your institution.

Consider the following as suggestions only.

Priority 1: Establish the Functions

Take a look at your organisation and determine what functions and activities are carried out. Initially do this at a high level. You may have to do a certain amount of background research at this stage, but try not to do too much. Save the detailed data gathering for later in the project.

Priority 2: Identify a Project

After establishing your list of functions and activities, develop a list of priorities for action. For the first project try to select an activity that is not too complicated and does not involve too many people. Once you are confident of the skills involved in a BSA project you can undertake larger, more complicated projects.

Priority 3: Create a Business Case

Even with small projects, it is important to know why you are doing it and what the benefits are. If you are the head of the institution, you probably do not need to get permission to conduct an internal project, but you still need to know what the benefits are. However, if you are a member of staff, you will need to convince your management that the project will be worthwhile. If the national archival institution wants to carry out a BSA project in another government ministry, it will always need to make a case for the project and get permission to carry it out.

Priority 4: Prepare a Project Plan

Regardless of the size of the project, it is important that it is planned properly. Timescales and objectives must be set, and project personnel selected. With small projects it is very tempting to skip the planning stage, but this temptation should be avoided. Even small projects can run over time or budget, or not meet their objectives.

GETTING HELP

Many institutions, particularly in developing countries, have limited access to advice on strategic planning. However, there are places you can go to get more information or to obtain assistance.

See the Additional Resources document for information on other organisations and associations involved with records and archives management generally.

National Organisations

In each country, the following national organisations are likely to exist and can give advice on various aspects of infrastructure development:

Ministries responsible for the civil service

for local practices in respect of business systems analysis

National Institute of Public Administration

for training, advice and literature on analysis and planning issues

International Organisation

The following agency could be contacted for assistance.

Commonwealth Association for Public Administration and Management (CAPAM)

1075 Bay Street

Suite 402

Toronto, Ontario

Canada M5S 2B1

Tel: +1 416 920 3337

Fax: +1 416 920 6574

email: capam@compuserve.com

website: <http://www.comnet.mt/capam/>

The aim of CAPAM is to enhance Commonwealth co-operation in improving managerial competence and achieving organisational excellence in government. CAPAM exchanges experiences on new developments and innovations in management in governments by building networks among elected and senior officials, academics and non-governmental organisations. CAPAM provides rapid access to information on best practices in government administration.

Activity 33

Find out if your institution has any information about any of the agencies listed above. Does your organisation receive publications, participate in conferences or meetings or otherwise work with any of these groups?

In your opinion, which groups should your institution consider communicating with first, if any, and what would you expect to achieve by doing so? How would you go about building a productive relationship?

ADDITIONAL RESOURCES

There are many publications available about management in general or about particular areas of management theory and practice. Some are more easily obtainable than others, and some more up-to-date than others. Older publications also contain valuable information and may be more easily found in libraries in your particular country or region than very new publications that have not yet circulated around the world. Core publications are identified with an asterisk (*).

Core publications are also identified in the Additional Resources document; refer to that document for information on more general publications on records and archives management.

Books

* Beniger, James. *The Control Revolution*. Cambridge, MA: Harvard University Press, 1986.

Dinsmore, Paul C. *Human Factors in Project Management*. New York, NY: American Management Association, 1990.

Flood, RL and Er Garson. *An Introduction to the Theory and Application of System Science*, 2d ed. New York, NY: Plenum Press, 1993.

George, Stephen and Arnold Weimerskirch. *Total Quality Management: Strategies and Techniques Proven at Today's Most Successful Companies*. New York, NY: John Wiley and Sons, Inc., 1994.

Groot, MC, et al. *Project Management in Progress: Tools and Strategies for the 90s*. Amsterdam, ND: Elsevier Science Publishers, BV, 1986.

- * Hammer, Michael and Champy, James. *Reengineering the Corporation: A Manifesto for Business Revolution*. New York, NY: HarperBusiness, 1993.
- Hammer, Michael and Steven A Stanton. *The Reengineering Revolution: A Handbook*. New York, NY: HarperBusiness, 1995.
- Handy, Charles. *Understanding Organizations*, 4th ed. London, UK: Penguin Books, 1993.
- * Harrington, James H. *Business Process Improvement*. New York, NY: McGraw-Hill, 1991.
- * Hill, Charles WL and Gareth R Jones. *Strategic Management: An Integrated Approach*. Boston, MA: Houghton Mifflin, 1995.
- McDonough, Adrian. *Information Economics and Management Systems*. New York, NY: McGraw-Hill, 1963.
- Morgan, Gareth. *Images of Organization*. Newbury Park, CA.: Sage Publications, 1986.
- Morris, Daniel and Joel Brandon. *Reengineering Your Business*. New York, NY: McGraw-Hill, 1993.
- Osborne, David and Ted Gaebler. *Reinventing Government*. New York, NY: Penguin Books, 1992.
- Pugh, DS, ed. *Organization Theory: Selected Readings*. London, UK: Penguin Books, 1984.
- Pugh, DS and Hickson, DJ. *Writers on Organizations*. New York, NY: Penguin Books, 1989.
- Rogers, Everett M and Rekha Agarwala-Rogers. *Communication in Organizations*. New York, NY: The Free Press, 1976.
- Roman, Daniel D. *Managing Projects: A Systems Approach*. New York, NY: Elsevier Science Publishing, 1986.
- Senge, Peter. *The Fifth Discipline*. New York, NY: Doubleday, 1990.
- * Senge, Peter, et al. *The Fifth Discipline Fieldbook*. New York, NY: Doubleday, 1994.
- Wilbrink, FHA. *Actimod-Enterprise Activity Modeling*. Eindhoven, ND: NV Phillips Gloeilampenfabriken, Corporate Automation TMS, April 1989.
- * Zigmund, William G. *Business Research Methods*. Fort Worth, TX: Dryden Press, 1994.

Articles, Monographs and Papers

Akotia, Pino. 'The National Archives of Ghana: New Responsibilities and Challenges.' *Records Management Quarterly* 28, 4 (October 1994): 33-35.

Barry, Richard E. 'Addressing Electronic Records Management in the World Bank.' In Margaret Hedstrom, ed. *Addressing Electronic Records Management Program Strategies*. Pittsburgh, PA: Archives and Museum Informatics, 1993, pp. 19-29.

Barry, Richard E. 'The Business Process Review/Archives-Records Management Dilemma.' Unpublished paper, 9 February 1994.

Barry, Richard E. 'The Changing Workplace and the Nature of the Record.' Unpublished paper presented at the Association of Canadian Archivists Conference, Regina, Canada, 16 June 1995.

Blunt, Peter. 'Cultural relativism, "Good" Governance and Sustainable Human Development'. *Public Administration and Development* 15 (1995): 1-9.

Commissioning, Marcia. 'TQM as seen in the USA.' *Q-Focus* 3, 3 (October 1995): 4, 7.

Duranti, Luciana. 'Diplomatics: New Uses for an Old Science (Part I).' *Archivaria* 28 (Summer 1989): 7-27; (Part II) 29 (Winter 1989-90): 4-17; (Part III) 30 (Summer 1990): 4-20; (Part IV) 31 (Winter 1990-91): 10-25; (Part V) 32 (Summer 1991): 6-24; (Part VI) 33 (Winter 1991-92): 6-24.

Ferguson, Stephney. 'Information Management and the Commonwealth Caribbean: Problems and Prospects.' Paper presented at the Caribbean Seminar on National Archives and the Challenges of Strategic Information Management, organised by the Commonwealth Records Association, Trinidad, 28 March-5 April 1995.

Hofstede, Geert. 'Management Scientists Are Human.' *Management Science* 40, 1 (January 1994): 4-13.

Hutchin, Nancy Lee. 'Thriving on Change: Some Hard Numbers on Reengineering.' *Enterprise Reengineering* 3, 1 (January/February 1996): 6.

Lutzker, Michael A. 'Max Weber and the Analysis of Modern Bureaucratic Organization: Notes Toward a Theory of Appraisal.' *American Archivist* 45, 2 (Spring 1982): 119-130.

[No author.] 'Total Quality Management: Some Recent Definitions.' *The Quality Express* (July 1995).

Osman, Abdul Magid. 'Civil Service Reform in Africa: Cultural Context.' In Chaudhry, Shahid Amjad, et al. *Civil Service Reform in Latin America and the Caribbean*. Washington, D.C.: The World Bank, 1994, 14-17. ISSN: 0253-7494.

Rapley, John. 'The State in Africa.' *Kingston Gleaner* (27 October 1995): 2.

Slyfield, Marie and Morgan, Paulette. 'Downsizing: Jamaica's Experience.' In Shahid Amjad Chaudhry, et al. *Civil Service Reform in Latin America and the Caribbean*. Washington, DC: The World Bank, 1994, pp. 116-19.

Thurston, Anne. 'The Management of Public Sector Records in the Commonwealth in Relation to Public Sector Reform.' Paper presented at the

Caribbean Seminar on Public Service Reform and the Challenges of Strategic Information, organised by the Commonwealth Records Association and the Caribbean Centre for Development Administration, Trinidad, 4-5 April 1995.

Thurston, Anne and Cain, Piers. 'The Management of Public Sector Records Project: Managing the Records Lifecycle.' *Information Development* 11, 4 (December 1995).

Standards

Standards Australia. *Australian Standard 4390 – Records Management*. Homebush, NSW: Standards Australia, 1996.

Activity 34

Check your institution's library or resource centre. What books or other resources do you have about planning and evaluation issues? Are any of the publications listed above available in your institution? If so, examine two or three of them and assess their currency and value to your institution. If not, identify two or three publications you think would be most useful to help develop or expand your professional library. Devise a plan outlining how you could realistically obtain copies of these.

SUMMARY

This lesson has provided an overview of the entire module, *Analysing Business Systems*. It has then discussed how to establish priorities for action and suggested that the main priorities for action are often as follows:

Priority 1: Establish the functions

Priority 2: Identify a project

Priority 3: Create a business case

Priority 4: Prepare a project plan.

The lesson then outlined ways to find out more information or get help with business systems analysis issues.

The lesson concluded with a discussion of valuable information resources relevant to business systems analysis issues.

STUDY QUESTIONS

1. In your own words, explain the reason why the priorities proposed in this lesson are offered in the order they are in.
2. Indicate two of the organisations listed in this lesson that you would choose to contact first and explain why.
3. Indicate two of the publications listed in this lesson that you would choose to purchase first and explain why.

ACTIVITIES: COMMENTS

Activity 32

Every institution will find itself at a different stage of development in terms of business systems analysis. The priorities established will have to take into account the particular needs of that institution, the region and the country. Remember, overall change takes a long time and is best done gradually and with the support of senior management. A good beginning can help gain that support.

Activity 33

If resources are limited, it is wise to communicate with national organisations first, as they can set your requirements in the wider national administrative context. However, you should also use international organisations to obtain information on best practice elsewhere to set against the national situation. Valuable information can be passed on to your organisation through the international group, which can save resources for all.

Activity 34

It is important to begin with general information and ensure you have a good resource library of introductory and overview publications before developing a more specialised library.