

Archives, Records & Information Management

BS(LIS)

Code No. 9222

Units: 1-9



Department of Library and Information Sciences
Faculty of Social Sciences and Humanities
ALLAMA IQBAL OPEN UNIVERSITY
ISLAMABAD

BS-4 Year Library and Information Sciences

**Archives, Records and
Information Management**

Course Code: 9222

Semester-VI

Course Coordinator: Muhammad Jawwad



**Department of Library and Information Sciences
Allama Iqbal Open University, Islamabad 2022**

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FOREWORD

Department of Library and Information Sciences was established in 1985 under the flagship of the Faculty of Social Sciences and Humanities intending to produce trained professional manpower. The department is currently offering seven programs from certificate course to PhD level for fresh and/or continuing students. The department is supporting the mission of AIOU keeping in view the philosophies of distance and online education. The primary focus of its programs is to provide quality education through targeting the educational needs of the masses at their doorstep across the country.

BS 4-year in Library and Information Sciences (LIS) is a competency-based learning program. The primary aim of this program is to produce knowledgeable and ICT-based skilled professionals. The scheme of study for this program is specially designed on the foundational and advanced courses to provide in-depth knowledge and understanding of the areas of specialization in librarianship. It also focuses on general subjects and theories, principles, and methodologies of related LIS and relevant domains.

This new program has a well-defined level of LIS knowledge and includes courses of general education. The students are expected to advance beyond their higher secondary level and mature and deepen their competencies in communication, mathematics, languages, ICT, general science, and array of topics social science through analytical and intellectual scholarship. Moreover, the salient features of this program include practice-based learning to provide students with a platform of practical knowledge of the environment and context, they will face in their professional life.

This program intends to enhance students' abilities in planning and controlling library functions. The program will also produce highly skilled professional human resources to serve libraries, resource access centers, documentation centers, archives, museums, information centers, and LIS schools. Further, it will also help students to improve their knowledge and skills of management, research, technology, advocacy, problem-solving, and decision-making relevant to information work in a rapidly changing environment along with integrity and social responsibility. I welcome you all and wish you good luck for your academic exploration at AIOU!

Prof Dr Zia Ul-Qayyum
Vice-Chancellor

PREFACE

The discipline of records management, which includes a responsibility to manage all information, is fundamental to every information governance program. The field of management is responsible for establishing and implementing policies, systems, and procedures to capture, create, access, distribute, use, store, secure, retrieve, and ensure the disposition of an organization's records and information. Information management is the practice of ensuring a consistent flow of organizational information through a defined lifecycle that starts with its conception or capture through to its archival or disposition.

While information governance serves as the guideline for the organization's overall information strategy, information management is the tactical execution of that strategy. Among the changes is the growth of the Internet of Things, the extreme volume and variety of data produced at a velocity hereto unmatched; the increased necessity of employing technology to categorize, analyse, and make use of the data; the recognition of the value of information assets; and the emergence of new business models that leverage the power of algorithms to manipulate data.

What has not changed since prehistoric times is our desire and need to create, capture, control, make use of, preserve and at times destroy records that document our personal and work lives. Advances in technology to facilitate the creation and management of records continue to introduce challenges that require technological solutions to resolve. Increasingly those solutions are offered by third-party cloud providers. In addition to employing machine learning and artificial intelligence to analyse data, vendors are offering blockchain technology to generate proof that records are authentic, verifiable, and possess integrity.

The terms *recordkeeper*, *records manager*, *records and information manager*, and *records professional* are used interchangeably in this subject the area of practice to describe those who have recordkeeping responsibilities, including archivists, records managers, and information managers, regardless of their job title (e.g., digital archivist, knowledge management advisor, information governance specialist). The breadth of knowledge expected of the successful records professional continues to expand.

It now includes the need to better understand not only the business process but also the goals of the organization from a business perspective. In addition to the domain of records and information management, records professionals must master the fundamentals of related fields, including compliance, data governance, risk management, change management, and project management. This study material, therefore, differs from traditional records management works by placing equal emphasis on the business operations from which records arise and how the records professional can contribute to the core mission of the enterprise beyond the lifecycle management of records.

Dean
Faculty of Social Sciences and Humanities

ACKNOWLEDGEMENTS

All praise to Almighty Allah who has bestowed me with the potential and courage to undertake this work. Prayers and peace be upon our Prophet Hazrat Muhammad, his family and all of his faithful companions.

I am thankful to the worthy Vice-Chancellor and the worthy Dean, FSSH for allowing me to prepare this study guide. Without their support, this task may not be possible. Further, they have consistently been a source of knowledge, inspiration, motivation, and much more.

I am highly indebted to my parents, spouse, siblings, and children, who allowed me to utilize family time in the completion of this work timely. Their continuous prayers kept me consistent throughout this journey. I would also appreciate the cooperation of my departmental colleagues extended to me whenever required. Special thanks to the Academic Planning and Course Production (APCP) and the Editing Cell of AIOU for their valued input that paved my path to improve and finish this study guide following AIOU standards and guidelines. They have been very kind and supportive as well.

I would also like to thank the Print Production Unit (PPU) of AIOU for their support concerning the comprehensive formatting of the manuscript and for designing an impressive cover and title page. Special thanks are also owed to AIOU's library for giving me the relevant resources to complete this task in a befitting manner. I am also thankful to ICT officials for uploading this book to the AIOU website. There are many other persons, whose names I could not mention here, but they have been a source of motivation in the whole extent of this pursuit.

Muhammad Jawwad
Course Coordinator

OBJECTIVES OF THE COURSE

After completion of this course you will be able to:

1. Understand the evolution of records and information management and its role in information governance.
2. To introduce the reader to records creation, capture, classification, and file plan development.
3. To build an information governance framework of policies, processes, and compliance upon strong records and information management principles.
4. To present records retention strategies useful to those organizations that stress the role of retention and disposition in the overall information governance approach.
5. To describe ways in which records and information managers can contribute their expertise during the active phase of the information lifecycle to decisions being made about workflow processes, access controls, storage systems, metadata, and the search and retrieval processes.

Recommended Readings:

1. Franks, P. C. (2018). Records and Information Management. 2nd Ed. Chicago: ALA, Neal-Schuman.
2. Saffady, W. (2021). Records and Information Management: Fundamentals of professional practice. 4th Ed. New York: Rowman & Littlefield.

COURSE ORGANIZATION

The course has been designed as easily as possible for distance mode of learning and it will help students in completing his/her required course work. The course is of three credit hours and comprises nine units, each unit starts with an introduction which provides an overall overview of that particular unit. At the end of every unit, the objectives of the unit show student the basic learning purposes. The rationale behind these objectives is that after reading the unit a student should be able to explain, discuss, compare, and analyze the concepts studied in that particular unit. This study guide is specifically structured for students to acquire the skill of self-learning through studying prescribed reading material. Studying all this material is compulsory for the successful completion of the course. Recommended readings are listed at the end of each unit. A few self-assessment questions and activities have also been put forth for the students. These questions are meant to facilitate students in understanding and self-assessment that how much they have learned.

For this course, a 3-days workshop at the end of the semester, and four tutorial classes/meetings during a semester will be arranged by the department for learning this course. Participation/attendance in a workshop is compulsory (at least 70%). The tutorial classes/meetings are not formal lectures as given in any formal university. These are meant for group and individual discussions with tutors to facilitate students learning. So, before going to attend a tutorial, prepare yourself to discuss course contents with your tutor (attendance in tutorial classes/meetings is non-compulsory).

After completing the study of the first 5 units 'Assignment No. 1' is due. The second assignment that is 'Assignment No. 2' is due after the completion of the next 4 units. These two assignments are to be assessed by the relevant tutor/resource person. Students should be very careful while preparing the assignments because these may also be checked with Turnitin for plagiarism.

Course Study Plan and Chart

As you know the course is offered through distance education, so it is organized in a manner to evolve a self-learning process in absence of formal classroom teaching. Although the students can choose their way of studying the required reading material, but advised to follow the following steps:

Step-1: Thoroughly read the description of the course for clear identification of the reading material.

Step 2: Read carefully the way the reading material is to be used.

Step 3: Complete the first quick reading of your required study materials.

Step 4: Carefully make the second reading and note down some of the points in a notebook, which are not clear and need full understanding.

Step 5: Carry out the self-assessment questions with the help of study material and tutor guidance.

Step 6: Revise notes. It is quite possible that many of those points which are not clear and understandable previously become clearer during the process of carrying out self-assessment questions.

Step 7: Make a third and final reading of the study material. At this stage, it is advised to keep in view the homework (assignments). These are compulsory for the successful completion of the course.

Assessment/Evaluation Criteria of Students' Coursework

As per AIOU's policy.

Note: Assignments submission and getting passing marks is compulsory, the student who will not submit assignments or is marked as fail is considered FAIL in the course. He/she will need to get fresh admission to the course.

Muhamad Jawwad
Course Coordinator

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Unit: 1

**ORIGINS AND DEVELOPMENT OF RECORDS
AND INFORMATION MANAGEMENT**

**Compiled by: Muhammad Jawwad
Reviewed by: Dr Amjid Khan**

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INTRODUCTION

This unit is developed to teach students what is the historical background of Records and Information Management, and how records are managed in the information and technological age. This also covers the additional challenges faced by archive managers to manage electronic records. What are various communication technologies available to facilitate records and information management? The unit will discuss records and information management procedures from its origin to recent emerging technological changes to conduct business, records creation, management and efforts to pursue their core mission this will help the Records and information managers who understand the way work is conducted in their organizations have a better chance of identifying and providing intellectual and/or physical control over the information created.

OBJECTIVES

After studying this unit, you will be able to understand:

- Meaning and definition of records and archives.
- Records and information management processes established historically.
- The digital age and record management.
- Communication technologies and record management efforts and practices.
- Latest trends in records and information management.

1.1 Introduction

Records and archives have been in existence since mankind acquired the ability to record information in writing. The earliest keeping of records and archives can be traced to the Ancient Civilizations when records of birth, property, law, money tax and official and private transactions began to be kept facilitating the conduct of government business, and for education, religion and family purposes. The medium on which this information was recorded differed from society to society as well as from age to age ranging from the clay tablets of the Assyrian and Babylonian Empires of the third millennium to the wooden tablets that found their way into Greece, the papyrus scrolls of Egypt and the parchment and vellum of Medieval Europe. The formal practice of records management has a surprisingly interesting history. Over a century ago, attitudes and processes were far less methodical, and records were retained haphazardly – if at all. Changing laws, technologies and the needs of an increasingly interconnected world have spurred businesses and governments to improve their record management systems in recent decades.

The reasons why records and archives were kept were very clear. To prove your right to the possession of a certain piece of land you needed title deeds; to determine the size of the population being governed and therefore the taxes that should be collected you required records of birth and death; to enforce government laws and regulations it was necessary to keep a record of the laws, decrees and edicts. The keeping of records and archives was therefore not a luxury but a necessity which depended one's ability to continue to rule and to have rights and privileges. The records and archives were also preserved to prove the rights and privileges of those who were being governed. In Roman Egypt, for instance, every provincial capital had a central record office known as a “*demosia Bibliothek*” where officials were required to deposit certain records relating to the census, tax, land and other official transactions. These record offices were open to the public who could come and inspect the records.

The growth and development of records and archives have, however, not been uniform throughout the world. As with most other things some societies gained certain capabilities earlier than others. Concerning records and archives, those societies that developed their organizational structures earlier often developed comparative recording infrastructures to document their activities. The capability to keep records and archives was thus attained first by those societies that learnt to write and record. While these societies did not develop in isolation as is evidenced by the record-keeping practices in Roman Egypt which had borrowed elements from the Roman and Asian Empires, nevertheless the nature of the records and

archives ensured that to a large extent each society had its record and archive keeping practices that were uniquely different from those of other societies.

This is not surprising for it is the essential and distinguishing nature of records and archives. Records and archives are the by-products of the activities of a particular entity. While their creation may be a deliberate and controlled activity, they are not created for their own sake in the way that someone writes a book or a story. They are the residue of certain transactions whose nature can differ so widely from governing to conducting business, manufacturing products, selling goods and managing money, materials and people. In all these activities records and archives are essential elements but not the primary reason for the undertaking of the activity. Since activities generate information, this information must be organized, and managed and it is this that has resulted in the rise and establishment of the discipline of records management and archives administration.

1.2 Records and Archives

The distinctions that today we make between records and archives have not always existed nor can they be said to have universal applicability and acceptability. There is a wide variety of views as to what constitutes information, records and archives. The word "archives" has its origins in ancient Greece whereas "archeion" it was used to refer to government records belonging to an office. Usage has however changed over the centuries, and it is nowadays generally used to designate a building or unit within a building where archives are stored, an agency or administrative unit responsible for administering archives and to refer to information that through various processes and qualifications has been identified as constituting archives.

It is, however, very difficult at times to distinguish between records and archives. In the United Kingdom and in several countries that at one time or another were under British colonial domination, records are used to refer to what in such countries as the United States would be known as archives. Thus, in the United Kingdom, the main institution in which central government archives are kept is known as the Public Records Office. In the United States on the other hand the comparative institution is known as the National Archives and Records Administration, and this is similar to many countries that have what are known as National Archives.

The differences that exist in terminology may seem trifle and artificial but in reality, they have an important bearing on how custodians of records and archives and the archival institutions themselves view their role and responsibilities towards archives. They are differences that in the 1950' s and 1960' s separated the work and thinking of Hilary Jenkinson from that of Theodore Schellenberg. In chronological, historical and geographical terms they have come to mirror the differences in practice between the traditional archives school of thinking as represented by those with long traditions of record creation and keeping and those in more recently established societies that were created only in the last four or five centuries. They are differences that have determined the definition and scope of archival work and the activities and services that archivists can be expected to perform and provide. In many ways, they are central and critical to the gap that now exists between the creators and users of records and archives and the custodians.

To understand the position in which archivists and archival institutions find themselves today it is necessary to briefly discuss how archival practice has developed. The record keepers of Ancient Babylon, Egypt, Greece and Rome did not make the finer distinctions that today are made. As records were created mechanisms for their retention were developed and the practices of records and archives keeping took firm root and eventually spread to other parts of the world. The developments that took place in Europe set the pace of records and archival practice from the period of the Dark Ages, the Barbarian Kingdoms with their dependence on clerics, the role of the monasteries, the carrying of charters by French kings from place to place in the fourteenth and fifteenth centuries, the development of registries, the rise of bureaucracies and the creation of archive schools at Ecole des Chartes and Marburg: all these were landmarks that set and established the broad parameters of records and archives keeping. The decisive event in the development of records and archives practices was however the French Revolution which led to the establishment of a central government archival institution, the enshrinement of the principle of the responsibility of Governments to look after archives and the right of public access to Government records.

1.3 Records and Information Management

In general, as archivists ended the nineteenth century and entered the twentieth, they established a body of theory and practice to guide them in their activities. Their duties were broadly demarcated and understood, encompassing the acquisition, accessioning, arrangement, description and preservation of archives and the making available of these archives to scholars, researchers and others. The main

preoccupation was with the records of the central government and various public institutions such as local authorities. Business archives existed and were often acquired and preserved together with the papers of individuals that were usually referred to as Historical Manuscripts, but this was relatively subsidiary to the custodianship of governmental records and archives. Archival work was scholarly, calling for personnel with proven academic backgrounds and a strong sense of history. Archival work did not include involvement with records which were being created and which were in active and semi-active use. It encompassed the rendering of assistance to enable appraisal decisions to be made leading to the transfer of the archives to the archival institution. As records management gained momentum in the twentieth century and records managers began to appear on the scene theirs was seen as obviously a less noble calling which in no way could be compared with the role of archivists.

Clearly, the preoccupation was with servicing the needs and requirements of academic scholars and researchers. While the generators and creators of the records occasionally needed to consult the records and archives, this was on a very small scale. Little was it realized that if the records and archives were there to serve the needs of those who created them then their handling and management had to be related to these needs.

In short, it is to denote that information which is current and semi-current use while archives will refer to those records which through some appraisal mechanisms have been identified as having a permanent and enduring value and therefore meriting permanent retention. It should be noted that archives are not synonymous with non-current records as the latter refers both to archives and to other records with a shorter-term value that will after a while be disposed of.

1.4 Historical Background of Records and Information Management

If we look at a brief history of records management going back in time to the late 19th century. Our timeline will highlight several firsts: when businesses and governments adopted formal records management procedures when they outsourced their needs to an external specialist, and when records went digital.

1.4.1 Late 19th century to early 20th century

In the early history of records management, there were simply no set rules or regulations governing records retention. Businesses and governments held onto documents according to their individual needs. Practical considerations like

finance, space and resources played a huge role in determining how records were kept – and for how long. As soon as records were no longer necessary, or if storage costs became too costly or inconvenient, they were tossed. There were no formal processes or legal guidelines for their destruction. Records were disposed of in much the same way they were stored; in whatever fashion best served the business or government in question. However, efforts were afoot to solidify records management best practices. In the UK in the late 19th century, three government bodies came into effect to pass laws that would regulate the retention of specific records.

The Public Record Office was created in 1838 to focus on the preservation of key public records. Its mandate included making sure these records were accessible to researchers. The Royal Commission on Historical Manuscripts was appointed in 1869 to regulate the retention of private records as per the functions of the Historical Manuscripts Commission. Her Majesty's Stationery Office was founded in 1786 and, since 1889, has operated as the holder of the Crown copyright and official printer of all Acts of Parliament.

1.4.2 Mid-20th century

The post-war economic boom in the 1950s and 1960s had a positive impact on businesses across the board. As a result, several specialized document storage facilities were established countrywide. To begin with, most records management firms operated in a specific area and served only local businesses. However, before long, a growing number of records management companies began to provide services that linked different areas. These companies-built warehouses in prime locations in various cities and towns and invested in trucks. This enabled them to pick up and deliver documents between branches and meet the records retrieval needs of bigger clients with more geographical spread.

1.4.3 The digital age

The introduction of computers into the business world in the 1970s changed records management significantly. Word processing software produced volumes of documents at a rapid rate. An increasing rate of document production and the development of document retention laws stimulated the need for even more sophisticated levels of records management. New laws soon came into effect to provide some guidelines, specifically to ensure that businesses retain records for certain periods. Around this time, records management firms began to digitize files and store them electronically.

The 1980s were characterized by further technological breakthroughs, such as barcode scanners. This revolutionized records management and security; with a barcode affixed to each box or individual file, scanners could now keep track of a document's whereabouts and provide easy identification. Compact discs (CD) also became widely available. This allowed businesses to store thousands of documents on a portable disc. Suddenly businesses had more office space and fewer costs associated with paper document retention.

In the late 20th century and early 21st century, the invention of digital scanners means that documents can automatically be converted into digital files. This is an enormous time-saver. As we look to the future, the office is becoming increasingly paperless and reliant on digital solutions. At the same time, data privacy and security sit firmly atop the list of challenges for many businesses – and they must now ensure compliance with the General Data Protection Regulation – the biggest legislative shakeup of its kind for 20 years.

1.5 Information Technology, Records, and the Information Age.

In the United States, records management policies and procedures were implemented and modified over time as a result of an increasing volume of information generated by a growing population using emerging technology. This technology, which would eventually converge, initially followed two discrete paths: (1) computers for data processing and (2) electronic typewriters and word processing equipment for text processing.

Although the term *digital* was first used in 1938 to describe a computer that operates on data in the form of digits, the federal government did not introduce legislation concerning machine-readable materials until 1950 when the US Federal Records Act was expanded to establish the framework for records management in federal agencies.

The first model of the Electromatic typewriter was completed in March 1930, and a new division of IBM, Electromatic Typewriters, was formed in 1933. This product greatly increased typing speeds and the ease with which documents could be created, resulting in the growth of paper records.

In 1961, IBM introduced the Selectric typewriter, which could print faster than previous typewriters because the moveable carriage had been replaced with a revolving type element (ball). The removable element also allowed the operator to

select among different types of fonts. This was followed in 1964 by IBM's MT/ST (Magnetic Tape/Selectric Typewriter), which combined the features of the Selectric with a magnetic tape drive that could hold one to two pages of text. The text on the magnetic tape could be corrected and reprinted to produce as many copies as desired, and then the tape could be reused for other projects.

This was the beginning of word processing technology that eventually would offer additional features at lower costs as more manufacturers entered the market. Word processors served as stand-alone office machines through the 1970s and 1980s, in most instances to replace the electric typewriter. As features including display screens and the ability to print to a dot matrix printer were added to personal computers, most business machine companies stopped manufacturing dedicated word processors.

Some scholars assert that the information age, which arguably began with the advent of personal computers in the late 1970s, brought about a transition from a paper-based records environment to a hybrid environment that includes digital records. Despite claims that we would soon see a paperless office, the ease with which documents could be created, edited, stored, retrieved, and printed resulted in a growth in the volume of paper records.

1.6 Electronic Records Bring Additional Challenges

In 1976, Ethernet (a computer network architecture) was developed to provide distributed packet switching for local area networks (LANs). The LANs provided a means for organizations to encourage employees to file documents, spreadsheets, and other work-related files in their private folders or department folders, where the records could be subject to records management policies. During much of this time, though, printing copies of documents and storing them in file cabinets were standard practices. As the volume of records grew throughout the 1980s, organizations searching for more efficient means to store and manage information turned to electronic document management systems (EDMS).

In addition to increasing accountability for the organization, EDMSs helped to enforce records management policies and procedures. A major problem with the use of EDMSs was the inability to access information when away from the office, which was increasingly the circumstance encountered by a more mobile workforce. Staff copied information to their laptops for use when out of the office and then uploaded files to the EDMSs when they returned.

1.7 Communication Technologies

To this point, we've discussed technologies used to record events and transactions, either for use in daily operations or to share information with future generations. However, in 1965 a method was developed for the primary purpose of facilitating communication among colleagues. Communications technologies would eventually be used to produce records that also had to be identified and managed.

1.7.1 Email

An email was introduced at the Massachusetts Institute of Technology (MIT) in 1965. The system called MAILBOX began with the concept of leaving an electronic note in people's directories so they could see it when they logged in.²⁰ Soon after, Ray Tomlinson, an ARPANET (Advanced Research Projects Agency Network) subcontractor to the US Department of Defence, wrote a program to alert users that they had a message in their directory if they were using dumb terminals to access the same mainframe computer. When computers became networked, a better system was needed to exchange messages. Tomlinson is also credited with inventing internet-based email in 1971. His contributions included a file transfer protocol to adapt the local SNDMSG mail program to send electronic messages to any computer on the ARPANET network and the use of the @ symbol to tell which user was at which computer.²¹ Those early addresses would be written as *sender-name@computer-name* to *recipient-name@computer-name*. By 1974, there were hundreds of military users of email; by the end of the 1970s, 75 per cent of all ARPANET traffic was email.²²

In all of 1978, 5,000 email messages were sent; by the end of 2021, the total number of business and consumer emails sent and received each day is expected to reach 319.6 billion.

Records and information managers understand that although storage may not be a major factor due to declining costs, time wasted searching through and reading irrelevant communications, or even more time-consuming, retrieving and redacting information to present email for e-discovery, can be substantial. Today organizations have the option of outsourcing their email systems to take advantage of potential benefits, including:

Ease of management: IT staff are not required to manage on-premises email systems, and hosted services can offer customer support 24 hours a day, 7 days a week.

Cost-effectiveness: Email that lives in the cloud often costs less than in-house, server-based email platforms.

Productivity enhancement: Hosted communication solutions can offer more functionality than email, for example, scheduling and information-sharing tools.

Flexibility: Employees can access outsourced email from any location using a variety of devices, such as smartphones and tablets.

Data protection: Outsourced email resides outside of the organization's data centre and server, so email messages will not be destroyed by a natural or man-made disaster that strikes the organization. Hosted services offer their data protection (e.g., daily backups) and security features (e.g., protection to reduce spam and detect intrusions).

Email systems are communication systems, not management systems. However, several email management systems exist that provide records management and retention functionality.

1.7.2 Instant Messaging (IM) and Online Chats

In the early 1990s, software was designed to set up chat rooms on web servers. People typed in messages that could be seen by everyone in the room. Early chat rooms allowed the equivalent of instant messages for everyone within the room. Early instant messaging became a chat for two. Today, instant messaging (IM) provided by services such as Skype allows more than one contact to be created, resulting in a group instant message.

In 1996, an Israeli company, Mirabilis, introduced a free IM utility called ICQ, a homophone for *I seek you*. It used a client residing on the user's computer to communicate with an ICQ server whenever the user was online, and the client was running. AOL acquired Mirabilis in 1998 and named the IM utility AIM (AOL Instant Messenger). When AOL sold AIM in 2010 to Digital Sky Technologies, a Russian internet company later renamed Mail Group, it had over 100 million registered accounts and had been updated to allow for integration with Facebook and other websites.²⁴ Today ICQ versions include ICQ Online, ICQ8 for Windows, and ICQ for Android, IOS, and Windows Phones.

Records and information managers may wonder about the implications of using this service on multiple devices and how ownership by a foreign entity impacts their ability to comply with their home countries laws and regulations. Today there are many instant messaging services available—WhatsApp, Facebook Messenger, QQ Mobile, WeChat, Skype, Snapchat, Viber, and Line to name a few.²⁵ To alleviate the inconvenience of having to switch IM services when communicating with users

of different applications, users can employ an aggregator such as All-in-One Messenger or Franz.

Despite the introduction and growth of social media, according to BI Intelligence, the number of monthly active users for the top four messaging apps has surpassed the number of active users for the top four social networks.²⁶ Employees used to the convenience of using IM in their daily lives will find a way to incorporate IM into their work lives. Organizations that understand the benefits and risks related to IM have an alternative to prohibiting its use: they can offer an enterprise solution. For example, IBM employs and offers. Sametime to replace voicemail to see when contacts are online and communicate with them effortlessly in real-time. IBM Sametime provides instant messaging with online presence indicators and community collaboration in the form of integration with voice and video conversations, group chats, online meetings, and instant polls.

Records managers will appreciate the documentation of online messages using time and date stamps and a log of sent files and links.

Although not as popular as they once were, online chat rooms offered by platforms such as Twitch, Migme, and Nimbuzz provide individuals with the opportunity to chat with others anonymously based on specific topics, such as autism spectrum disorder. Businesses increasingly offer chat services for customer support, such as live chat, that allow firms to interact with customers surfing their websites and provide customer service 24/7 through the use of a ticketing system.

Although some of the previous events occurred after the year 2000, they seem conservative compared to the technologies to be described in the next section. This is where the disruptive change brought about by new technology and evolving societal views and expectations can be most strongly felt.

1.7.3 Web 2.0, social media, and Society.

Until the end of the twentieth century, electronic systems were used mainly to conduct and record business transactions. But early in the twenty-first century, these *systems of record* were augmented by *systems of engagement*. By 2004, Facebook was founded, followed by YouTube one year later; it became easy to publish content on these websites. The authoritarian, closed, passive, static, one-way communications medium offered by early webmasters became democratic, collaborative, active, dynamic, and interactive. The organization no longer had complete control of the message or the record.

In the past, organizations introduced technology to employees in a top-down fashion, but the introduction of social media into the workplace was often bottom-up. As a battle between email and social networks for users' time and attention gained momentum, consumers increasingly turned to mobile devices for social activities. Employees, comfortable using social media in their personal lives, found ways to introduce Web 2.0 tools into the workplace, and the acronym BYOD (bring your device) was coined to describe the business acceptance of the use of personal devices to conduct business.

Records managers must be familiar with Web 2.0 tools and technologies, be aware of current implementation strategies within the organization, and be able to identify and manage the records created as a result of such implementation.

1.7.4 Web 2.0 Tools

Web 2.0 tools are used for communication, social networking, and web publishing, as well as to provide and acquire web services (see figure 1.5). A Pew Research Fact Sheet revealed that by the beginning of 2017, 69 per cent of the US population used some type of social media. Social media tools continue to evolve, and the lines between blogs, microblogs, and social networks have all but disappeared. The convergence of functions continues as successful social media platforms add new features to attract additional subscribers. For our purposes, though, we'll review the tools and categories as they are represented in each of the four spheres of activity of the Web 2.0 model.

1.7.5 Tools That Facilitate Communication

Communication tools have blurred the lines between journalist and reader, publisher and user, and communicator and broadcaster. It's simple and inexpensive to develop content and share it with the world.

a) RSS (Really Simple Syndication)

RSS is a form of web coding for delivering regularly changing web content directly to the subscriber. Many news-related sites, personal blogs, and other online publishers use RSS feeds to syndicate their content, which can include text, music, and images. To enjoy the content, you must subscribe to a feed using a program called an *aggregator* or *feed reader*. Programs and add-ons can provide RSS functionality to email clients and browsers.

Feedly is a popular, easy-to-use web-based RSS reader. Apps for the iPhone, iPad and Android devices will synchronize read status with Feedly on multiple devices.

b) Text and Photo Messaging Tools

Most cell phones support Short Message Service (SMS), commonly known as *text messaging*. SMS allows one device to send and receive short messages of up to 160 characters to another device. Today, most cell phones also allow the transmission of pictures, video, or audio content to another device using Multimedia Messaging Service (MMS), an evolution of SMS.

The ease with which smartphone users can take and share photos gave rise to the popularity of apps like Instagram and Snapchat. Those who did not want to keep a record of the exchanges applauded the fact that the photos shared through Snapchat were ephemeral (self-destructive after only a few seconds). There are ways to get around this, of course; for example, screenshots can be taken of photos on Snapchat. Although Snapchat alerts the sender when this occurs, it cannot delete the copy. Snapchat users can capture disappearing photos or videos, add overlaid text and imagery, and send them privately to friends or broadcast them as a Snapchat Story. Snapchat also provides a limited data storage service called Memories that users can turn on or off. Instagram, a Facebook-owned app, launched its version of “stories” in 2016, resulting in a decrease in views of stories on Snapchat.

Because marketing dollars follow views, marketing campaigns devoted more resources to Instagram and fewer resources to Snapchat. Records managers should keep abreast of these types of events that impact business decisions and result in changes in the social media tools used.

c) Audio and Video Messaging Tools

Podcasting is a way to receive audio and video files over the internet on a mobile device or desktop. Companies like eBay, GE, Netflix and State Farm employ podcast companies to develop creative content for them, but tools are available to allow individuals to create their podcasts. eBay’s successful podcast series, *Open for Business*, explores key issues businesses face, such as “Hiring, Firing and Scaling: Creating a Workplace Culture.” Video files (vodcasts) can be used to create a diary, journal, or blog. Twitch, a social video platform and community for video gamers recommends using vodcasts to entertain followers while interacting using chat.³⁶ Vodcasts can be created to share knowledge, document meetings, and more.

1.7.6 Tools That Facilitate Content Creation and Self Publishing

Blogs and microblogs can be used to establish communities of interest by promoting interaction between and among publishers and readers. Additional tools in this sphere are wikis and mashups.

Blogs

Blogs (web logs) began as a form of personal online journals intended for public consumption. More than one person is often authorized to post on behalf of an organization. Posts are added to a single webpage in reverse-chronological order and may allow reader comments. Organizations can delete unacceptable comments. Such control, though, could damage the trust established within the blogging community unless rules describing unacceptable comments are clearly explained on the blog.

Blogs are easy and inexpensive to create using a blogging platform such as WordPress. Blog search engines (e.g., BlogSearchEngine.org) can help you find posts of interest. By far the most visited site in 2017 based on the eBIZMBA Ranking was Huffington Post with 110,000,000 estimated unique monthly visitors.

Wikis

A wiki is a combination website and text document that allows groups to work collaboratively using only a browser. The best-known wiki is *Wikipedia*, an encyclopedia written by volunteers from around the world. It exhibits the qualities of “openness, sharing, and acting globally” identified by Tapscott and Williams as the principles of *wikinomics*.

Enterprise wikis are available as hosted options or for use on enterprise servers and are employed for everything from product development to knowledge management. One of the earliest government wikis was *Intellipedia*, an online, collaborative system established in late 2005 for information sharing within the US intelligence community.

Don Burke, *Intellipedia* doyen, and Sean P. Dennehy, *Intellipedia* and Enterprise 2.0 evangelist, were awarded 2009 Homeland Security Medals for their contributions to the nation. In January 2011, Chris Rasmussen proposed to use the same wiki software to create *The Living Intelligence System*. In practice, neither *Intellipedia* nor *The Living Intelligence System* earned widespread acceptance.⁴⁴ Not one to acknowledge defeat, in 2017 Rasmussen announced *Tearline*, an app for senior US intelligence officers that is a wiki-style collaborative platform for reading and writing unclassified intelligence reports complete with charts, comments, and updates.

Mashups

Mashups are webpages or applications that combine data from two or more online sources, such as application programming interfaces (APIs), other web services,

and data feeds (e.g., RSS). The results are different from the original intent when the raw data was produced.

Three distinct types of mashups are consumer mashups, business (enterprise) mashups, and data mashups. A *consumer mashup* combines different data types from multiple sources and organizes the information through the browser interface. Craigslist provides an example of a consumer mashup that combines rental listings from Craigslist with mapping data from Google Maps API.

Business (or enterprise) mashups combine the organization's resources, applications, and data with other external web services and publish the results to enterprise portals, application development tools, or in a service-oriented architecture. Business mashups can help a company improve customer service. For example, a mashup of the organization's order management system with logistics information from UPS or FedEx will give call centre representatives immediate access to order status and package tracking in one view.

Data mashups combine similar types of media and information from disparate data sources, or different tables within a single data source, into a single representation. For example, Havaria Information Services' Alert Map continuously combines data from over 200 sources related to severe weather conditions, biohazard threats, and seismic information.

Data sources can be combined to create reports or dashboards for business analysts to examine. One example, InetSoft's business intelligence (BI) platform, offers users the option to create and define their data mashups. For records managers, two questions arise: (1) have new records been created as a result? (2) if so, where are they stored and how are they managed?

1.7.7 Tools That Facilitate Interaction through Social Networking

Social Networks

Social networking sites allow users to share content, interact, and develop communities of interest. Facebook's features include instant messaging, groups, forums, email, games, music, and videos. As of March 31, 2018, there were over 2.20 billion monthly active Facebook users worldwide.⁴⁸ LinkedIn is a professional networking site with 546 million users

in over 200 countries and territories as of March 24, 2018; acquired by Microsoft in 2016, it is one of the two most popular social media platforms for CEOs (Twitter is the other).

A different type of social networking site began in 2010 as a service for individual users to send an email with an image attached for “pinning” to an online board. As of January 2018, Pinterest had 175 million monthly active users, 75 million of them from the United States; by the end of 2016, more than one million businesses used Pinterest to share content, engage consumers, increase customer reach, and drive traffic to their websites and other social networking sites.

Examples include Lowes’ use of Pinterest to promote its style expertise related to home improvements and Allrecipes’ efforts to establish a community of home cooks that go to Allrecipes first when planning a meal.

Virtual Worlds (Multiuser Virtual Environments)

Sometimes called *virtual worlds*, multiuser virtual environments share certain characteristics: 3-D graphics, web-based access, simultaneous interaction among users, and representation of a persistent virtual world. Users, called *residents*, interact with one another through avatars. The most successful virtual world for adults is Second Life, with about 800,000 monthly users in 2017.

Early evidence of cost-savings potential was provided by the IBM Academy of Technology in the fall of 2008 when the company hosted a Virtual World Conference for over 200 members, which resulted in a savings of \$320,000 compared to the potential cost of conducting the conference in the physical world.⁵³ The initial hype about virtual worlds, however, has not resulted in widespread adoption. By 2017, attention shifted to virtual reality, augmented reality, and mixed reality experiences.

Tagging and Social Bookmarking

The explosion of information posted to the Web has prompted the creation of author-created and user-created metadata used for social tagging, social bookmarking, tagging of photos, and tag clouds/word clouds.

Tagging, or *folksonomy*, a user-generated taxonomy, is substantially different from traditional taxonomies, which are classification systems arranged in a hierarchical structure. A folksonomy is comprised of terms in a flat namespace (no hierarchy

and no parent-child or sibling relationships). Folksonomies are sets of terms used to tag content—not a predetermined set of classification terms or labels.

Flickr, the photo-sharing site, encourages users to tag their photos with freely chosen index terms. These tags, however, may or may not make sense to others. Someone searching a simple term such as *apple* may have the fruit in mind but find the image returned to him is of the Apple Newton MessagePad or an apple cake. *Geotagging* is another form of social tagging that adds a geographic location to images based on a Google map.

Word clouds (also known as *tag clouds*) are visual representations of terms found in the text. A graphic of terms is created with each term presented in a size relative to the number of times it appears in the selected text. Users of SurveyMonkey's premium account can generate word clouds as a way of visualizing responses to specific survey questions.

Crowdsourcing

Crowdsourcing involves using the general public to do paid or unpaid research or other work. The Smithsonian Institution saves staff time by using the crowd to identify photographs placed on Flickr and provide additional descriptive information that is integrated with the Smithsonian's catalogue entries. Crowdfunding is a variation that allows donors to contribute to pleas for monetary assistance. Go-Fund-Me is an example of this use of technology.

1.7.8 Tools That Facilitate Web Services (Applications)

Web services rely on the technical requirements needed to allow different software applications to interoperate. In this category are augmented reality, videoconferencing, virtual office applications, cloud computing, video sharing, and business process modeling.

Web 3.0 and the Semantic Web

Web 2.0 factors in the human element. Although it enables authors and users to tag objects in ways meaningful to them, many of the tools create their silos of information. Web 3.0 places the focus on technology that will allow the user to search for information across silos using a common language related to real-world objects. It emphasizes dependence on technology, not humans, to construct meaning and accomplish tasks. We're already seeing virtual assistants (like Alexa, Amazon's virtual assistant) analysing speech and performing tasks (e.g., gathering

and presenting information, dialling a phone number, ordering products, marking an appointment on a calendar). The successful completion of such tasks depends upon the ability of disparate technologies to share data.

The *Semantic Web* is a web of data that “provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries.” It is an extension of the World Wide Web, sometimes described as *linked data*. In 2007, Nova Spivack described Web 3.0 as “a set of standards that turns the web into one big database” (Metz).

By 2030, according to Spivack, artificial analysts that combine natural language understanding and conversation technology with advanced analytics could advise decision-makers “with actionable insights from their data, using natural language conversation, visualization, simulation, data storytelling, and eventually even mixed reality interfaces that illustrate insights in a more immersive way.” Today, records managers are concerned with identifying and managing records created by employees across the enterprise and in the cloud. However, they must also be prepared to identify and manage records created by artificial agents regardless of where those records reside.

1.8 Conclusion

From prehistoric times to the present day, human beings have recorded their experiences using tools and technologies to share that information with others. These records have served two purposes: primary (administrative, legal, and regulatory) and secondary (historic and research). The methods used to create and store the content of these records have changed over time based on several factors, including tools available to record the content and the medium on which the content could be recorded and stored. In the past, recording tools and storage media included clay coins, parchment, papyrus, and the Gutenberg printing press. Today, they include handheld devices and social media. Responsibility for records evolved from our early ancestors who memorized stories to pass along or painted drawings inside caves to today’s information governance (IG) teams comprised of representatives from records management, information technology, business units, the legal department, human resources, and more.

During the late nineteenth and early part of the twentieth century, public and private organizations took steps to formalize the management of records, mainly in paper form. Toward the end of the twentieth century and the first decades of the twenty-

first century, born-digital records outpaced the growth of physical records and organizations began to explore ways to manage records that were never meant to have a physical form, including those created using social media and mobile devices.

Efficiency and ease of use have always been the goals of the introduction of new technology, despite unintended outcomes (e.g., the growth in the volume of paper and digital files to be managed). Since the dawn of the twenty-first century, users have become more vocal in making their wants and needs to be known. This has resulted in the development of tools such as social networking sites and mobile devices that make it easier to create records but more difficult to manage them.

For those using the new technologies to conduct business, records creation is secondary and a result of their efforts to pursue their core mission. Records and information managers who understand the way work is conducted in their organizations have a better chance of identifying and providing intellectual and/or physical control over the information created.

In 2008, Steve Bailey tackled the topic of records management and Web 2.0 in his book *Managing the Crowd: Rethinking Records Management for the Web 2.0 World*. He challenged records and information managers to find time amid their daily operational pressures to debate the larger issues presented by the new technological paradigm and the threat it poses to established theory and practice. Today, records and information managers are embracing this advice to think more broadly about the contributions they can make not only through records management but also through information governance. In his contribution to this chapter, Barclay Blair, founder and executive director of the Information Governance Initiative, provides his perspective on records management and the role it plays in information governance.

Self-assessment Questions

1. Define records and archives, and also explain the difference between archives and public records.
2. How records and information management processes emerged historically explain with examples.
3. Describe various challenges and opportunities faced by archive and records managers in an information age.
4. Discuss technologies used to record events and transactions, either for use in daily operations or to share information with future generations.

Activity:

1. Visit the website of the National Archives of Pakistan (NAP) and describe its various functions regarding records and archives management.

Recommended readings:

1. Gordon, C. H. (1982). *Forgotten Scripts: Their Ongoing Discovery and Decipherment*. New York: Basic Books.
2. Pew Research Center. (2017). "Social Media Fact Sheet," January 12, 2017, www.pewinternet.org/fact-sheet/social-media/.
3. Richard J. C. (1980). *Closing an Era: Historical Perspectives on Modern Archives and Records Management*. Westport, CT: Greenwood Press.
4. Reginald R. Sharpe, D.C.L., ed. (1912). *Calendar of Letter Books Preserved among the Archives of the Corporation of the City of London, Introduction* London: John Edward Francis, BreaiM's Buildings. www.archive.org/details/cu31924103071134.
5. Steve, B. (2008). *Managing the Crowd: Rethinking Records Management for the Web 2.0 World*. London: United Kingdom: Facet Publishing.

Unit No. 2

**RECORDS MANAGEMENT, RECORDS AND
INFORMATION CREATION/CAPTURE AND
FILE PLAN MANAGEMENT**

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INTRODUCTION

This unit is designed to explain the concept of records management. Students can establish a background knowledge of information creation/capturing. Moreover, the unit will also describe the controlled language and records classification systems of records management. It will also discuss indexing, content analysis, and file plan development.

OBJECTIVES

After studying this unit, you will be able to explain the following:

1. What is records management?
2. How are records, and information created and captured?
3. What has controlled language and records classification?
4. How are indexing, content analysis, and file plan development process conducted in the process of records management?

2.1 Introduction

Records management (RM) is the supervision and administration of digital or paper records, regardless of format. Records management activities include the creation, receipt, maintenance, use and disposal of records. In this context, a record is a content that documents a business transaction. Documentation may exist in contracts, memos, paper files, electronic files, reports, emails, videos, instant message logs or database records. Paper records may be stored in physical boxes on-premises or at a storage facility. Digital records may be stored on storage media in-house or in the cloud.

The goal of records management is to help an organization keep the necessary documentation accessible for both business operations and compliance audits. Records management involves creating a level of efficient and systematic control over the creation, use, and disposition of records and includes setting policies for maintaining different types of records. Electronic records management provides this functionality and is the current standard for preserving important records and documents. With a digital platform housing their records management system, local governments can create an electronic records management strategy that can aid in their growth and development. A records management system is essential to any government as it enables them to comply with federal records management laws. Government records must be filed and maintained correctly, and a document records management system, which enables government agencies to reduce the costs associated with compliance and easily manage the lifecycle of their documents to preserve record integrity.

Much of digital data (embedded data) is created automatically and is ephemeral (transitory) in nature. In the world of information management, *transient data* are created within an application session. It passes quickly into and out of existence producing results beyond itself. At the end of the session, it is discarded or reset back to its default and not stored in a database. Transitory digital data should not be confused with transitory records. *Transitory records* are those only needed for a short time. They can be used or acted upon and then destroyed. They do not contain information that will be needed in the future.

When discussing records and information creation and capture, it is necessary to consider storage issues, which influence our attitude toward creation. The use of public, private, and hybrid cloud storage environments continues to grow. Organizations that have invested heavily in their data centres will continue to

support them for some time, especially for storage of sensitive data, while making a gradual move to the cloud.

Hard disk drives and flash storage (as well as emerging storage technologies similar to flash) are used in data centres, as are tape and optical storage for data less frequently accessed.

The core technology for data storage, especially magnetic disks, has progressed rapidly. According to IBM scientists, who in 2017 set a new world record in tape storage, “tape storage is still considered the most secure, energy-efficient and cost-effective solution for storing enormous amounts of back-up and archival data, as well as for new applications such as Big Data and cloud computing.” The new product has the potential to record 330 terabytes (TB) of uncompressed data (the equivalent of 330 million books) on a single tape cartridge that fits in the palm of your hand.

Although great strides have been made in the area of data storage technology, additional research and development are needed to address, among other issues, the lack of standards for software (e.g., proprietary word processing formats); systems requirements needed to support data privacy, access limitations, and retention requirements; and the development of sustainable economic models to support data access and preservation over the long term.

2.2 Records and Information Creation and Capture

Records are a *subset of information* created and captured as evidence of business decisions, actions, or transactions. All records, including business email and other electronic records, created or received, should be managed. Regardless of the methods used to create and capture records (manual or automated process), users sometimes have difficulty identifying a *record*. The fact that there is no universal definition of a record contributes to the confusion. Many believe it is time to move beyond the need to define a record and manage all information based on its value to the organization.

2.3 Creating Records

Information is a valuable business asset that can help an organization achieve its goals by supporting business activity; examples include data sets and technical manuals. Information, though, is not evidence of an activity and is not a record unless it possesses these additional characteristics:

- **Authenticity:** An authentic record can be proven to be what it purports to be, created or sent by the person purported to have created or sent it, and created or sent at the time purported.
- **Reliability:** A reliable record can be trusted as a full and accurate representation of the transactions, activities, or facts to which it attests.
- **Integrity:** A complete and unaltered record is said to possess integrity.
- **Usability:** A usable record can be located, retrieved, presented, and interpreted.

Records provide evidence of work activity and help the organization conduct its business in an efficient and accountable manner. At one time, organizations had limited tools with which to create records, and only a few people within the organization had the authority to create records. In the mid-1950s, for example, an executive would dictate a letter to a private secretary who would type information onto paper for his signature.

Once signed, the original correspondence would be mailed to the intended recipient and a copy would be filed in a file drawer. Office copiers were not necessary because the secretary used carbon paper to make one or more duplicates on a thin, lightweight, strong paper called *onionskin* at the same time that the original was typed. Access to the organization's official copy was limited. Therefore, privacy and security measures were less complicated than they are today.

Advances in information technology changed the methods used to create and capture records by making the job of the secretary easier through the introduction of electronic typewriters and word processors and, eventually, by virtually eliminating the position of secretary in most organizations.

Today, thanks to the introduction of computer and communications technology, networking, the World Wide Web, social media, cloud computing, the Internet of Things, and more, records creation and capture are the work of all staff—or of no staff at all (e.g., sensors and blockchain technologies). Therefore, recordkeeping must be considered integral to the activities that promote the core mission of the business unit or organization and not as an add-on. The extent of the tasks that must be performed by staff is, of course, impacted by the degree of automation that can be applied.

Recognizing the value in the information that does not fit the definition of a record,

the National Archives of Australia explains that good information and records management allows employees, contractors, and consultants to properly manage both information and records to:

- find documents or information when needed,
- reuse work that the individual or someone else has done in the past,
- find the most recent version of a document,
- show evidence of why a particular decision was made and by whom, and
- protect themselves, their clients, the public and the Australian Government.

Knowing what records to create involves:

- using work process analysis to identify the records needed to document
- business or work processes,
- understanding the legal and regulatory requirements that impact the
- organization, including internal policies, procedures, and directives; and
- assessing the risks of failing to create records.

Records creation and capture can be integrated into business rules for workflow and transaction systems. Records can also be created as a deliberate action after the event, such as documenting the minutes of a meeting from recordings made during the meeting.

2.4 Capturing Records

In records management terms, *capturing a record* means ensuring that the record—for example, a receipt, contract, or directive—becomes fixed so that it cannot be altered or deleted. This is different from the use of the term *capture* to denote the process of collecting information and delivering it into business applications and databases for further action.

Dynamic records—such as those created as the result of a comment on a blog, a post to a social networking site, or an entry on a wiki site—pose unique challenges because the information may be both captured for further action and deemed a record that must be preserved in an unalterable state.

Records are captured by a records system if they meet certain business, legal, or other requirements identified through appraisal. Capture involves the:

- assignment of a unique identifier (either machine-generated and readable or human-readable);

- capture or generation of metadata about the record at the point of capture; and
- creation of relationships between the record and other records, agents, or businesses.

These goals can be accomplished through the use of explicit metadata persistently linked with the record (i.e., embedded in, attached to, or associated with the specific record).

2.5 Records Capture Methods

Records capture can occur manually after creation if using a paper-based filing system (e.g., by printing and filing an email message). Records can be captured automatically at the time of creation if an electronic system is used. For example, records can be captured upon receipt of physical documents (as in the case of marijuana license applications) by scanning them into an electronic system. Capture can be accomplished by the automatic transfer of email to an archive server (repository) based on keywords or metadata such as sender, recipient, date, and terms found in the subject line or text of the message. Records on third-party systems used for outreach, such as blogs, may be captured upon creation if the content is static in nature or after creation if the content is dynamic.

The table given below lists some of the ways that an organization can capture content:

PAPER-BASED FILING SYSTEM	ELECTRONIC SYSTEM	THIRD-PARTY SYSTEM
Printing an electronic document (e.g., an email) to place in a file folder housed in a file cabinet	Registering an electronic document in an electronic records management system (manual)	Contracting with a cloud-based service provider (e.g., Smarsh) to harvest (or accept a transfer of) and store electronic content for the organization

Making a photocopy of an original document sent by your organization and placing it in a file folder	Entering data into an electronic system, which then saves the data automatically	Using a web crawler (e.g., Internet Archives' Heritrix) to collect digital objects over the Internet
Receiving a physical copy of a signed contract and placed it in a fireproof vault	Scanning and digitizing an old photo to store in an electronic records management system	Use tools provided by third-party sites to download your data (e.g., download all data stored within Google products with the use of <i>Google Takeout</i>)

Table: Records can be captured either manually or automatically by the employee, the organization, or a third party.

Social media tools present unique challenges to the organization. Pressured by consumers and enterprises alike, sites such as Facebook provide tools to allow the user to download information. The competition also spurs social networking providers to innovate. In an attempt to distinguish itself from other social networking sites, Google+ offers several ways to export data, including a feature called Google Takeout. Google Takeout, also available as a stand-alone service, allows users to export contacts, photos, profiles, and streams of posts with a single click. In addition, data can be downloaded from several other Google products, including Blogger, Calendar, Google Drive, Gmail, and YouTube.

Software applications for mobile devices are available, and data created by physicians, healthcare professionals, and patients using those devices must be captured as well. By the time you read this text, the technology landscape will have changed. Scan the horizon not only for new technologies but also for vendors who provide software solutions that make it easier to capture records created through those technologies.

Because information creation and capture is the work of all staff to some extent, the organization must provide its employees with these tools:

- policies, procedures, and guidelines
- effective information technology systems
- records management compliance program
- staff training

2.6 Controlled Language and Records Classification

Once records are created and captured, they must be managed in a way that allows the right record to be located at the right time and in a usable form. Non-records can also have evidentiary or informational value for the organization, so decisions must be made that relate to the management of all information of value. Traditionally, controlled language was developed to identify terms used for titling or indexing records. Those terms were incorporated into a thesaurus used to classify records (grouped under a specific label) or to select indexing terms for the record. These terms were used for broad subject areas and were not closely related to business functions.

More recently, classification has gone beyond developing an alphabetical listing of terms for indexing and grouping to developing a functional classification scheme based on an organization's business functions, activities, and transactions.

2.6.1 Controlled Language

Controlled language, also called *controlled vocabulary*, is a way to organize information in "an agreed-upon use of language in a predetermined or predictable way for a description of organizational information resources, regardless of the format of the resource (media neutral).

Several controlled language (vocabulary) tools are available, including an index, a glossary, a folksonomy, a taxonomy, a thesaurus, and an ontology.

- An index is an ordered list of controlled language terms that points to the location of information related to each term.
- A glossary, also known as a vocabulary, is an alphabetical list of terms in a domain of knowledge with the definitions for those terms.
- A folksonomy, a contraction of the words folk (person) and taxonomy, is a [unstructured] system of classification that makes use of terms that occur naturally in the language of users of the system.
- A taxonomy is a subject-based classification scheme used to arrange terms in a controlled vocabulary into a hierarchical structure that shows parent-

child relationships. In a simple taxonomy, each item being classified fits into just one place in the taxonomy, with a single parent and any number of children.

- A thesaurus is a controlled vocabulary of terms arranged in a structured order and with relationships between terms indicated with standardized designations that are used to aid document indexing and searching.

The following are examples of properties describing subjects:

- ⇒ *BT (broader term)* refers to a term above a given term in a hierarchy that is wider in scope or less specific in meaning (e.g., BT = reading materials).
- ⇒ *NT (narrower term)* refers to a term below a given term in a hierarchy that is narrower in scope or more specific in meaning (e.g., NT = volume).
- ⇒ *USE (preferred term)* refers to another, a synonymous term that should be used instead of the given term (e.g., USE = book).
- ⇒ *RT (related term)* refers to a term related to the given term that is neither a synonym nor a broader term (e.g., RT = leisure reading).

- An ontology is a working model of entities and interactions in some domain of knowledge or practice, such as transportation. In 1993, Stanford University artificial intelligence specialist Tom Gruber described ontology as “the specification of conceptualizations used to help programs and humans share knowledge.” This is accomplished using a set of concepts—classes (or sets), attributes (or properties), and relationships (or relations among class members)—that are specified in some way to create an agreed-upon vocabulary for exchanging information.
- Metadata is information about an asset beyond the file name. It is an attribute or element that helps define an “object” (e.g., document, database, image, or presentation). It can be used as a finding aid, but it is not a system of classification. Tools like thesauri provide statements about “subjects” used in classification. Subject-based classification uses subjects in metadata.
- Topic maps combine classification and metadata. They are organized around topics (subjects). But, because a subject can be anything, we can use objects described by metadata as a special kind of subject. This allows us to create a subject for those objects, such as a document. We can express the metadata describing the new subject (document-object) using names (e.g.,

authors), occurrences (e.g., events/activities), and associations (e.g., employees).

Let us now turn our attention to how classification systems are used in the business environment.

2.6.2 Classification and Filing Systems

Classification is defined as the organization of materials into categories according to a scheme that identifies, distinguishes, and relates the categories. Classification systems can be used to impose some kind of order on the chaos that results from the growth of information by grouping like objects together. Remember the clay tokens used in Mesopotamia in

4000 BCE as discussed in history, some of the engraved symbols represented not only the quantity but also the type, of an animal. The symbols representing different types of animals comprised a form of classification scheme.

There are many different classification schemes, but we'll cover just a few in this chapter. In the first half of the twentieth century, manual filing systems tamed the chaos that arose from the growth of records attributed to the typewriter. Paper files were most often organized according to one of these filing methods: alphabetic, numeric, geographic, subject, and chronological. Many organizations must still deal with their legacy paper documents.

Although that is changing, change takes time. For example, in 2012, the Executive Office of the President released the *Managing Government Records Directive*, which required federal agencies to manage both permanent and temporary email records in an accessible electronic format by 2016 and to manage all permanent electronic records in an electronic format by 2019. By 2017, progress toward these goals had been made, but there was still a need for improvement according to the *Federal Agency Records Management Annual Report for 2016*.

In the 1960s, the emergence of mainframe computers brought about the desire to computerize filing systems. At the same time, text indexing systems and sophisticated search algorithms came into use to classify and locate data. Don't allow the focus on digital information to lead you to dismiss simple classification schemes completely. The alphabetic scheme used to organize and classify paper records can be used to control digital records as well.

Alphabetic, Subject, and Numeric Filing

Although digital records may be created by employees using devices such as computers, smartphones, and iPads, at least some of those businesses have paper files. A visit to the dentist's office underscored this fact for me. A patient scheduling system allowed for the computerized scheduling of appointments, but copies of dental charts, insurance forms, and even X-rays were placed into paper file folders on open shelving.

Alphabetic Filing System

A system in which files and documents are arranged in alphabetic order from A to Z is known as *an alphabetic filing system*.¹⁸ It's an easy and effective organizational system that has one primary goal—fast retrieval of important documents. Records stored as hard copies are often filed alphabetically. Computer files can also be organized alphabetically into folders labelled with the letters of the alphabet. Setting up an alphabetic filing system using system folders is one option for organizing client files. We often see this system in small law offices, where a simple folder structure based on client names stored alphabetically is created on a *shared drive*.

The client folders may be subdivided into folders based on the subject of the contents, such as correspondence, deposition, and evidence. Access to the shared folders is provided on a needed basis for attorneys, paralegals, and other support staff. Without the benefit of document management, enterprise content management, and/or records management software, this may be the best option.

Subject Filing System

A *subject filing system* is one in which each document relates to a specific subject matter and is arranged in alphabetical order by subject. In a document-based system, subject filing requires someone to analyze each document to determine the subject.

Cross-referencing is required if more than one subject is contained within the same document.

Many small, local governments use a subject filing system that is arranged alphabetically. The categories are arranged according to the types of activities taking place, and each category usually contains several subcategories.

Numeric Filing System

A *numeric filing system* is any classification system designed to arrange records based on numbers that are assigned or taken directly from a record (e.g., a purchase order). Decimal numeric filing arrangements are the most commonly used numeric filing method, and the best-known system of this type is the Dewey Decimal

Classification System (DDC) developed for libraries in the late 1800s; the current version, DDC 23, was released in 2011.

DDC specifies ten main classes divided into ten subclasses, which are further divided into ten subdivisions. A code known as a *numeric call number* is assigned to each book or other resource based on where the content falls within the taxonomy. Web Dewey, an online version of DDC, provides access to the DDC 23 database including automatic updates to the system.

Other Options for Libraries

At the turn of the twentieth century, the Library of Congress developed its classification system to categorize books and other items. It has twenty-one subject categories.

In keeping with the move away from print materials, the LC no longer provides print publications. However, a web-based subscription service, Classification Web, features the entire Library of Congress Classification System and complete Library of Congress Subject Headings (LCSH) and Name Headings for a fee. The Classification Web is updated daily, and a free trial is available through the LC website.

TABLE: Examples of categories included in the North Dakota Subject Classification System.

No.	CODE	SUBJECT	DEFINITION
01	(ACT)	ACCOUNTING	All functions involved in a financial transaction.
14	(AOC)	ASSOCIATIONS	Information concerning organizations outside of the department (corporate data, membership rosters, institutes, and trade groups).
30	(C/L/A)	CONTRACTS/ LEASES/ AGREEMENTS	Information or documents regarding office agreements, leases, and contracts. 60 (PER) PERSONNEL Any information relating to personnel of the

			agency.
75	(SA)	SAFETY/SECURITY	Records relating to operating safety requirements, precautions, and protection from damages, risk, injury, and reports about safety.

Determining what classification system is best for users is not an easy task. Some librarians unhappy with the weaknesses of both the Dewey Decimal System and the Library of Congress Classification System began as early as 2007 to use a simplified subject-based taxonomy similar to the classification system found in bookstores. Works classified according to the BISAC (Book Industry Standards and Communications) Subject Heading list enhance the browsing experience of patrons unfamiliar with both the Dewey Decimal System and the Library of Congress Classification System.

Chronological and Geographic Filing Systems

A *chronological filing system* is arranged by date and can be used to organize business records such as invoices, purchase orders, and bills of lading. If using a file folder, the newest records go in the front. If using a computer, a field to hold the date of the transaction is included to allow the software to find the date in question and retrieve the appropriate document.

If more than one document has the same date, a search is conducted on a secondary field as well. This system is most useful for small files and records with a short life span so that older files can be purged to make room for more recent records.

A *geographic filing system* classifies records according to geographic location. The Standard Geographical Classification (SGC) is Statistics Canada’s official classification system for geographic areas in Canada. SGC 2016 provides standard names and codes for the geographical regions of Canada (Level 1), followed by provinces and territories (Level 2), census divisions (Level 3), and census subdivisions (Level 4).

2.7 Business Classification Schemes

ISO 15489-1:2016 defines *classification* as the “systematic identification and/or arrangement of business activities and/or records into categories according to

logically structured conventions, methods, and procedural rules.” *Business classification* is the process that helps an organization describe, organize, and control information. Business classification systems are built upon an analysis of the organization’s business activities.

The business classification scheme is used to link records to their business context and is necessary to capture full and accurate records.

2.7.1 Functional Classification Scheme

Since the release of ISO 15489 in 2001, classification based on organizational functions and activities has been the preferred method to control information and records. Classification by function is based on the context of a record’s creation and use rather than content alone. *Classification by function* means classification according to why the record exists and not what it is about (subject). Functions consist of activities, which consist of transactions.

The main functional high-level categories used in the example in the figure below along with the unique three-letter identifier for each are:

- Firm Administration (FRM)
- Sales and Marketing (MKT)
- Finance Department (FIN)
- Information Management (INF)
- Reference (REF)
- Human Resources (HUM)
- Legal (LEG)
- Operations (OPS)



A functions-based classification system offers several benefits because it:

- provides an understanding of the relationship between the business and its records.
- identifies records that should be created for their evidential value.

2.7.3 Auto-Classification

Auto-classification (automatic classification) is the “process of using electronic systems to encode rules and apply them to records to categorize and sort them. Auto-classification software mines the content of structured and unstructured data files, analyses the content based on defined rules and workflows, and categorizes the files based on metadata, words, or phrases. The categories can be associated with retention schedules and security classifications. Documents can be archived, disposed of, and even placed on legal hold based on the organization’s records management policy. Auto classification is becoming an important part of an organization’s information governance strategy resulting in improvements in user productivity and satisfaction.

Grouping files based on categories or characteristics can aid in compliance and reduce litigation risks. Employing auto-classification tools to search for the presence of PII or other sensitive content can help protect the organization against data breaches and lower eDiscovery costs.

2.8 Indexing, Content Analysis, and File Plan Development

The primary method used to create an index for records and information management has evolved from humans analysing and then indexing individual documents to computers that scan large volumes of documents against controlled terms and index them automatically.

An analysis of the content of records can provide the controlled terms used in indexing. Simply put, *content analysis* is a term that can be applied to all examinations of message content. The primary focus of content analysis, however, has expanded from a conceptual analysis of the content of a record to an analysis of the relationships between concepts. File plan development also relies on content analysis to describe and categorize the content in the enterprise that is or may become a record.

2.8.1 Indexing

Classification systems work because they follow predefined rules to ensure consistency. ARMA International’s alphabetic filing rules establish an index order of units for personal names that are indexed by surname and then the first name followed by initial or middle name as shown in the table.

Personal (File) Name	First Unit	Second Unit	Third Unit
Jane A. Doe	Doe	Jane	A.
Jane Alexandra Doe	Doe	Jane	Alexandra

Numeric filing uses numbers directly from a record such as a purchase order number or relies on the use of assigned numbers. In a straight-numeric filing system, purchase order numbers would be the primary unit of indexing, and the purchase orders would be arranged consecutively in ascending order.

In the functional classification system the sales and marketing function is represented by the letters MKT and the legal function as LEG. The organization could as easily have determined that each function should be represented numerically instead, for example, Sales and Marketing as 10 and Legal as 20. If so, the numbers 10 and 20 would be the primary numbers; subdivisions would then be identified by appending a second number, and so on. This is known as a duplex-numeric system because two or more sets of codes are used.

The chronological filing system is a type of numeric arrangement, but dates are used as indexing units. The most common order is a year, month, and day as in 2020-05-03 to denote

May 3, 2020, as specified in *ISO 8601—Data elements and interchange formats—Information interchange—Representation of dates and times*. Under this system, the document with the most current date is placed at the front of a physical file folder.

2.8.2 An Introduction to Content Analysis

Content analysis (also called content analytics) is defined as a research tool used to determine the presence of certain words or concepts within texts and sets of texts. It is also defined as a research technique for making replicable and valid inferences from texts (or other meaningful matters) to the contexts of their use.

Recently Big Data technologies have been recognized as tools that can add insight into the records and information an organization possesses. One example is IBM's Watson Content Analytics, which can collect and analyze both structured and unstructured content found in databases, emails, documents, websites, and more. The text analytics results in a searchable index that can be queried to find and retrieve relevant documents from a ranked list of results.

As early as the 1930s, content analysis was used in military intelligence to analyze communist propaganda and military speeches for themes by searching for the number of occurrences of particular words and phrases. Today content analysis is used in several fields, including marketing and media studies, sociology and political science, and literature and rhetoric. It can include visual documents as well

as text, and the focus is on phrases and categories rather than simple words. Two categories of content analysis are *conceptual analysis* and *relational analysis*.

The examination of text for the existence of certain words is an example of conceptual analysis. *Text content analysis tools*, for example, can provide statistics about the text (written content)—such as word count, number of sentences, and reading ease—to help you improve your writing. This type of tool is built into most word-processing programs but also exists as stand-alone software or services.

Some content analysis tools not only report the existence of certain words and phrases but also perform tasks such as extracting metadata and hyperlinks, classifying documents, and detecting language and encoding. This type of tool is particularly suited to information retrieval and extraction projects and is an important part of text-mining tools.

Relational content analysis has been termed *semantic analysis*.³⁴ It goes beyond determining the presence of concepts by looking for meaningful (semantic) relationships between those concepts. In chapter 1, you were introduced to the Semantic Web that facilitates data sharing and reuse across application, enterprise, and community boundaries. The Semantic Web employs semantic ontologies (controlled vocabularies) to accomplish this task. When we enter data into a database, the application controls the data. To retrieve the data, we look for the file in question and then open it in the appropriate application.

By contrast, the Semantic Web allows a person—or a machine—to start in one database and then move through other databases about the same topic seamlessly and effortlessly.

Paypal's Praveen Alavilli described the semantic world on the web as “one giant labelled, directed multigraph of people, things, and relationships.” The term *labelled* refers to the use of vocabularies and data formats that enable semantics on the web.

The terms *Semantic Web* and *linked data* have received much less attention in the last few years due to the lack of easy-to-use tools to deal with large volumes of diverse data and the quality and quantity of mappings between related data. This doesn't mean that the Semantic Web is no longer important—just not as an end in itself. Indications are the Semantic Web and semantic technologies, and techniques are being absorbed into the larger artificial intelligence field.

2.9 Conclusion

Records management (RM) is the supervision and administration of digital or paper records, regardless of format. Records management activities include the creation, receipt, maintenance, use and disposal of records. In this context, a record is a content that documents a business transaction. Documentation may exist in contracts, memos, paper files, electronic files, reports, emails, videos, instant message logs or database records. Paper records may be stored in physical boxes on-premises or at a storage facility. Digital records may be stored on storage media in-house or in the cloud.

The digital data can be divided into three categories:

- Transient data is created within an application session and discarded or reset to its default by the end of the session.
- Transitory records are needed for a short time that are used or acted upon and then destroyed.
- Records that result from business activities must be retained as essential records to ensure business continuity or for administrative, regulatory, fiscal, and historical purposes.

Records creation can occur in numerous ways using a variety of devices, including laptops, iPads, smartphones, and smart appliances (e.g., refrigerators and automobiles). Records capture ensures that the record is fixed (unalterable) as evidence of an activity or event. Metadata is captured with the record and continues to accrue throughout its lifecycle.

The method of capture depends on the method of creation (e.g., email received, posts on social networks, or data entered into a database as the result of a business transaction) and the initial location of the information (e.g., enterprise system or a third party).

Once records are identified and captured, they must be managed. Controlled language and classification systems are used to impose order. Classification schemes range from simple alphabetic and subject filing systems to business classification schemes and records classification schemes (file plans). Before completing the records classification scheme, all recordkeeping requirements, such as applicable regulations, must be identified. Auto-classification tools are becoming more prevalent and powerful.

Beyond content analysis, file plan development includes records description,

policies, retention and disposition requirements, and responsibility for controlling the file plan. The key to managing electronic records is the use of metadata. Records management has always managed metadata. When dealing with paper records, metadata were implicit in the record, but in the digital world, metadata must be explicitly documented to describe the content, context, and structure of records and their management through time and within and across domains.

Self-assessment Questions

1. Define records management and discuss the records and information creation and capture process.
2. What has controlled language and records classification? Describe the classification and filing systems.
3. Describe the indexing, content analysis, and file plan development.

Activity:

1. Prepare a file management plan for an archive collection.

Recommended reading:

1. ARMA International (2016). ARMA TR 22:2016, *Glossary of Records Management and Information Governance Terms* (Overland Park, KS: ARMA International, 2016), 52.
2. Brewer, L. (2017). *Memorandum to Federal Senior Agency Officials for Records Management and Agency Records Officers: Federal Agency Records Management Report*, September 28 2017, <https://www.archives.gov/records-mgmt/memos/ac39-2017>.
3. Kennedy, J. and Schauder, C. (1998). *Records Management: A Guide to Corporate Recordkeeping*, 2nd ed. (Melbourne: Longmans, 1998), 115.
4. Pearce-Moses, R. (2017). "Classification," *Glossary of Archival and Records Terminology*, American Society of Archivists, accessed September 7, 2017, <https://www2.archivists.org/glossary/terms/c/classification>.
5. Reinsel, D., Gantz, J. and Rydning, J. (2017). "Data Age 2025: The Evolution of Data to Life- Critical," *IDC White Paper*, April 2017, p. 12, <https://www.seagate.com/files/www-content/our-story/trends/files/Seagate-WP-DataAge2025-March-2017.pdf>.
6. Roberts, C. W. (2017). "Content Analysis," in *International Encyclopedia of the Social and Behavioral Sciences*, accessed September 8, 2017, <http://dx.doi.org/10.1016/B0-08-043076-7/00707-5>.

Unit No. 3

**RECORDS RETENTION STRATEGIES AND
INFORMATION ACCESS, STORAGE AND
RETRIEVAL SERVICES**

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INTRODUCTION

This unit is about records retention strategies and information access, storage and retrieval services. The students will learn the concept of inventory of physical records, pre-inventory steps and conducting the inventory steps. This will also focus on developing a records retention and disposition schedule.

OBJECTIVES

After studying this unit, you will be able to explain the following:

1. What are records retention strategies?
2. How can archivists provide information access and storage and retrieval services to users?
3. How is an inventory of physical records managed, and pre-inventory steps are taken?

How to develop the records retention and disposition schedule?

3.1 Introduction

The debate over keeping information forever versus following a records retention and disposition policy is ongoing. Some experts believe that all information has potential value and should (and could) be preserved permanently. They point to the decreasing cost of storage and the increasing capacity of storage media, especially the advantages presented by cloud storage. Other experts adhere to the lifecycle model of records management and advocate for the destruction of records that no longer have value. They point to the cost of locating and redacting information requested in the course of litigation (even when using auto identification and redaction tools) and the danger of exposing personally identifiable information if proper controls are not in place.

Retention scheduling is the process of determining the life of a record in each stage of the information life cycle (from creation through disposition). Scheduling takes into consideration not only the practical business life of records (satisfying administrative, fiscal, and research needs) but also federal, state and local regulatory requirements.

The length of time a record must be kept to meet these requirements is referred to as its retention period. Records retention schedules are a critical component of a records and information management program. In its most basic form, a records retention schedule identifies the records to be managed and communicates how long the records are to be retained. A records retention schedule provides direction and guidance on recordkeeping requirements and conditions.

The records retention schedule is typically compiled and maintained by record and information management (RIM) professional (sometimes called a Records Manager) - using best practices, industry standards and methodologies.

The process of creating a retention schedule begins with gathering information by conducting a records inventory to determine among other things: what records exist, their formats, their origin, and who accesses them. In the end, the retention schedule is usually reviewed and approved by appropriate departments and signed off by the leadership of the organization. If the organization is a state-funding entity, state law may require the retention schedule to be approved by another state agency – an agency that has legal authority over records and information management issues state-wide.

Robert J. Johnson, author of *Information Disposition: A Practical Guide to the*

Secure, Compliant Disposal of Records, Media and IT Assets, makes what is to my mind a profound statement when he says, “All information and all media will eventually be discarded.”¹ Disposition of information no longer of use to the organization is one way to “protect” that information from improper disclosure at this vulnerable point in its life cycle.

Organizations are faced with compelling reasons to retain records for use in conducting business and to comply with existing laws and regulations. They must conduct a cost--and-risk assessment to decide if they will retain all information permanently or dispose of it.

3.1.1 Inventory of Physical Records

Records can be stored on different types of physical media, such as paper, CDs, videocassettes, microfilm, magnetic tape, and Xray film. Architectural models made out of balsa wood may even be considered records that must be managed. The records inventory can be used to develop a retention schedule, provide input to the vital records protection program, and identify potential improvements to the records and information management program for both active and inactive records.

A necessary component of any successful project is support from top management— preferably in the form of a directive from the organization’s president or chief operating officer to all employees who will be involved in the records inventory project. Additional champions within the organization should be identified, including managers from finance, legal, information management, and human resources. The project can be accomplished by internal records and information management staff, departmental staff, or an outside consulting firm. Each approach has advantages and disadvantages. The budget allocated for the project and the time frame within which it must be accomplished will be determining factors.

The internal records and information management staff will have a good understanding of the records held by the organization and the individuals they need to work with to conduct the inventory. But they may not have the time needed to conduct a physical inventory. The work-unit staff would know what records are created and where they are located, but they may be reluctant to point out any weaknesses in their system. An outside consultant would be objective and have the experience necessary to conduct the records inventory, but there may be internal resistance and the cost for an outside consultant would be higher than if internal staff were used.

3.1.2 Pre-inventory Steps

Once support from top management has been obtained, champions have been identified, and the project manager has been appointed, the following pre-inventory steps should be taken:

Clarify the records inventory objectives and strategies.

- Design the inventory form and accompanying directions.
- Staff and train the project team. Provide them with an organizational chart describing the main functions of each office along with the necessary supplies to inventory physical holdings, including blank inventory forms; adhesive labels to identify records and containers and to show they have been inventoried; and equipment including flashlight, gloves, and dust masks for use in storage areas.
- Communicate to staff and management about the project. Allay the fears of those representing each work unit to be inventoried and explain that this is an inventory and not an audit.
- Conduct a preliminary survey to identify the location of records, estimate their total volume, flag hazards, and note any problems with space and storage.
- Establish a work schedule that includes dates, locations, and contacts for each unit to be inventoried which provides flexibility. Other activities (e.g., budget deadlines) may take priority within units and need to be accommodated.

3.1.3 Conducting the Inventory Steps

The following are the recommended steps to take when conducting a physical inventory:

- Draw a map of the physical layout of each area, numbering each piece of storage equipment and noting the location of each records series. Record all records such as correspondence, photographs, reports, and maps that are evidence of the organization's activities. Disregard all non-records such as magazines, catalogues, blank forms, books, and pamphlets.
- Inventory the records as a series, that is, a group of identical or related records that can be evaluated as a unit because they are normally filed, used, and disposed of as a unit. Record the information on an inventory form. Complete a separate form for each location where records in the same series are filed or stored. The information from all forms related to one series will be consolidated into a master inventory and used to develop a records retention and disposition schedule.

- Store the inventory data in a database developed in-house (e.g., using Microsoft Access), in records management software purchased specifically for the task, or in a content management system with records management functionality. A system to manage physical assets, as well as electronic records, provides additional advantages. For example, one solution allows users to manage both the physical document and an electronic copy if both must be retained. Double-click on the electronic copy will bring up the location of the physical record. Once the retention requirements have been met, the system alerts the appropriate party to destroy both copies.

3.2 Developing a Records Retention and Disposition Schedule

The primary purpose of a records retention and disposition schedule is to ensure that records are retained only as long as necessary and then disposed of when they no longer have value.

The benefits of developing a records retention and disposition schedule to facilitate the disposal of physical records are well-documented. They include a reduction in time to locate and retrieve desired information as well as a reduction in costs associated with the equipment, space, staff, and/or services needed to manage those records.

When the discussion turns to electronic records, however, the benefits are less clear. First, electronic records are not as visible as physical records. They take up less space on storage devices that are constantly increasing in capacity and decreasing in price. However, the cost of identifying and disposing of electronic records residing both under the direct control of the enterprise and under the control of third-party providers can exceed storage costs. There are advantages to disposing of electronic records, which include mitigating the risk of retaining records that could be used against the organization (the proverbial *smoking gun*); reducing the cost of locating the requested records in response to e-discovery and/ or Freedom of Information requests; and reducing the cost of inspecting records to redact PII, such as social security numbers, credit card numbers, address information, and driver's license numbers.

3.3 Retention Schedule Considerations

The following list of questions should be answered before the actual work begins on the development of the records retention and disposition schedule:

- Is there an existing records retention and destruction schedule or are you creating it from scratch?
- What is the scope of the retention schedule—enterprise-wide or focused on one function or work group?
- Will you use a functional retention schedule or one related to the organization's structure?
- Were a records inventory and business process analysis completed recently? If so, you may have already gathered much of the information you need. If not, both should be completed before proceeding further.
- Will a general records schedule be prepared for records that exist in departments, agencies, and work groups across the enterprise?
- Have legal/regulatory considerations been researched? If so, you can use that information for the schedule. If not, determine who will conduct the research and monitor any changes in legislation. This research feeds into the records schedule and must be completed first.
- Will electronic records be included in this retention/disposition schedule or will separate records retention and disposition schedules be prepared for physical and electronic records?
- What resources are available to develop and maintain the retention schedule(s), such as records retention scheduling software and a records legal research database?

3.4 Records Retention and Disposition Schedule

The records retention and disposition schedule is created after the records inventory, business process analysis and legal/regulatory research have been completed. The format used to record information will differ, but common elements will be included in every schedule.

This information may be gathered manually, but it should be managed through the use of a database or records retention software program. The most common elements include the records series, record title and description, records office, retention requirement (often specifying a location for active and inactive files), and disposition method. If a functional classification is used, the function (e.g., fiscal), and the record category (e.g., fiscal: budget and budget control) will be included. Additional information may include a storage medium, volume of records, effective date, and revision number and date.

3.5 Conclusion

The primary purpose of a records retention and disposition schedule is to ensure that records are retained only as long as necessary and then disposed of when they no longer have value. The information gathered through the records inventory records appraisal process, and legal research is used to complete the records retention and disposition schedule.

The records inventory provides a detailed listing of all records held by the organization, both physical and electronic. Tools such as floor plans of records storage areas and data maps of computer systems help conduct the records inventory. To determine records retention requirements, records are appraised based on their current operational, regulatory, legal, fiscal, and historical value, and legal research is conducted to identify governing laws and regulations.

Related records are grouped into records series and evaluated as a unit for retention purposes. Retention requirements are assigned. This information is recorded on the records retention and disposition schedule, along with additional information such as the office of record, location of the record, and method of disposition.

Attention must be paid to all records, including those residing on corporate websites. The content on static web pages may be copies of content held elsewhere; however, content on dynamic sites may be considered records that must also be governed by a records schedule.

Aggregating records series into big buckets is an alternative approach to the traditional records series that makes it easier for employees and auto-categorization tools to make more accurate and consistent classification decisions.

The records retention and disposition schedule, along with accompanying operational procedures, must be made available to all employees who are assigned records management responsibilities. This information can be disseminated through the publication of records retention and disposition guidelines and employee training programs. Tools needed to support retention and disposition should be integrated into communication and information systems during the planning phase to remove the burden for retention and disposition decisions from the user when possible. The destruction or transfer of records that have met their retention requirements should be audited to ensure that the organization complies.

Both the internal and external environment should be monitored for changes that might impact the records retention and disposition schedule.

Self-assessment Questions

1. What is the records retention schedule?
2. Discuss the records retention strategies.
3. Describe the information access, storage and retrieval services program of an archive centre.
4. How to develop a records retention and disposition schedule?
- 5.

Activity:

1. Visit your nearby public library and prepare/develop with the help of a librarian a draft records retention and disposition schedule.

Recommended reading:

1. ARMA International, ARMA TR 22: (2016). Glossary of Records Management and Information Governance Terms (Overland Park, KS: ARMA International, 2016), 2.
2. Carthy, M. (2017). "10 Things You Need to Know about the GDPR," *Information and Records Management Bulletin* (March 2017), 196.
3. Ganesh, V. (n.d.). "The Quest for eDiscovery: Creating a Data Map," *Infonomics* 23, no. 6, 28–33.
4. Johnson, R. J. (2017). *Information Disposition: A Practical Guide to the Secure, Compliant Disposal of Records, Media and IT Assets* (Phoenix, AZ: NAID, 2017).
5. National Archives and Records Administration (NARA), "NARA Bulletin 2010–03: Flexible Scheduling," *Records Managers*, May 3, 2010, <https://www.archives.gov/records-mgmt/bulletins/2010/2010-03.html>.
6. The University of California, "Records Disposition Schedules Manual," accessed September 14, 2017, www.ucop.edu/recordsretention/.
7. Wong, W. (2012). "Managing Your Way to Data Compliance with a Data Atlas," *Information Management* (January/February 2012), 21–25.

Unit No. 4

**EMERGING TECHNOLOGIES AND RECORDS
MANAGEMENT**

**Compiled by: Muhammad Jawwad
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INTRODUCTION

After going through this unit, you should get acquainted with the emerging technologies and records management process. You will know about the types of records and also be aware of the purpose of using archive records. The unit will also focus on the new trends in records management techniques, processes and emerging ICTs.

OBJECTIVES

The objectives of this unit are as follows:

1. Provide an overview of public records management.
2. Understanding the types of public records.
3. The new trends in records management.
4. Social media and records management.

4.1 Introduction

Generally, organizations or libraries deal with records and information management. As the creation of endless information increases and regulatory laws evolve, the need for record management becomes more imperative. Therefore, it is paramount for the records and information managers to understand and familiarize themselves with how to create, use, and store records in their day-to-day activities as well as manage all types of files whether manual or electronic. Hence, many organizations are being faced with the challenges of preserving records due to the huge volume of electronic documents. Records are preserved in establishment for institutional memory because it is to the success of many organizations including academic libraries. The such record includes minutes of board meetings, job applications gathered and preserved on paper hardcopy. Other information is recorded on a computer disk or hard drive, microfilm or other media. The success of any organization depends on the efficiency of its records keeping and documentation. Information remains an important tool for the survival of any establishment. The onus, therefore, rests on the management to employ competent and experienced records personnel who will control the records of such an establishment. Records management has come to occupy a pride place in this present-day digital age. It also deals with the creation, distribution, maintenance, protection, control, storage, receipt, use and disposition of records. Most recently, computer programs known as automated record management systems have been developed to make files, documents, and other records accessible for management by computer.

Current records management systems are already missing many forms of electronically stored information. Older types of electronically stored information, such as images, e-mail or office documents, are often captured into traditional records management applications. Newer content types are less likely to have policy-driven life cycles or retention rules applied. Mobile messages, social media posts or websites are important sources of discoverable information, but the application of legal holds to that content can be difficult.

4.2 What is a record?

Any document created, received and maintained can be called a record, for instance, in libraries, meeting minutes, invoices, registers, maps, photographs, conference proceedings, and inventories of resources could be regarded as records. It should be noted that not all documents are records but subset documents that organizations/libraries require to preserve as evidence are known as a record. Some records are

transitory/transient, that is, they are administrative, fiscal or legal values and are short-lived. A transitory record encompasses voicemail, routing slips, documents designated as superseded or as –updated, memoranda (paper-based or email), and preliminary drafts (when superseded). The record and information manager decides what is a record and a non-record. A non- record is a document that is more expensive to keep than discard. The non-record does not serve the preserved organizational policies, functions, operations, decisions, procedures, and routines that have occurred. Non-records are not confined to catalogues, listservs, and materials. Non-records do not require retention like the transient/transitory record. The transient/transitory records are normally kept in a file or sub-file whether analogue or digital which is assigned for a periodical review processes, people and technology that encompasses record management.

According to the Association of Records Managers and Administration (ARMA), records as statements of facts, data elements, evidence as well as institutional activities. Record is referred to transaction activities such as financial statements, personnel files, business correspondence, and contract negotiation which serve as proof in the organization (2020). The record can be defined as a document that organization utilizes in showing all pieces of evidence or proof of a vital transaction done. Such documents help to regulate and monitor activities and business decisions.

The creation of data, a set of data in an organization is termed a record. It also entails creation, receipt, storage or use, which is maintained as proof of all organizational activity. Organizations especially health, government, legal, and financial sectors contain personally identifiable information (PII). Equally important, a record is content that documents business transactions/operations. Records are the basic instrument of administration since where the various function and operational processes are executed. If records are adequately managed the effectiveness of an organization is improved. Organization programs become more viable. It includes all recorded information created or received by an organization in the course of carrying out its functions. Records came in form of conventional documents on paper, but they may also be in microform, or on electronic media such as computer tapes or disks, and they include photographs, sound recordings, and motion pictures.

4.3 Types of Records

Without records organizations cannot be successful as a result of no proof or evidence to show for the transaction carries out. A record varies from one

organization to another. Some of the types of records include government records, educational records, medical records, financial records, archives, legal records, etc.

- i. **Government Records:** a government record entails records from the local, state, and federal governments. Such records are proceedings from an executive council meeting at the federal, budget, protocol, cabinet members of past and present, law, edits, population census, list of past presidents, etc. government records professionals are vested with the function of selecting and retaining historical records of happenings in the country. They also ensured that they are aware of protecting citizens' rights.
- ii. **Educational Records:** Educational records deal with a record in an institution of higher learning example, is library records. Records, in the library, entails the total collections held in the library, university librarian names (past and current), statistics of library users, statistics of theft and mutilation issues, donors, interlibrary cooperation, authority file, online public access catalogue (OPAC), staff area of specialization/discipline, sections in the library. Educational records can be defined as records, files, documents and materials dealing with students' information and the institution is responsible for their maintenance. The most institution still preserved their students' records even after graduation from the school for reference purposes.
- iii. **Medical Record:** the importance of medical records cannot be overemphasized and therefore more vital than the legal record. The medical record manager /professional manages large volumes of medical records like financial records of the hospital, statistics of patients, drug inventory, courses offered by students of medical institutions, medical facilities, teaching hospitals, referral clinics, new drug invention etc. physicians, nursing homes, health care agencies, dentists offices, hospitals, health insurance carriers and government health agencies rely heavily on accurate medical record keeping. Managers of medical records may be medical technologists, nurses, librarians or those with a background in business, insurance and health care services. Medical records deal with documents which give information on patients' history, clinical findings, diagnostic test results, pre and postoperative care, patients' progress and medications. The medical record is also called a health record. It entails different types of "notes" compiled by health professionals, such as test results, observations record, reports, drug administration and therapies, x-rays, etc. health care provider is vested

with the onus of ensuring the maintenance of accurate and complete medical records. Medical experts utilize paper notes, physical (image films) and digital records in storing and preserving each patient's information.

- iv. **Financial Records:** Financial records are documents that give a summary of information about financial statements or operations that occurred. A well-organized set of financial records are a key aspect of an accounting department. Financial records focus day-to-day financial transactions carried out in an organization. Such records include the purchase and sale of shares, stock exchange operations, government annual financial allocation, salaries and wages, income from investments and deposits from customers, receipts from customers, taxes and levies, circulation of money in the economy, fraud, embezzlement, cash flow, receipt, invoice, earnings revenue assets, balance sheet. etc. The financial record manager must know regard information systems because of carrying out the function of finance or accounting diligently. Designing a records system, updating records, maintaining controls and supervising operations are the onus of the financial record professional. Financial records are essential sources of information and evidence and/or auditing the financial statements.
- v. **Archives:** Archives focuses mainly on old records/historical records for the use of historians and researchers. They may be kept to meet legal requirements or to maintain important historical facts about the organization. They are often strictly restricted in their usage. Organizations, especially, museums, corporations, and library and records storage centres are likely to employ archivists who are responsible for the long-term maintenance and preservation of all types of archival records. It is the duty of a professional to supervise the records that are kept in the archive by ensuring that they are properly stored and preserved for future use. Archives records are handled by professional archivists and historians. Archive records are records that contain primary sources of documents that have accumulated throughout an individual or organization's lifetime, and are preserved to show the duty of that person or organization. Archive records can be stored in any media or the physical equipment in which they are located. Archive records are important because they help to ensure that the right people can access the Policy formulation, planning and implementation (j) Handling of legal cases (k) Project planning and evaluation etc.

- vi. **Legal Records:** legal records are records that contain a petition, docket, motion, finding, judgment, order, pleading paper or other documents than social records. The content and form of formal records are determined by law. Legal records serve as the bedrock of organizations. Birth certificates, tax records, wills, marriage records, deeds, survey plans, certificates of occupancy, death benefit records, decrees, edicts, laws etc. are all legal records. Legal records have professionals who have a basis/idea in the field of government, law, business, political science, and social science. Legal records are handled by legal experts who maintain records accurately and properly when discharging their duties.

In libraries and archive centres records are a small number of collections, but this small core of documentation possesses tremendous value. The purpose of using archive records is outlined as follows:

- (a) Verification of facts
- (b) Computation of records and studies
- (c) Research
- (d) Finding of precedent
- (e) Collection of statistical data
- (f) Restoration of buildings
- (g) Litigation
- (h) Administration

4.4 The New Trends in Records Management.

Management of records has taken a new dimension with the advancement of information and communication technology (ICT) in the last two or three decades. Technology has continued to change the way things are done around the globe. Change is inevitable in any organization, particularly when dealing with record management for it to cope with innovations to be current, relevant and productive. When these records are accurate, future generations will benefit.

Record managers' major responsibility is to ensure the maintenance of all data in such a way that users will have factual and precise materials to research and reference. Over the years, records and archives help people to know all that has transpired before, that is why it is vital to continue to keep and manage the strategies that can be used to stand and cope with an electronic management system. With the advancement in technology, records management is being affected by the way tasks

are being carried out. Thereby, allowing record managers to learn new strategies and adoptions to it. Records are handled with care, not only manually. Digital system enables people to manage from creation to retention or destruction in but the electronic world. Record managers/keepers must not be too cumbersome in their strategies and practices to be effective and adapt to new trends in record management. For instance, there are new ways of service in the library. Such as a change in network design, data entry etc. According to Information Management Services-Galaxy Consulting (2020), the influence of technology has changed and presently voluminous information is stored electronically. For example, images or office documents, video, social media or instant messaging. Now there is a shift to a more comprehensive and proactive management of information across its entire life cycle.

The new trends in record management as stated by Information Management Services-Galaxy Consulting (2020) are as follows:

- i. **Records management shifts to information governance which supports the creation, use and protection of digital information:** there is no doubt that technology creates new strategies for preserving information. The incorporation of ICTs in record management is inevitable. The wide adoption of ICTs in record management calls for mind sets and skill sets that are adaptive to change. Structured/ semi-structured information needs governance to protect it from unauthorized access, and use disclosure/deletion across its life cycle. Thus, business activities often show data change. Compliance initiatives, e-discovery preparedness and the progress of their electronic records management programs among organizations have an absence of self-assurance. Hence, management should be proactive and total in the shift of information from the stage of creation to the destruction of record have started.
- ii. **Cloud storage and social platforms render the file and declare ineffectively:** another trend in record management is a cloud storage and social platforms. In organizations, cloud-based platforms have rapidly affect the ways things are done. Such as program as a service (Paas). In this regard, Wang (2015) stated that cloud services vendor is working tirelessly to solve the concerns of record managers such as data sovereignty, security and processing privacy. It allows documents and files access easily from any place /location at any time thus, enhancing effectiveness and productivity among the employees. In organizations, especially libraries, cloud storage is the key answer and known

operational strategy because of the flexibility it provides for the future of record management.

- iii. **Digital preservation forces itself onto the governance agenda:** Record managers/professionals are engaged in the obstacle to meeting the time frame set for retention. Proper management for any business or organization. Digital records presently are considered to be of high-quality standard with benchmark but digital documents and records have their life cycle. It is pertinent to note, that vital records of electronic means are not easily accessible especially when old technology is obsolete/outdated. In such situations, conversion, and migrations are solutions utilized. However, the majority of organizations are reluctant to update their record. Vendors and agencies should intensify efforts on how to learn and adopt new development so as not be remaining stagnant.
- iv. **Open standards and open source change the sourcing landscape:** the globe, governments are sluggish in adopting the policies and procedures of open standards. However, there is a high demand from the public sector for open standards and open sourcing which has drastically reduced cost, platform lock, minimize vendor, and address accessibility.
- v. **Automation:** most organizations especially libraries have adopted automation services to solve the changing technology in the globe. Such automation strategies can eliminate redundancy of data and thereby, update records in the record management software, Retention schedules, categorization, and capture (Automating practices) assist in cost reduction and decently provide client service. Many organizations look outwards for alternative means since the volume of information is high. Recently, records management systems concentrated on automation rather those manner popular processes. It also helps in the automatic removal of multiple copies, automated retention schedules, and automated rules for information governance.
- vi. Increased collaboration at work: organizations will need to create a central shared document repository to enable collaborative workflows that accommodate new ways to interact. The initial rush to start work remotely may have set off multiple workflows, with individual team members using different tools and channels of communication. In 2021, there will be a focus to consolidate these diverse tools, to bring in a cohesive system for records management. Organizations will require a system that connects their internal communications and external document sharing. A digitized records management system saves time finding and filing documents, creating an opportunity to re-allocate resources to value-

added processes. Document management software with collaboration features offers access control and version control to prevent editing overlaps by remote workers. An effective organizational structure in the post-COVID era needs a robust records management strategy with workflow automation to enhance productivity.

4.5 Social Media and Records Management.

The term *social media record* is being used in this instance to represent all records posted to, created through, or residing in social media technologies. Many of these records could potentially be classified under existing series titles, such as electronic communications or press releases. If the content represents a new record series, the records retention schedule must be updated. Social media records can reside in social media technology hosted by third-party providers or hosted by the organization itself. Social media technology hosted by the organization provides a greater degree of control over the content and is ideal for projects that don't require participation by the general public or that require high levels of security. When the intent of the social media initiative is outreach to the public, the use of popular social networks hosted by third parties is the best approach.

In the early days of social media use, those responsible for records management often learned about social media initiatives after they had been implemented. This was the case within the executive branch of the US federal government in January 2009 when President Obama directed all federal agencies to create an environment of openness and transparency. Soon after, social media teams were formed and social media outreach initiatives were launched. These employees were the innovators and early adopters who paved the way for the rest of the government agencies.

In March 2011, the American Council for Technology and Industry Advisory Council, a nonprofit public-private partnership dedicated to improving government through the application of information technology, identified the following challenges presented by emerging technologies:

- identification of a record
- the capture of the record
- retention of the record
- scheduling/distribution/disposition of the record

- staffing and education (for employees, including executives)

These challenges are like the challenges recordkeepers faced before social media, and the recommended actions remain the same:

- updating RIM policy “before” using social networks
- updating the RIM training course
- defining and applying strict access controls
- defining a record and determining its status
- developing and applying a comprehensive records retention schedule

Although the responsibilities remain the same, the policies and practices must be adjusted.

4.6 Conclusion

Generally, organizations or libraries deal with records and information management. As the creation of endless information increases and regulatory laws evolve, the need for record management becomes more imperative. Therefore, it is paramount for the records and information managers to understand and familiarize themselves with how to create, use, and store records in their day-to-day activities as well as manage all types of files whether manual or electronic. Management of records has taken a new dimension with the advancement of information and communication technology (ICT) in the last two or three decades. Technology has continued to change the way things are done around the globe. Change is inevitable in any organization, particularly when dealing with record management for it to cope with innovations to be current, relevant and productive. When these records are accurate, future generations will benefit. Social media is included in this unit is a new, emerging technology, but because it is a developing technology that continues to challenge records and information managers. The good news is that solutions to capture and manage social media content, including enlisting the services of a social media archiving provider, are also evolving.

Although records and information managers deal with day-to-day responsibilities, they must also scan the horizon for emerging technologies that may impact their RIM programs in the future. One way to keep abreast of emerging technologies is

to identify trends. This can be accomplished by listening to others within and outside your organization; watching, reading, and browsing journals, newspapers, and the internet; looking more broadly outside of your industry; and using software and/or services to spot trends.

Self-assessment Questions

1. Define records management and describe the types of records.
2. What are the emerging trends in records management? Explain.
3. How various ICTs are the social media records management process?
4. Describe the challenges faced by archivists in managing the records in the era of a digital environment.

Activity:

1. Visit the Internet of Things (IoT) website and identify industries that can benefit from this emerging technology.

Recommended Reading:

1. Aromolaran, E. A. (2009). *Introduction to office practice and technology*. Holy Production Ltd.
2. British National Formulary (BNF). (2021). *Trends that are changing the records management industry*. Retrieved April 1, 2021, from [https://www.bnfco.com/trends-that-are-changing-the-records management industry/](https://www.bnfco.com/trends-that-are-changing-the-records-management-industry/)
3. Chigariro, D., & Khumalo, N. B. (2018). Electronic records management research in ESARDICA: A biometric study. *Record Management Journal*.
4. Chika, O. (2016). Record keeping in schools' administration: Excellence in the teaching profession, becoming an outstanding teaching in the 21st century. Manny Press House.
5. Elsehah, M. (2015). E-government implications for records management in

African-A review of the literature. *Journal of the South African Society of Archivists*, 49.

6. Family Education Regulatory Privacy Acts (FERPA). (2021). *Protecting the privacy of student education records*. Retrieved January 2, 2021, from <https://nces.ed.gov/pubs97web/97859.asp#>
7. National Archives and Records Administration (NARA) (2010). "NARA Bulletin 2011-02: Guidance on Managing Records in Web 2.0/Social Media Platforms," *Record Managers*, October 20, 2010, www.archives.gov/records-mgmt/bulletins/2011/2011-02.html.
8. Patricia, C. F. (2010). *How Federal Agencies Can Effectively Manage Records Created Using New Social Media Tools*, (Washington, DC: IBM Center for the Business of Government, 2010).
9. Yunus, A. M., Bunawan, A., Ahmad, J. I., Hashim, K., & Abdkadir, M. R. (2016). Explaining the importance: Proper academic records management. *International Conference on Information Science, Technology Management, Humanities and Business ITMAHUB*.

Unit No.5

**ELECTRONIC RECORDS MANAGEMENT
SYSTEM**

**Compiled by: Muhammad Jawwad
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INTRODUCTION

After going through this unit, learners should get acquainted with the basics of electronic records management systems. They will know about content management systems. The main focus will be on electronic records management systems functionality, planning and management of ERM.

OBJECTIVES

After studying this unit, you will be able to explain the following:

1. Basic Electronic Records Management System.
2. Planning and functionality of ERM
3. Dimensions of Content Management Systems.

5.1 Introduction

Information stored on paper or microfilm can be read by the human eye. An electronic record is invisible and indiscernible to a user until the system produces an image or sound. US National Archives and Records Administration (NARA) regulations (36 CFR 1234.2) define an electronic record as “any information that is recorded in a form that only a computer can process and that satisfies the definition of a record.” ISO *16175-1:2010* defines an electronic record as a “record on electronic storage media, produced, communicated, maintained and/or accessed using electronic equipment.” Examples of electronic records include email messages, word-processing documents, electronic spreadsheets, digital images, databases, video and audio files, voicemail, webpages, text messages and data stored in geographic information systems (GIS).

Electronic records reside in a variety of devices and locations depending on how they are created and by whom, as well as where they are within the records management lifecycle. For example, employees can create records away from the office and store them on USB flash drives, tablets, and smartphones. Employees working within the enterprise may store records on a personal computer (PC) hard drives, network drives, and compact discs (CDs).

Information technology (IT) departments can move records to magnetic tapes for storage. Electronic records may reside in third-party systems controlled by vendors, for example, blog posts, tweets, and profiles posted to social networking sites or customer data stored in applications hosted by a software-as-a-service (SaaS) vendor providing file sharing/collaboration tools such as Box, Dropbox, or iCloud. One example of the increasingly widespread acceptance of a digital record is the stock certificate, which once was one of the most important pieces of paper in the life of an investor. Today, the paper stock certificate is becoming a historic relic. Most Wall Street firms will produce paper stock certificates upon request, but they may charge a fee to handle the transaction. The Walt Disney Company, for example, will send a nonnegotiable “Disney Collectible Shareholder Certificate” adorned with Disney characters to investors for \$50 plus tax upon receipt of a Registered Shareholder Verification Form. These are often purchased as gifts to commemorate the purchase of the actual gift—Disney shares. The certificate has no value because stock ownership is tracked electronically to eliminate the loss of certificates and simplify the transfer or sale of shares.

In the past, records managers were responsible for the retention and disposition of records that were no longer actively used by employees of the organization. But one major difference between then and now is the focus on the user, who may derive value from access to records that in the past were inaccessible (e.g., information in paper documents or on magnetic tapes stored in a records centre). Another major difference is the diversity of systems employed today that create digital records. In some cases, it makes sense to control the records in the system of origin rather than move them to a records repository.

Electronic records must be identified regardless of their origin and location so that they can be controlled by the organization's records retention program. The timely disposition of records will reduce storage costs and mitigate risk related to legal and regulatory recordkeeping requirements that otherwise would be incurred by retaining records that no longer have value.

5.2 Content Management Systems

Content is described as the electronic information in an organization, including electronic records, email, and even the organization's website. The term *content management system* can be used to describe specific types of systems in use for different purposes or within different industries, for example:

- **Web content management systems (WCMS)** allow users “to create, edit, and publish digital content such as text, embedded audio and video files, and interactive graphics for websites.”¹¹ Most WCMS use a database to store and control a dynamic collection of web material (e.g., text, photos, sound, video, metadata, and other information assets) needed by the system. Among other features, a WCMS typically includes automated templates, access control, easily editable content, workflow management, content syndication (such as content distribution by RSS feeds to other systems), and versioning (which allows roll-back to a previous copy).
- **Industry-specific web content management systems** are available, such as the one provided by Influence Health. Its Content Management System (CMS) allows for the creation of hospital websites, landing pages, micro sites, and mobile sites through an authoring and editing platform that requires no coding. Images, videos, and other digital assets can be uploaded. Content can be delivered not only through the website but also to smartphones tablets, and more. The system can be integrated with customer

relationship management (CRM), marketing automation, enterprise, and analytics platforms through the use of pre-built connectors.

- **Social content management systems** can combine social networking applications (e.g., blogs, wikis, image sharing) into one suite to make it easy to manage and share social content without building silos of information. Enterprise social content management systems can authenticate users with a single sign-on, approve content with integrated workflow, and meet key compliance requirements. They allow the organization to capture, manage, and leverage social content generated from a wide variety of locations and devices. In some cases, social media can also be integrated with an organization's existing enterprise content management system to enable the enterprise to store and manage its unstructured social content in the same repository.
- **Mobile content management (MCM) systems** can be employed when employees use their own devices for both personal and work-related activities. According to The Sedona Conference Commentary on BYOD (2018), employee-owned devices that contain unique, relevant ESI should be considered sources for discovery.¹³ One of the challenges of the bring your device (BYOD) movement is the fact that it is difficult to separate work-related and personal communications. Software is available to provide separate containers for data on the same device—one for personal applications controlled by the user and the other for corporate applications controlled by a corporate administrator. The corporate administrator can, for example, allow or prohibit saving data on the device, encrypt stored data, configure application start authentication, and control internet access, SMS and calls. One benefit for departing employees is that containerized data can be wiped from the device without impacting personal data. The web content management market is expected to grow by 2.5 times by 2022 because of B2B companies adopting CMS for mobile and social content management as well as artificial intelligence capabilities and natural language processing.

5.3 Electronic Records Management

The term *electronic records management* (ERM) as defined by ARMA International presents two different scenarios—one in which an electronic system manages all records (including paper and microfilm) and another in which an electronic system applies records management principles to electronic records.¹⁸ In 2000, NARA provided clarification by stating

that the word *electronic* in ERM refers to automation, not to the nature of the record.

On November 28, 2011, President Barack Obama took steps to improve records management within the US federal government by signing the Presidential Memorandum— Managing Government Records.²⁰ As a result, on August 24, 2012, federal agencies were directed by the Office of Management and Budget (OMB) and the National Archives and Records Administration (NARA) through *M-12-18: Managing Government Records* to pursue the following goals:

- By 2016, manage both permanent and temporary email records in an accessible electronic format.
- By 2019, manage all permanent electronic records in electronic format. Of note is the strong recommendation that agencies consider the benefits of digitizing permanent records created in hard-copy format or other analogue formats (e.g., microfiche, microfilm, analogue video, analogue audio).

5.4 Electronic Records Management Systems

ERMS consists of “software, hardware, policies, and processes to automate the preparation, organization, tracking, distribution, and disposition of records regardless of media.” The system must include retention scheduling and disposition. An ERMS is sometimes referred to as a records management application (RMA). The ERMS/RMA selected to manage records will depend upon organizational needs and the functionality provided by various products. The primary management functions of an ERMS/RMA are categorizing and locating records and identifying records due for disposition.

EMRS/RMA software also stores, retrieves and disposes of electronic records in its repository. Functional requirements must be identified before deciding to acquire an electronic records management solution. Typical functions of an ERMS/RMA include:

- Marking an electronic document as a read-only electronic record.
- Protecting the record against modification or tampering.
- Filing a record against an organizational file plan or taxonomy for categorization.
- Marking records as essential (vital) records.
- Assigning disposal (archival or destruction rules) to records
- Freezing and unfreezing disposal rules.

- Applying access and security controls (security rules may differ from the source electronic document in an EDMS or ECMS).
- Executing disposal processing (usually an administrative function).
- Maintaining organizational/historical metadata that preserves the business context of the record in the case of organizational change.
- Providing a history/audit trail.

5.5 Electronic Records Management System Functionality

The scope of the electronic records management system will be determined by other systems already in place, the functional requirements identified by the organization, and the resources available. Organizations have several options and can install:

- separate systems for electronic and paper records;
- a single system for all records, both physical and electronic;
- separate systems for some records types, such as email and IM; and
- a separate system (or systems) for functional areas or subgroups.

The most pressing challenge is to acquire a records management system that works with existing and planned business systems. This section provides examples of several different frameworks for integration to help you visualize where records under the control of a records management system might reside and how those systems could interact with one another.

5.6 Planning and Management of an Electronic Records Management Program

The information in this unit is provided to help you better understand electronic records and the systems that create and manage them. Selecting and implementing the ERM system is one phase in planning and managing an electronic records management program outlined as follows:

1. Conduct an electronic records survey.
2. Plan the electronic records management project.
3. Select and implement the ERM system.
4. Advocate effective electronic records management.
5. Manage organizational change.

The ERM program is one aspect of the organization's overall records management program.

5.7 Conclusion

Electronic information systems are employed to improve the efficiency and effectiveness of an organization, not to create records. However, information is created by these systems, and a portion of that information is comprised of records that must be managed to meet compliance requirements and provide evidence of business transactions.

Web and social media technologies have changed the way we communicate, collaborate, and interact with others within and outside of the enterprise. They also generate information, some of which are records. Records and information managers play a vital role in identifying records and providing guidance to those responsible for capturing and managing them. Various content management systems can be used to control unstructured content, including web content management systems, enterprise content management systems, and social content management systems. Electronic records management systems can be integrated with other business systems to manage the records residing in the systems of origin.

Typical electronic records management system functions include protecting the record against modification or tampering, marking records as essential, and freezing and unfreezing disposal rules. Organizations have several options for implementing records management systems, including installing separate systems for electronic and paper records or installing a single system for both electronic and physical records. Several approaches to integrating electronic records management systems with other electronic systems exist. And connectors and extenders can be installed to enhance records management features built into business systems.

Self-assessment Questions

1. Define Electronic records management system.
2. What are our content management systems?
3. Discuss the ERM functionality and planning.

Activity:

1. Develop a Data and System Migration Plan with the help of a tutor.

Recommended reading:

1. Franks, P. et al. (2016). "Retention and Disposition in a Cloud Environment, Final Report," May 17, 2016, InterPARES Trust, 15. https://interparestrust.org/assets/public/dissemination/NA06_20160902_RetentionDispositionInCloud_FinalReport_Final.pdf.
2. *Glossary of Archival Language for Archives in Tennessee*, (n.d.) "electronic record," accessed October 7, 2017, www.expertglossary.com/definition/electronic-record.
3. McLellan, C. (2015). "IT Budgets 2016: Surveys, Software and Services, ZDNet," October 1, 2015.
4. National Archives and Records Administration (NARA), (n.d.). "electronic record," "Context for Electronic Records Management [ERM], accessed October 7, 2017, <https://www.archives.gov/records-mgmt/initiatives/context-for-erm.html>.
5. Shegda , K. M. and Tay, G. (2016). "Critical Capabilities for Enterprise Content Management," *Gartner Report*, November 29, 2016, www.project-consult.de/files/Gartner_ECM_Critical_Capabilities_2017_Jan2017.pdf.

Unit No.6

**VITAL RECORDS, DISASTER
PREPAREDNESS AND RECOVERY**

**Compiled by: Muhammad Jawwad
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INTRODUCTION

The unit is designed to explain vital records and how they are managed, prepared, and recovered in case of disaster. It will also discuss and identify the records essential to the organization's continued operation and a disaster recovery plan and a business continuity plan.

OBJECTIVES

After studying this unit, you will be able to explain the following:

1. What are vital records and their types?
2. What is a vital records program?
3. Planning a vital records program
4. Who is responsible for planning the vital records program?
5. How do we identify vital records?
6. Vital records inventory, analysis and protection.
7. Vital records storage, and disaster preparedness planning.
8. Integrating mobile devices into the disaster recovery plan.
9. Disaster recovery policies and plans.

6.1 Introduction

What is a *records disaster*? Simply stated, it is a sudden and unexpected event that results in the loss of records and information essential to an organization's continued operation. Natural or man-made disasters—the terrorist attack that shocked New York City on 9/11, Hurricane Harvey that slammed Texas on August 25, 2017, and the 7.1 magnitude earthquake that shook Mexico City on September 19, 2017—leave devastation in their wake. The loss of life is tragic, and the damage to the local infrastructure can be significant. Long-term recovery efforts are hampered by the interruption of normal economic activity. Even those businesses and public institutions that have disaster preparedness/recovery and business continuity plans in place could find that the effects of these disasters exceed the scope of those plans. Not all records are essential to ongoing operations after a disaster, but those that are must be identified as part of the overall business continuity effort.

ARMA International defines a *disaster recovery plan* as “a written and approved course of action to take after a disaster strikes that details how an organization will restore critical business functions and reclaim damaged or threatened records.” *Disaster preparedness and recovery plan* include not only steps necessary to recover from the loss but also steps to take before a disaster or emergency occurs to either avoid or mitigate loss.

The term *vital records* can be used to describe two different types of records:

- Those that record/register life events under government authority, such as birth and death certificates, marriage licenses, divorce decrees, and adoption.

Those that are essential for the continuation of an organization during and after an emergency as well as those that protect the legal and financial rights of the organization and individuals affected by its activities. Because of confusion over the two definitions, the term *essential records* is being used more frequently to describe the second category—those necessary to protect the rights and interests of the organization and individuals as well as those necessary for emergency operations.

Unfortunately, the term *essential* has not yet been universally adopted, as evidenced by a 2017 article in *Information Management*, “How to Develop a Vital Records Program Project Plan.”

In this unit, the two terms are used interchangeably, with *vital* most often used when discussing a program or plan and *essential* when discussing the records themselves.

A *vital (essential) records program* consists of the policies, plans, and procedures developed and implemented and the resources needed to identify, use, and protect those records necessary to meet operational responsibilities under emergency or disaster conditions or to protect the rights of the organization or those of its stakeholders. This may be a program element within an emergency management plan.

A *vital records manual* is a communications tool used to document the vital records program. It could be published as a separate document or as part of the overall records management manual, and it would most likely be made available to employees electronically. It is comprised of three elements:

- procedures and objectives
- explanation of the essential records schedule (master list)
- instructions for reconstructing the essential records, including the necessary equipment

Identifying the records essential to the organization's continued operations is the first step toward developing both a disaster recovery plan and a business continuity plan.

6.2 Vital Records Program

Every organization, large or small, needs the plan to protect essential information from destruction due to earthquakes, floods, terrorism, and other disasters. Large organizations may survive such disasters because they have duplicate records at other sites. Small companies without a vital records program may never be able to reopen due to lost records.

Some companies feel a false sense of security because they have implemented a disaster recovery program. To most companies, this means protecting files on a computer system so that they can get it up and running again. Older records not stored on computer-readable media are not protected under these disaster recovery programs. Nearly three out of four companies responding to a 2014 survey failed from a disaster recovery preparedness standpoint in one or more of the following ways:

- lost one or more of their mission-critical software applications

- lost one or more of their virtual machines
- lost critical files
- experienced days of data centre downtime

6.3 Planning a Vital Records Program

A vital records program is necessary to identify and protect those records that specify how an organization will operate during an emergency or disaster, those records necessary for the continued operations of the organization, and those records needed to protect the legal and financial rights of all stakeholders. According to the ANSI/ARMA 2017 technical report, *Vital Records*, a vital records program must be developed in conjunction with those stakeholders responsible for the organization's business continuity, disaster recovery, and/ or emergency management programs. It recommends the following steps:

- identifying vital (essential) records
- classifying records (as vital, important, and useful)
- compiling a vital records schedule
- pretesting the program (e.g., procedures to restore backup files)

The *Vital Records* technical report stresses the importance of reviewing the impact of the loss of essential records on the business itself. The risk management process suggested has two main components: business impact analysis (BIA) and essential records impact analysis. The BIA looks at the loss of essential records through the perspective of the business, including understanding the critical functions of the business to prioritize their resumption, identifying potential losses due to disruption, and estimating the time and resources necessary to resume or continue operations. The essential record impact analysis requires understanding the essential records and then linking that back to the business; for example, identifying potential disaster-related threats to essential records and determining the cost of protecting them from those threats. This is followed by the development of a vital records loss prevention plan (e.g., reduce, remove, or mitigate risks) and a vital records protection plan (e.g., dispersal and protective storage). Of course, training of staff is necessary including the introduction of the vital records manual.

The manual begins by suggesting the following first steps: defining essential records and protecting them; conducting a risk analysis; reducing the likelihood of damage, loss, or theft; and producing a records disaster recovery plan. It then provides practical advice to follow when a disaster occurs.

When developing the vital records program, the first questions to answer are:

- Who is responsible for a vital records program?
- What is an essential record?
- How do you identify an essential record?

6.3.1 Who Is Responsible for a Vital Records Program?

Clear authority for a vital records program must be established through policies and procedures. A vital records manager must be designated. Often, the organization's records manager fills this role. This person must work with other stakeholders throughout the organization to identify, inventory, protect, store, make accessible, and update as needed the copies of essential records required in an emergency, including records that document legal and financial rights.

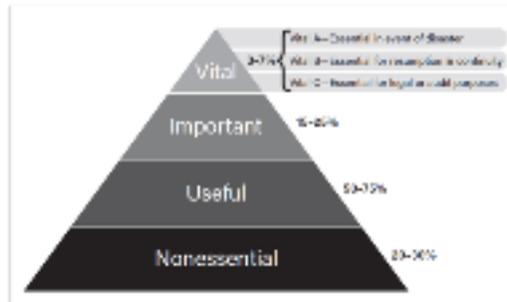
The following people should be involved in preparing the vital records inventory:

- **Vital records manager:** to manage the program.
- **Records manager (if different from vital records manager):** to work with the vital records manager.
- **Department, bureau, and division records liaison officers:** serve as vital records coordinators and implement the vital records program for their areas, including preparing the inventory and ensuring protection for records within their area.
- **Management:** demonstrate support for the vital records program by making it a priority.
- **Information technology (IT) staff:** to ensure electronic systems in their control are regularly backed up and accessible in an emergency.
- **All other employees:** to cooperate and assist where and when needed

Under some circumstances, the organization may hire a consultant to speed up the process. This may also help to ensure quality; however, this option will also increase costs.

What is an essential record? Although the type of *essential record* that needs protection may differ slightly between public and private institutions, its value is the same: to re-create the organization's or agency's legal and financial status and to preserve the rights and obligations of stakeholders, including employees, customers, investors, and citizens. The information may be recorded in any format (e.g., paper, digital, electronic, film, or tape). Percentages for categories of records

vary depending on source with some estimating as low as 1 per cent, but as a rule, not more than 7 per cent of an organization's records are considered *essential*, and it is more likely that the figure would be between 3 per cent and 5 per cent (see figure below).



To continue or resume operations and to meet customer needs, the organization should protect records that identify fixed assets, identify and fulfil existing commitments to customers, rebuild facilities, develop new business, identify the nature and value of inventory, and resume computer system operations and telecommunications. To ensure the rights of employees, the organization should protect records that list salaries and benefits due employees and former employees and document any other corporate commitments to employees, such as union contracts. To safeguard legal, financial, and shareholder interests, the organization should protect records that document receivables, determine liabilities, identify the locations and amounts of cash and securities owned by the company, establish and defend the organization's tax position, identify shareholders and their holdings, meet all legal requirements for establishing the corporate status, and protect intangible assets such as patents and trademarks. Emergency operations records, such as staff contact and assignment information, and the business continuity plan itself, are examples of essential records needed during an emergency.

In many instances, the loss of recorded information can have more devastating consequences for the continuation of an organization's operations than the loss of physical space or equipment, which is often replaceable and insured. The loss of essential records can result in:

- disruption of essential customer services,
- exposure to unplanned expenses of financial settlements or loss of revenue,
- increased vulnerability to litigation, and
- loss of productivity due to gaps in information.

Essential records should not be confused with *permanent records*. Records retain their essential status only if they are necessary to the continued existence of the organization.

6.3.2 How Do You Identify an Essential Record?

Identify the records required to continue functioning during the disaster or to re-establish operations immediately after the event. Too often *vital information* is interpreted as *archival or historical information* preserved for the benefit of researchers and posterity. This is another good reason why the term *essential* makes sense. Each unit within the organization must analyse its operations to determine what information is necessary for its continued existence and the attainment of its critical missions.

This will feed into the overall vital records inventory for the organization. On the unit level, a committee of senior staff should be convened to undertake this task. It is recommended that the committee meet regularly (e.g., every two weeks) until the records have been identified and a vital records program is in place. The individuals on the committee should be very familiar with their areas and the records in those areas and be willing and able to devote time to the program until it is operational. One person from this committee should assume the role of records liaison to communicate with the vital records program manager.

There are several ways to classify records. Some classification systems do not take into account nonessential records. However, including such a classification makes it easier for employees to understand which records they can immediately disregard when compiling their inventory. The Delaware State Archives classifies records as *vital, important, useful, or nonessential* and provides the descriptions of each category (see table below).

VITAL RECORDS	These records are essential to the continuity of services during a calamity or the restoration of daily business if it has been interrupted. These records are irreplaceable, and copies do not have the same value as originals.
IMPORTANT RECORDS	This category of records is replaceable only at considerable expense of funds, time, and labor.
USEFUL RECORDS	These records, if lost, might cause some inconvenience but could easily be replaced. Loss of these records does not present any real obstacle to restoring daily business.
NONESSENTIAL RECORDS	Loss of these records presents no obstacle whatsoever to restoring daily business.

The University of Washington also takes into account nonessential records but reduces the categories to three: essential, useful, and nonessential.¹⁶ Regardless of the classification scheme, the committee should begin with the comprehensive records retention schedule.

First, eliminate all nonessential records. Then eliminate those records that contain important information but that can be easily reproduced. Identify all situations where information is or can be protected through computer system backups. Finally, re-evaluate the remaining records to see if they are essential. To do this, ask two questions:

- What would we be unable to do if this record were destroyed?
- How critical is our inability to do this or what is the impact on our organization?

Increasingly, publications cite the 5 per cent of records “you can’t live without” but ignore the other 95 per cent when providing advice on disaster preparedness/recovery and business continuity. This does not imply that other important records should be ignored. However, it may be easier to set aside a discussion of the other categories to focus on the essential records during the disaster preparedness/recovery planning process.

6.4 Vital Records Inventory

The goal of a comprehensive records inventory is to identify records categories, not every record that exists. A physical inventory conducted by properly trained personnel should be conducted. Be sure to inventory not only paper but also computer printouts, microfilm, magnetic media, photographs, slides, engineering drawings, and any other recorded information. Don’t forget the digital files stored in enterprise content management systems and with third-party vendors in the cloud. When a retention schedule is developed, the operational, legal, administrative, and/ or historical value of the record is considered. Essential records are appraised similarly with one major difference: the value of the record during and immediately after an emergency is what makes it essential. Essential records are either *right and interest* records or *emergency operations* records. Rights and interests’ records can be subcategorized as operational, legal, and fiscal (see table below).

CATEGORY/SUBCATEGORY	DESCRIPTION
Rights and Interests	
Operational	Any functions necessary to the operation or continuation of your unit or the organization as a whole.
Legal	Any functions that provide proof of the organization's legal status.
Fiscal	Any functions which prove the status of the organization's financial status.
Emergency Operations	
Emergency Operations	Any functions needed during an emergency.

The complete records inventory which identifies all records, their locations, and the format in which they are maintained is the basis from which the records retention schedule is created. An essential records inventory can be carried out independently of or at the same time as the comprehensive records inventory introduced in earlier units of this study guide. As new records are created, they should be analysed to determine their status. A records inventory form should be completed for each records series and include information such as the title of the record, a description, the location, and its format.

6.5 Vital Records Analysis

Once the records inventory forms have been completed or gathered, they can be used as the basis for interviews with the organization's management staff. The task is to determine their perception of the value of the records under their jurisdiction and the consequences that would be incurred if those records were lost. Questions to be asked during the interview could include:

- Who are the stakeholders of the unit or organization?
- What records are produced because of each function (operational, legal, fiscal, emergency management)?
- What is the impact of not providing the records necessary to support each function (i.e., can the work be carried on if the record is gone)?
- How long can you carry out those key functions without the records?
- Which of the records are essential (unique and required in their original form to meet evidential requirements, not easily reproduced, or only reproduced or replaced at a disproportionately high cost)?
- Can these records be replaced by another source?
- Are these records on a computer, microfilm, backed up to the cloud, or other?
- Are these records duplicated in a different format?
- Is the format easily accessible during or after an emergency?

The records manager should analyse the information gathered from these interviews to determine the protection status of the vital records.

6.6 Vital Records Protection

The goal is to use the simplest, most economical method that fits the circumstances. The two methods of protection, which apply to both physical and electronic records, are duplication and dispersal and protective storage.

6.6.1 Duplication and Dispersal

Records can be protected by making copies and storing them in one or more locations apart from the original records. Methods of dispersal include:

- **Routine dispersal:** This low-cost method is the result of keeping a copy of the record at more than one location as a normal part of business operations. If this method is used, procedures must be put in place so that records can be retrieved easily when necessary.
- **Planned (designed) dispersal:** This method entails duplicating the record for protection purposes rather than as a normal part of the business operation. This involves storing the duplicate off-site with a few exceptions, such as microfilming the records and storing them in a vault on-site or creating an extra copy of essential data residing on a computer and transferring that copy to a secure, remote location.
- **Derivative dispersal:** Although this is not a method of dispersal any organization should rely on, it deserves mention when considering the actual life of information. This is a term used to represent information and records intentionally (with or without malice) spread through the use of the Internet, social media, and smart devices. It is a direct by-product of the information age. Information that may or may not be considered records of the organization can be shared virally once made public and have a life of its own beyond that of the useful life determined by the organization. Examples include the documents released through the non-profit organization WikiLeaks and the tweets now preserved in perpetuity by the Library of Congress.

6.7 Protective Storage

Dispersal does not ensure the protection of either the original or the copies. Steps must be taken to provide storage to protect vital assets, for example:

- **On-site storage:** Some organizations, including many local governments, maintain essential records in a vault, fireproof cabinet, or fireproof container on their premises. If this option is elected, the storage equipment must conform to the rating requirements of the National Fire Protection Association (NFPA) standards, which currently require essential records be stored in a vault, or for small volumes, in two-hour records protection equipment in a fire-resistive building.
- **Off-site facility:** A large company may invest in its off-site storage facility for essential records on a variety of media, including paper, microfilm, tapes, and discs. Others use commercial off-site storage. The facility should be accessible twenty-four hours a day by appropriate officials, have twenty-four-hour climate control with a temperature of approximately 20°C or 68°F and relative humidity of 30–40 per cent, and be located far enough away from the site that the same disaster will not affect records stored at both.
- **Electronically stored information (ESI):** Identify “hot,” “warm,” and “cold” sites to accommodate electronic records. Consider cloud-based solutions. Be sure systems, applications, and system documentation are stored along with the records.

6.8 Storage Media

When possible, store essential records on a medium that will last as long as the record is needed. Because an essential record may not have permanent retention status, a life span of 500 years for a storage medium is not necessarily required. Compare the expected retention period of the records with the length of life of different media when determining how to store records (see table given below).

TO: RETENTION PERIODS	YEAR	COUNTRY	TO: RETENTION PERIODS	YEAR	COUNTRY
1. Microfilm	100	USA	1. Paper (DATE)	100	USA
2. Paper (DATE)	100	USA	2. Paper (DATE)	100	USA
3. Paper (DATE)	100	USA	3. Paper (DATE)	100	USA
4. Paper (DATE)	100	USA	4. Paper (DATE)	100	USA
5. Paper (DATE)	100	USA	5. Paper (DATE)	100	USA

TO: RETENTION PERIODS

TO: RETENTION PERIODS

The actual length of time that storage media remain viable will depend on many factors, including:

- the quality with which the media were manufactured,
- the care with which the media were handled,
- the number of times the media were accessed,

- the quality of the device used to write to or read from the media, and the cleanliness, temperature, and humidity maintained within the storage environment.

In addition to the danger of loss due to the longevity of the storage media selected, some media will fail. Therefore, essential records must be stored redundantly (backed up on more than one type of media). The media must be tested periodically to ensure that the data are readable and have not been altered.

6.9 What to Do If a Disaster Does Occur?

The need for emergency operations plans is immediate. A copy of the vital records/disaster recovery plan should be stored at or close to the facility and available on a twenty-four-hour basis. In case the immediate area is inaccessible, key employees should also have access to the essential records/disaster recovery program from home either as a print or electronic copy or available online.

In the event of a cataclysmic disaster, communication breakdowns will occur. For example, in 2017, Hurricane Maria decimated the communication, transportation, and utility infrastructure of the island of Puerto Rico. Private residences and businesses were left without power, cable, or landline service, and mobile reception was spotty or non-existent not to mention that even if there were cell service, phones would not operate without electricity to recharge them. In a situation like this, the local print copies, if any survive, maybe all that is accessible.

6.10 Disaster Preparedness and Recovery Planning

The *disaster recovery plan* is an emergency plan that outlines the steps your organization will take to protect itself from loss due to a disaster and the steps the organization will take if impacted by a disaster. The plan coordinates the efforts, staff, and other resources needed to protect the business's information and equipment, as well as its employees and customers. The disaster preparedness and recovery plan should identify procedures to be implemented to prevent disasters from occurring in the first place and steps that can be taken to mitigate the effect of those disasters that cannot be prevented. Hazards to be evaluated include natural hazards (geological, meteorological, and biological), human-caused events (accidental and intentional), and technologically-caused events (accidental and intentional). Any information that may prove useful in preventing disasters, or in

being prepared for disasters, should be included in the vital records disaster preparedness and recovery plan.

6.11 Pre-disaster Preparedness

Pre-disaster preparedness involves identifying the types of risks most likely to impact your organization, including natural hazards, human-caused events, and technologically-caused events.

a) Natural Hazards

Every business faces some sort of risk from natural hazards, regardless of its geographic location. Some parts of the globe are more likely to be affected by certain types of disasters than others. You should determine the risks presented to the organization based on its geographic location. When finding the right spot for a disaster recovery site, you need to select an area that is not likely to be affected by the same type of disaster your primary site faces.

b) Human-Caused Events

Despite the attention devoted to loss of information due to major disasters, records damage most often comes from preventable conditions such as equipment failure, arson, terrorism, vandalism, and carelessness. Due to the frequency and sophistication of attacks on Data. Damage can also occur due to leaking roofs, burst pipes, and damp conditions in basement storage areas. Although most damage is localized and affects only a small percentage of an organization's vital records, valuable information may still be lost if the recording media is damaged by water, fire, smoke, mould, or chemicals. Salvage and restoration efforts can be expensive if even possible.

Pre-disaster preparedness efforts require team members to determine if potentially hazardous substances have been used in constructing or equipping offices. If those substances are present in the workplace, essential records should be stored off-site and copies used daily.

c) Technologically Caused Events

Events that affect central computers, mainframes, software, or internal and external applications are included in this category. Also included are events that disrupt ancillary support equipment, telecommunications, and sources of energy, power, or utilities, as was experienced on the island of Puerto Rico in 2017.

Increasingly, organizations are entering into agreements to store electronic records in the cloud. The same procedures used to protect records controlled by the organization must be used to protect records stored by service providers. Proof that the service provider has an adequate backup and recovery plan in place is necessary. This information should be included in a terms-of-service agreement (or service contract) negotiated between the organization and the service provider. Periodic tests should be conducted to ensure that the backup recovery systems and processes work as agreed upon. Just as with organization-owned sites, both the service provider's primary site and its backup site must be geographically located to avoid risk from the same natural disaster.

6.12 Disaster Recovery

By October 6, 2017, fifteen weather and climate disaster events in the United States resulted in the deaths of 282 people and caused losses exceeding \$1 billion each. They included one drought, two floods, one freezing, seven severe storms, three tropical cyclones, and one wildfire. Developing a disaster recovery plan takes a great deal of time and effort just how much depends on the size of the organization and the risks identified. It is important to remember that human safety is the priority.

Recovery of information and records comes only after all employees and visitors are safe. Experts disagree on the format of a disaster recovery plan, but when comparisons are made, common elements emerge, such as:

- **Communications strategy:** Determine how you will reach all employees during a disaster.
- **Roles and responsibilities:** Assign responsibilities to everyone involved, and designate backup in case the primary team member is not available. Provide training for all primary and backup team members.
- **Access to systems:** Be sure the primary and backup individuals are assigned role-based access where necessary to perform a recovery.
- **Remote access:** Be sure recovery can be initiated remotely.
- **Document the process:** The disaster recovery procedures should include clear step-by-step instructions for members of the team.
- **Test the plan:** Practice makes perfect. After initial training, at minimum, provide, an annual test of your disaster recovery plan.
- **Evaluate and update your plan.**

A cursory review of disaster recovery plans available on the internet reveals that most tend to emphasize either physical records or digital records. The steps outlined to recover from a disaster may be specific to the medium used to store a majority of the records, but essential records must be protected regardless of the medium.

6.13 Recovering Physical Records

Essential records will be listed on your vital records schedule. Depending on the type of organization, those records could include:

- contracts, leases, and license and franchise agreements;
- laboratory notebooks and other research data;
- engineering drawings and blueprints;
- product formulas and product specifications;
- insurance policies;
- articles of incorporation, bylaws, and board minutes;
- patents, trademarks, copyrights; and
- deeds and title to the property.

As soon as possible, a *records damage assessment* site survey should be conducted to determine the type of damage that has occurred. Records should be treated based on priorities set previously and the severity of the damage. The site survey would include:

- the name of the surveyor and the date and time of the survey;
- the location (floor, room);
- the type of damage (mould/mildew, mud, water, smoke, fire, sewage, insects, rodents, other);
- the type of media (paper, books, photographs, slides, tapes, microfilm, maps, hard drives, CD-ROMs/DVDs, other); and
- additional information based on the type of record.

For essential records, the following information would be recorded: types of records/record series, volume in feet, and dates of records. The sample as given in the Figure below can be used as the basis for your records damage assessment site survey.

Records Storage Procedures - Site Facility	
Location	Location of Building
Room	Room Number
Floor	Floor Number
Coordinates of Building (Latitude/Longitude)	
Nearest Telephone	Nearest Fire Station
Nearest Hospital	Nearest Police Station
Nearest Gas Station	Nearest Gas Station
Nearest Water Main	Nearest Water Main
Nearest Sewer Main	Nearest Sewer Main
Nearest Power Line	Nearest Power Line
Nearest Gas Line	Nearest Gas Line
Nearest Telephone Line	Nearest Telephone Line
Nearest Cable TV Line	Nearest Cable TV Line
Nearest Internet Line	Nearest Internet Line
Nearest Fiber Optic Line	Nearest Fiber Optic Line
Nearest Satellite Line	Nearest Satellite Line
Nearest Other Line	Nearest Other Line

In the event of a disaster affecting your essential records stored on-site in physical formats, you would follow the steps outlined in your own vital records disaster recovery plan.

The following steps are provided as one example:

- Stabilize the site and gain access as soon as the building is safe for re-entry armed with the vital records schedule and a list of all safe and vault combinations, location of keys to all file cabinets, vaults, or containers that house vital records.
- Restore environmental controls and allow the heating or air-conditioning systems to run 24/7 to maintain a temperature below 70°F and relative humidity low 50 per cent.
- Document the damage. The coordinator of the vital records disaster

the management team is responsible for documenting the damage by taking photographs and videos and/or completing a records damage assessment site survey.

- Toss duplicate records and replaceable or disposable materials to remove a source of humidity and reduce the volume of materials the team must inspect.
- Keep an inventory of material disposed of for insurance, replacement, and tracking.
- Assess the damage. This can be accomplished by analyzing the records damage assessment site survey to determine the extent of the damage and the approximate volume of records affected. Prioritize treatment by handling essential records first. Determine which records are official records on vulnerable media that have not been backed up.
- Stabilize the records. Salvage wet records within forty-eight hours to avoid costly restoration efforts. Photographs, magnetic media, and coated-stock paper should be given the highest salvage priority because they deteriorate more quickly. It may be necessary to move these records off-site if stabilization is not possible in the original environment.
- If necessary, move records off-site following previously agreed-to procedures that include identification of a suitable vendor for handling and restoration, tracking method, relocation destination, transportation, necessary clearances, and personnel assigned to accompany the records.

6.14 Recovering Electronic Records

The terrorist attacks of September 11, 2001, sent shock waves around the world. That day Americans realized that natural disasters were no longer the greatest threat to our lives and our economy. Several top financial services firms had offices in the World Trade Center, including Morgan Stanley Dean Witter, Credit Suisse, Commerzbank, and Deutsche Bank. The attacks exposed one area of vulnerability to business continuity: almost no paper records survived the attacks on the World Trade Center.

Those businesses with offices in and near the World Trade Center site that had disaster recovery plans in place for electronic data moved to off-site locations and took steps to resume business operations. As a direct result of 9/11, all businesses began to question their ability to recover from such an event. Whether you develop your data recovery centre or contract with a service provider, keep in mind the following lessons learned:

- Don't place backup facilities near each other. One business located in the World Trade Center had a backup facility several blocks away and data was lost at both sites.
- Do regular backups of data residing on desktops and laptops. Synchronize data with the server daily. One data recovery service provider was able to recover 100 per cent of the data for their clients—except for data that had not been backed up. Critical works in progress are often neglected when it comes to backing up.
- Don't just back up your data. To restore the data, copies of data catalogues and directories are needed to organize the data and obtain the appropriate permissions to access the data.
- Do avoid incompatibility issues when recovering data by running backup and storage environments like those in daily use.
- Do make sure that backup facilities have the hardware, software, network connectivity, and services needed to run your entire operation.
- Do be prepared to re-establish systems management capabilities quickly, including monitoring, job execution, and security features.
- Do prepare by training internal disaster response teams and identifying the applications and business operations that should be recovered first.

▪

Taking a lesson learned from 9/11, disaster recovery sites should be not only off-site but also in a geographic location that would not be exposed to the same risks from disasters as the original site. The choice must be made between establishing and managing a company-owned site or contracting with a disaster recovery service provider, but a decision on the most appropriate type of site for the organization must be made. Traditional options include:

A) Disaster recovery cold sites: A cold site is an available space without the equipment and data needed to continue business operations. This type of site is attractive for businesses that want to save money and have eighteen or more hours to get up and running. The disadvantage of a cold site is the need to set up your equipment, load software and data, and make all internet and phone connections.

b) Disaster recovery warm sites: Warm sites provide not only space but also the equipment you need to continue operations. However, you would need to load or restore your data to the system. This type of site relies on backups for recovery. In the past, the use of tape-based backups meant it might take days to recover from a disaster. When a tape-based backup is replaced by electronic vaulting—the transfer

of data by electronic means to a backup site—recovery times are near those for hot sites but at a fraction of the cost.

c) Disaster recovery hot sites: Financial institutions must retain the trust of the public in times of crisis by minimizing disruption to services. Therefore, they use hot sites as the basis for their disaster recovery system. A hot site is a duplicate of the original site, with full computer systems and near-complete backups of user data. This is the most expensive option.

6.15 Integrating Mobile Devices into the Disaster Recovery Plan

Business-critical information may exist on mobile devices. The following steps will help the organization incorporate mobile devices into the disaster recovery plan:

- Inventory the mobile devices. (Where are they? To whom are they assigned? Do employees use personal mobile devices to conduct business?)
- Determine the importance of the mobile device data and applications. (Do they contain business-critical data?)
- Determine how quickly you can recover from a disaster. (What steps can be taken before and after an event to prevent data loss?)

Records managers are responsible for including records that may be stored on mobile devices in their records management programs. IT is responsible for information protection and data recovery. Although most devices will be used to run applications that collect data to be transmitted back to a central server, it is important to plan for cases in which sensitive data does exist on a lost or stolen mobile device.

Several tools are available to protect sensitive data on mobile devices by providing a device lock, enhanced passwords, and a device wipe that can be used by the organization to remotely delete all data on the device and removable storage cards. Recovery will take less time if the organization standardizes mobile devices and has a replacement plan in the event of a wide-scale hardware failure. Upper management will need to be aware of the necessity of standards and support the replacement plan.

6.16 Disaster Recovery Policies and Plans

Organizations, both public and private, have a responsibility to employees, partners, customers, and other stakeholders to improve their disaster recovery capabilities. The tactical decisions addressed previously must be performed within an overall disaster recovery policy framework. The governing policy statement should include, at a minimum, the following instructions:

- The organization should have a comprehensive disaster recovery plan.
- A formal risk assessment should be undertaken to determine the requirements for the disaster recovery plan.
- The disaster recovery plan should be tested in a simulated environment to ensure it can be implemented in an emergency. Two full tests per year along with several component tests throughout the year are recommended for electronic systems.
- The disaster recovery plan should cover all mission-critical and business-critical activities.
- The disaster plan should be updated as necessary as part of configuration management and change management.
- All staff must be made aware of the disaster recovery plan and their roles in it.

The transition from paper to electronic records means that time can be saved restoring important and useful records. Tape is still considered the dominant backup technology. If stored off-site, information is backed up locally and transported to an off-site facility. However, replication is becoming more popular to protect both mission-critical and business-critical records. After tape backup, synchronous and asynchronous replication methods are favoured for critical applications, whereas periodic point-in-time copies and remote backup over a wide area network are used most often for noncritical applications and data.

Disaster recovery is often seen as the organization's ability to recover its IT resources, including infrastructure, databases, and applications. Disaster recovery is just one part of the organization's business continuity strategy.

6.17 Conclusion

Vital (essential) records protection, disaster planning, and business continuity management are essential to the survival of an organization impacted by a major disaster. Records and information managers have a key role to play in each of these initiatives.

Essential records contain the information required by the organization to re-create its legal and financial status and to preserve the rights and obligations of stakeholders, including employees, customers, investors, and citizens. These critical business records are in most instances irreplaceable, and the organization cannot exist without them. Records managers already responsible for inventorying and appraising records for retention purposes may also be tasked with developing and managing a vital records program.

Disaster planning should be conducted by a committee that includes representatives from all functional areas of the organization, with upper-management support. Because of the volume of digital information produced, IT departments play a major role in developing disaster plan. A well-devised plan cannot, of course, prevent disaster, but it can serve to mitigate loss through both protection and recovery efforts. Records managers possess the skills and knowledge necessary to assist the organization in developing the sections of the plan related to the protection of records in both paper and digital formats and in developing the procedures necessary to recover records affected by a disaster.

Business continuity stresses the importance of *continuing business activities* despite interruptions. Some think of business continuity as synonymous with disaster recovery. But although the two may overlap, there are key differences. A disaster plan focuses on preventing or mitigating loss due to a disaster and recovering the essential records and information needed to continue operations after a disaster. Business continuity planning involves developing a process to ensure that critical business processes can continue despite any type of interruption, including power failure, vandalism, employee theft, human error, and work stoppages. Records managers can contribute to business continuity planning because of their familiarity not only with essential records but also with essential business operations that require records that must be available during a critical event.

Taking steps to protect essential records and resume operations after a major disaster is required for an organization's survival. Organizations today recognize the value of data as a business asset that must be protected. One option is to utilize Backup as a Service (BaaS) to store a copy of the organization's data so that it can be restored if necessary.

Self-assessment Questions

1. Define vital records and their types.
2. What is a vital records program? Describe the planning of the vital records program.
3. Discuss the various consortia approaches to E-resource subscriptions.
4. Explain the vital records inventory, analysis, protection and preparedness.
5. How mobile devices are used in the disaster recovery plan?
6. Elaborates disaster recovery policies and plans.

Activity:

1. Prepare a draft disaster recovery plan with the help of the tutor.

Recommended reading:

1. ARMA International, (n.d.). “Business continuity plan,” *Glossary of Records and Information Governance Terms*, 5th ed. (Overland, KS: ARMA International, 2016), 7.
2. ARMA International, s.v. “disaster recovery plan,” *Glossary*, 16.
3. Artsdalen, A. V. (2017). “How to Develop a Vital Records Program Project Plan,” *Information Management* 51, no. 6 (November/December 2017): 33–37.
4. Disaster Preparedness, Response and Recovery—Advice and Resources,” Washington State Archives, accessed December 3, 2017, <https://www.sos.wa.gov/archives/RecordsManagement/DisasterPreparednessandRecovery.aspx>.
5. *Electronic Records Management Software Applications Design Criteria Standard*, April 25, 2007, available at website: <http://jitic.fhu.disa.mil/projects/rma/downloads/p50152stdapr07.pdf>.
6. Justia.com, “Management of Vital Records,” US Law, 36 CFR § 1236.20 (1995), <http://law.justia.com/CFR/title36/36-3.0.10.2.17.html>.
7. National Fire Protection Association (NFPA), *NFPA 232: Standard for the Protection of Records*, 2017 ed. (Quincy, MA: NFPA, 2017). www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=232.
8. Ron Blair and Mark Thomas Jagers, “Magic Quadrant for Disaster Recovery as a Service,” Gartner, June 19, 2017, www.gartner.com/doc/3746618/magic-quadrant-disaster-recovery-service.

Unit No. 7

**INACTIVE RECORDS MANAGEMENT,
ARCHIVES AND LONG-TERM
PRESERVATION**

**Compiled by: Muhammad Jawwad
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INTRODUCTION

The unit is designed to discuss and explore the use of records centres for inactive business records and the role of archives in retaining records and information for research or historical purposes. The main purpose of this unit is not to cover all archival theory and practice but to introduce some archival concepts to those who are also responsible for records and information management.

OBJECTIVES

After studying this unit, the students will be able to explain the following:

1. What are records and archives?
2. How inactive records and records centres are managed?
3. What is the planning and design of archive centres?
4. How valuable records and archives are stored, handled and arranged?
5. What the archives management process?

7.1 Introduction

Every organization possesses physical and electronic records that are rarely used in daily operations but must be retained to satisfy business needs, legal and regulatory requirements, and community or societal expectations. Paper records stored in file cabinets occupy valuable office space. If the records are referred to infrequently, they should be moved to less expensive storage locations. Digital files can be moved to less expensive online or offline storage. *Records centres* are designed specifically to retain inactive records until they meet their retention requirements. The majority of records stored in records centres are paper and microfilm, but the growth of digital information has resulted in the addition of media vaults to store digital media such as CDs, DVDs, tapes, and hard drives. Some records centres offer online content management systems and others will even create a digital archive for a particular group of records.

Records with long-term or permanent retention requirements need more stringent storage controls than traditionally provided in a records centre. Therefore, they are usually transferred to an *archive*—a repository designed to store and preserve documents that are of value to researchers and historians.

7.2 Inactive Records and Records Centers

An *inactive record* is “no longer needed to conduct current business but preserved until it meets the end of its retention period.”¹ Access to inactive records will be infrequent; therefore, separating active records from inactive records yields numerous benefits in the world of physical records, including:

- Freeing additional space for active files
- Decreasing the chances of misfiling
- Improving inactive reference services
- Increasing efficiency in records disposition
- Avoiding the purchase or use of unnecessary, costly storage equipment (e.g., additional file cabinets).

The definition of inactive records used by the Society of American Archivists (SAA) omits reference to a retention requirement and describes inactive records as “records that are no longer used in the day-to-day course of business, but which may be preserved and occasionally used for legal, historical, or operational purposes.”

Inactive records can be identified by the frequency of access as established by the institution. For example, one institution may classify a record inactive if accessed six or fewer times a year, whereas another may consider a record inactive if used less than once a month. Some organizations store inactive records in their own records centres, in on-site or off-site facilities located on property that is less expensive per square foot than real estate used for administrative offices. Organizations can maximize the use of their space and potentially reduce costs by offering records storage services to others free of charge or for a fee. Some organizations take advantage of the services of commercial records centres for their inactive records; still, others use a combination of the two—in-house and commercial.

Once a program is initiated, the outcome should be evaluated periodically to determine if adjustments are necessary. Circumstances attributed to organizational changes, such as acquisitions or mergers, can impact the organization's inactive records management strategy.

7.2.1 Records Center Planning and Design

The term *records centre* usually evokes an image of a records center with floor-to-ceiling shelving units packed with boxes of paper records. Records centres may also contain vaults to house vital records and records stored on different media, including microfilm and computer tapes. Environmental controls vary according to the type of medium on which the record is stored. Smart space planning, including the choice of storage equipment, maximizes the volume of records that can be contained in the records centre.

Staffing depends on the size of the organization, the volume of records, and the services provided. Environmental, access, and security controls protect the records. Automated processes, such as bar coding and radio frequency identification (RFID), help staff manage physical files so they remain accessible, and the company remains compliant. Not every records manager will be responsible for planning, designing, and managing a records center. But it is important to understand the criteria that must be considered and the resources that are available if the opportunity presents itself.

7.2.2 Estimating Volume and Space Requirements

The information gathered from both the records inventory and the retention and disposition schedule covered in chapter 4 can be used to estimate current and future space needs. The inventory lists records on hand in active and inactive storage

locations. The volume of existing inactive records needs to be planned for when designing new or improved space. One rule states that one-third of all records are active and can be found in offices, one-third is inactive and should be stored in a records centre, and one-third (or more) have no value and should be destroyed.

Before moving to a new or improved records center, dispose of records that have met their retention requirement to reduce the cost of transferring records. Once you determine the volume of existing inactive records identified through the records inventory, you must consider expansion needs. The estimate for expansion is also one-third, barring unusual circumstances. The volume of inactive records may increase, for example, if a legal hold prevents the destruction of records. It is not unusual to have such records retained years past the disposition date while a case or investigation runs its course. The volume of records in inactive storage may decrease over the years, however, if automated processes are implemented that result in an increase in digital information and a decrease in paper records.

The size of the space selected or built should be based on the estimated volume of records to be housed. Floor space and height of the ceiling must be considered. Robek, Brown, and Stephens used the formulas shown in the figure below for estimate space requirements for the stack area of the records centre.

$$\frac{\text{Volume of records}}{\text{Stack height} \times 330} = \frac{\text{Estimated records}}{\text{Stack height required}}$$

$$\frac{\text{Volume of records}}{\text{Floor area} \times 330} = \frac{\text{Stack height required}}{\text{Floor area}}$$

$$\text{Floor area} \times \text{stack height} = \frac{\text{Volume capacity}}{\text{Stack height}}$$

A records manager can use these formulas to make preliminary decisions. There are times when the only option is to use the space currently available. In that case, the floor area times the stack height possible (based on structural features such as ceiling height and low-hanging pipes and light fixtures) will reveal the volume of records that can be moved to the inactive storage space. By comparing this figure with the current volume of inactive records plus anticipated growth, one can quickly determine the adequacy of the space for the organization's needs.

Guidance such as “Archives and Records Storage Building” by the National Institute of Building Sciences can help you plan your inactive storage facility and help you determine the shelving best suited to your needs.⁵ Steel shelving that is 42 inches high and 32 inches deep is recommended to allow for a row of three standard records centre cartons that are 10" × 12" × 15". Consultants can help with space planning, and vendors that specialize in shelving and storage systems can provide advice and examples of floor plans.

7.2.3 Storage and Handling

Records centres may restrict the type of storage boxes they will accept. Standard sizes include:

- **Standard records center box:** 10" × 12" × 15". They can hold 1 cubic foot of letter-size or legal-size documents (a letter-size file drawer contains 1.5 cubic feet of records and a legal-size file drawer containing 2 cubic feet).
- **Standard storage boxes for CD-ROMs, microfiche, and roll film:** 15" × 12" × 5". These are half the height of a standard records center box.
- **Map, blueprint, and plan boxes:** 12" × 10" × 30".

Space should be left so the lid fits and the box does not bulge. Staff responsible for packing should be instructed to remove metal fasteners, three-ring binders, and binder clips from the materials. Some centres allow staples and paper clips, although these items can rust when stored for long periods.

The primary concern should be access, security, and preservation of records. Records should be stored as part of a records series and remain in file folders when placed in boxes. Records with long-term or permanent value should be stored in acid-free folders and storage boxes.

Be sure to take the weight of the records into account. Each of the standard boxes weighs between 30 and 50 pounds when full and more if water-soaked by overhead sprinklers activated due to a fire. A structural engineer should determine floor strength, and the records manager should use the findings to determine how many cubic feet of records could be stored in the space. The results of these calculations may limit the volume of records that can be stored and perhaps even lead to a decision to identify alternate storage space.

7.2.4 Additional Space Requirements

Areas are needed for use by the records centre staff and clients, including:

- **Administrative area:** The office area used by records center staff. It should be close to the stack area, clean, well-lit, and air-conditioned. The space required depends on the size of the facility and staff.
- **Reference area:** This area is set aside for visitors or clients to review materials. The equipment needed depends upon the services provided; for example, a copier and microfilm/microfiche reader/printer. At a minimum, it should include tables arranged to allow staff to observe users and files. Proximity to the administrative area is ideal.
- **Records staging area:** Records are first brought into the records center through the staging area. It should be clean and secure with a doorway wide enough to allow a forklift and pallet to transfer records cartons from the loading dock. Space should be available to house two to three days' worth of records awaiting accessioning.
- **Records processing area:** This area should also be near the loading dock, the stacking area, and the administrative area. It will be utilized for returned files, interfiles (items placed in their proper place within an existing body of materials), and assembling records boxes. It should be furnished with at least one work table, and the doorways and aisles must be wide enough to accommodate records-handling equipment.
- **Records disposal area:** This temporary area stores records awaiting disposal. It should be near the loading dock but separate from the staging area to prevent the destruction of the wrong records. If documents are shredded on-site, a commercial shredder and bailer could be housed here, but the space would need an air ventilation/ exchange system and soundproofing. An alternative to shredding in-house is to contract with a commercial shredding or recycling service that will remove your records for shredding or recycling at their facility or provide on-site shredding services using mobile shredding trucks.

7.3 Records Protection

The main goal of the records centre is to protect the records within its care from damage due to environmental conditions, natural and man-made disasters, theft, sabotage, and vandalism.

7.3.1 Environmental Factors: Temperature, Humidity, Lighting, and Pollution

Storage media can be damaged by fluctuations in temperature and humidity. The modern paper has a life expectancy of only about twenty years due to high levels

of acidity in the paper composition and pollution in the atmosphere. Life expectancy can be reduced by exposure to extreme temperatures. Heat causes paper and microforms to become brittle, and humidity promotes the growth of fungus that rots paper and breaks down the composition of microfilm. The table given below presents optimal ranges for paper, film, and electronic media.

Item	Temperature	Relative Humidity
Paper	65-70 F (+/-20°)	40-50 %
Film	55-68° F (+/-20°)	30-40 %
Electronic Media	68° F (+/-20°)	30-40 %

Avoid temperature fluctuations of more than 5 per cent in either direction. When storing mixed media, temperatures between 65 and 70 degrees and relative humidity between 40 and 45 per cent are safe for paper, film, and electronic media.

Employ heating, ventilation, and air conditioning (HVAC) controls to maintain a fairly consistent temperature and humidity levels. If humidity is difficult to control, fans will keep air circulating to prevent mildew. Dehumidifiers may be required in some climates. If used, a drain line should be installed to remove water automatically and checked periodically to be sure it is unobstructed. HVAC systems should be equipped with filters to remove dirt and other harmful particles from the air. Clean or replace filters on a regular schedule.

Ultraviolet (UV) light, strongest in sunlight and fluorescent lighting, can shorten the life of paper and microforms. Light weakens paper fibres, contributes to brittleness, bleaches or yellows paper, and fades print. To protect records from sunlight, attach UV-filtering film to windows and/or use blinds or drapes. If using fluorescent lighting, buy low-UV fluorescent bulbs, install UV-filtering film on the light diffuser panels, and/or use UV-filtering sleeves on the tubes. It's best to run lighting over the aisles parallel to the shelves rather than over the shelves.

Locate the light fixtures 14 inches above the highest box or shelf, and keep lights off as much as possible, use zone lighting to avoid lighting the entire area and consider the use of light timers or motion sensors to minimize the use of electricity, protect records, and reduce overhead costs.

Pests, including rodents and insects, feed on paper, leather, and pastes found in

record storage areas. Inspect records for insects before placing them into storage. Pests can be controlled by chemical means if necessary, but their presence can be discouraged by minimizing the elements essential to their survival, including food and moisture. This can be accomplished through good housekeeping, ongoing monitoring, routine inspection, and staff education.

7.4 Archives Management

The term *archives* have several definitions, among them:

1. Materials created or received and preserved because of their enduring value or as evidence of the functions and responsibilities of their creator.
2. The division within an organization responsible for maintaining the organization's records of enduring value.
3. An organization that collects the records of individuals, families, or other organizations.
4. The professional discipline of administering such collections and organizations.
5. The building (or portion thereof) housing archival collections.
6. A published collection of scholarly papers, especially as a periodical.

The Society of American Archivists published “Guidelines for a Graduate Program in Archival Studies” (2016), which describes core archival knowledge that must be mastered by a professional archivist. The core knowledge consists of three facets of archival studies: knowledge of archival material and archival functions, knowledge of the profession, and contextual knowledge. The knowledge of archival material and functions provides a list of topics that describe the elements involved in an archival program:

- the nature of records and archives
- selection, appraisal, and acquisition
- arrangement and description
- preservation
- reference and access
- outreach, instruction, and advocacy
- management and administration
- records and information management
- digital materials management

Archives management (also called archives administration) is “the general oversight of a program to appraise, acquire, arrange and describe, preserve, authenticate, and provide access to permanently valuable records.” *Archival science*, the systematic body of archival theory, supports archives management practice.

7.4.1 Appraisal

Two definitions of appraisal illustrate the difference in perspectives between archivists and records managers. Records managers view *appraisal* (also referred to as records appraisal) as defined in *ISO 15489-1:2016, Information and documentation—Records management—Part*

1: Concepts and principles, as the “process of evaluating business activities to determine which records need to be created and captured and how long the records need to be kept.” Records are retained as evidence of business activity, and records requirements are derived from business needs, legal and regulatory requirements, and community or societal expectations.

Archivists regard appraisal in the “archival context” as the process of determining whether records and other materials have permanent (archival) value. Appraisal decisions are based on several factors, including provenance and content, authenticity and reliability, order and completeness, condition and costs to preserve, and intrinsic value (e.g., unique physical format).

7.4.2 Acquisition and Accession

The materials received by a repository as a unit are known as an *acquisition*. Acquisitions are guided by an *acquisition policy*, an official statement issued by archives or manuscript repository identifying the kinds of materials it accepts and the conditions or terms that affect its acquisition. It serves as a document for the guidance of archival staff and organizations and persons interested in donating their records or papers.

If materials meet the criteria established by the archives collection development policy, a decision may be made to accept some or all of the materials. Once the archivist decides to accept a group of records, the following steps must be taken:

- A record of the accession should be created either on paper or using an electronic system.

- A Deed of Gift should be executed to record the transaction between the archives and the donor.
- A preliminary inventory of the materials received should be prepared and attached to the Deed of Gift.

7.4.3 Arrangement and Description

According to ARMA International, the *arrangement* is (1) “the process of organizing materials concerning their provenance and original order, to protect their context and to achieve physical or intellectual control over the materials,” and (2) “the organization and sequence of items within a collection.”

Archivists strive to arrange materials in the order established by the creator. *Provenance*, also known as *respect des fonds*, requires that every document be traced to its origin and maintained as part of a group having the same origin rather than arranged by subject groups established by the archivist. This principle dictates that records of different origins (provenance) be kept separate to preserve their context. The archival description includes information about the content, intellectual, and physical attributes of the material, and the context of their creation and use.

The SAA Glossary defines *archival description* as (1) the process of analyzing, organizing, and recording details about the formal elements of a record or collection of records, such as creator, title, dates, extent, and contents, to facilitate the work’s identification, management, and understanding, and (2) the product of such a process. Archival descriptions will be updated if materials are added to the collection.

7.5 Archives Planning and Design

An archives building or space is designed to house records and artefacts of enduring value. Ownership and control of the records are transferred to the archives. The advice for the planning and design of a records center including fire protection, security measures, screening of employees, environmental controls, and appropriate storage containers and shelving also applies to the planning and design of an archives building. However, because the goal of an archivist is to “provide fair, equitable, and timely access to materials for researchers” who may require access at some indeterminate time in the future, archivists strive to preserve holdings for as long as possible. The fact that researchers wish to view and handle

(if possible) the original records poses the danger of damage or loss due to access and use.

7.5.1 Storage Conditions: Mixed Media

Keep these pointers in mind if storing paper records in the archive:

- Utilize open steel shelving to allow airflow.
- House records in acid-free folders and boxes to slow deterioration.
- Protect records from a fire.
- Reduce ultraviolet light by covering windows and fluorescent lighting with UV-protective film.

More challenging is determining the appropriate temperature and humidity for archival collections that include mixed media that must be preserved as a unit or group. A record group includes all of the records created by an individual, family, organization, government, office, business, or other entity. The objects in the record group may be photographs, sound recordings, letters, and journals. The information may be stored on paper, film, magnetic tape, optical disks, and, more recently, hard drives of computers that are considered part of the collection.

7.5.2 Access: Providing and Controlling

One way to preserve a collection is by controlling access. You were introduced to physical and logical access to active records previously. Now we'll turn our attention to access controls for archival records.

7.5.3 Controlling Access to Physical Objects

Documents of value to collectors run the risk of damage or loss due to theft, vandalism, or accident. Lessons can be learned from events or actions that result in lost, stolen, or damaged documents. Safeguards to prevent additional similar occurrences must be implemented. NARA encourages the public to help identify lost or stolen historical US government documents and report them to the NARA Archival Recovery Team. In addition to a website devoted to the topic, a Facebook page is used to educate the public and enlist the assistance of collectors in recovering lost and stolen artefacts.

In 2009, in response to the theft of documents from the New York State Library and Archives, a state and national archival grant was obtained to develop a strategy for the prevention of and response to the theft of historical documents. Today numerous resources can be found on the project website. In addition to access and

security controls advised for records centres, it is vital to put in place a system to monitor patrons who use archival materials; some recommendations follow:

- Request identification of researchers.
- Ensure the researcher is in good standing (not banned from the facility).
- Require materials to be used only in the assigned archival reading area, adjacent to a staff member who can monitor use.
- Allow only one item to be reviewed at a time—return one before providing another.
- Ensure that materials are not written on, cut, torn, folded, or damaged.
- Institute a copy policy to ensure that fragile documents are not copied.
- Instruct patrons that they will have to hand-copy materials from the archives when necessary.
- Install video cameras in research rooms.
- Limit what researchers can bring into and take out of the research rooms.
- Search bags were taken out by both researchers and staff.

The previous tips relate to monitoring the use of archival materials, but artefacts can be stolen from storage areas as well. David Carmichael guides the control of materials in storage areas, which is the basis for the following recommendations:

- Prevent patrons from entering storage areas.
- Lock all storage areas and keep off limits to all but staff.
- If there is no separate, locked storage area, screen or rope off the storage areas and post staff only sign to define the storage spaces.
- Place valuable items in a closet, file cabinet, or small storage cabinet that can be locked.
- Don't include location information in public finding aids. Use a separate location guide to find specific containers.
- Consider concealing the contents of boxes by using only numbers (not titles) on the boxes.

7.6 Long-term Preservation

Long-term preservation of physical records can be accomplished through effective access, control, and storage practices. Long-term preservation of digital objects is more challenging.

When speaking of the preservation of *permanent records*, we use the term *long-*

term preservation. To some that means more than ten years; to others, it means more than fifty. Some consider “long term” to mean *indefinitely*. The Digital Preservation Coalition (DPC) defines *digital preservation* as “a series of managed activities necessary to ensure continued access to digital materials for *as long as necessary*.”

7.6.1 Digitization and Digital Preservation

The point of preservation is to provide access to the content of the materials preserved. Although some materials warrant preservation in their physical form, the majority of new materials are born digital and many others can be converted to digital form.

Digital technologies are used to convert text, images, sound, and video to digital materials. Text and images (e.g., maps) can be digitized through the use of a scanner, which captures the image and converts it to an image file, such as a bitmap. If access involves text searching, an optical character recognition program is used to convert each character (alphabetic letter or numeric digit) into ASCII code. Metadata considerations must be addressed. Many institutions, such as the Smithsonian Institution Archives, have experience digitizing objects and sharing their standards online.

Digitization of sound and video is accomplished through the use of an analogue-to-digital conversion process that changes a continuously variable (analogue) signal, without altering its content, into a multilevel (digital) signal.⁷ The US National Archives and Records Administration provides practical advice about the digitization of various archival formats including audio, video, and motion picture film.

7.6.2 Born Digital and Digital Preservation

Born-digital documents are created and managed in electronic form. They were never expected to have an analogue equivalent. An essay by Ricky Erway of OCLC Research provides a list of various types of born-digital materials, among them digital photographs, digital documents, harvested web content, digital manuscripts, electronic records, static data sets, dynamic data, digital art, and digital media publications.

Digital photographs provide an example to which we can all relate because many of our most cherished photos exist only in digital format. Although digital cameras

are not new (the first was invented in 1975), digital photos are one of the fastest-growing forms of born-digital content. Digital cameras, tablets, and smartphones allow users to create as many images as they wish without additional cost, as long as they fit on the active storage device. Images are often stored in a JPEG format, which can be compressed to save space and allow for faster transmission over the internet. However, JPEG uses a lossy compression algorithm that discards information the human eye is least likely to notice. This makes the format popular for sharing but unacceptable for preservation purposes.

7.7 Conclusion

Inactive records are those that are no longer needed for current business activities but have not yet met the end of their retention period. Even though the digital universe is doubling every two years and most records are now created digitally, legacy paper records remain. Benefits can be derived from moving these inactive records to a less-expensive storage location. Records and information managers may be involved in planning and designing in-house record storage spaces or in identifying and recommending commercial storage services.

Records that have historical or research value are sent to various types of archives for long-term storage, including archives controlled by corporations, universities, and governments. Although it is possible to digitize these valuable objects, which may even be preferable to prevent damage to the originals, the originals—such as the United States Declaration of Independence stored in the National Archives—have intrinsic value that must be protected and preserved. Digital archives are dedicated to the long-term preservation of electronic information that is digitized or, more often, born digital.

Collections are increasingly comprised of information stored on a variety of media types. ISO 18934:2011 sets standards for collections that include mixed media from glass plates to photo prints to magnetic media for CDs. Historical artefacts are in danger of theft, loss, or damage from employees as well as patrons, and controls must be introduced to protect the holdings. The theme of controls appeared throughout this chapter as a method to protect both physical and digital records.

Records that have historical or research value are sent to various types of archives for long-term storage, including archives controlled by corporations, universities, and governments. Digital archives are dedicated to the long-term preservation of

electronic information. Scanners can be used to convert text and photographs into digital images that will save space (presuming the originals are discarded) and enhance access to collections. Optical character recognition software can be used to enable full-text searching. Standards have been established that facilitate long-term retention.

The JPEG 2000 compression standard, for example, reduces file size and produces high-quality images that provide an acceptable alternative to the traditional TIFF format for digital preservation. Born-digital objects are created and managed in a digital form. Examples include digital photographs, digital documents, harvested web content, digital manuscripts, electronic records, static data sets, dynamic data, digital art, and digital media publications.

Self-assessment Questions

1. Define inactive records, records centers and archives.
2. Explain the records center planning and design infrastructure.
3. Describe records and archives storage and handling standards.
4. How archives are managed and accessed?
5. What is born-digital, and how we can manage various forms of born-digital content?

Activity:

1. Prepare an archival management plan with the help of a tutor.

Recommended Reading:

1. ARMA International(2016). “inactive record,” *Glossary of Records Management and Information Governance Terms*, 5th ed. (Overland Park, KS: ARMA International, 2016).
2. Craig, B. (2015). “Appraisal.” In *Encyclopedia of Archival Science*, edited by Luciana Duranti and Patricia C. Franks (Lanham, MD: Rowan & Littlefield, 2015).
3. Holmes, O. W. (1964). “Archival Arrangement—Five Different Operations at Five Different Levels,” National Archives and Records Administration (NARA), 1964,
4. International Organization for Standardization (ISO), (2016). *ISO 15489-1:2016, Information and documentation—Records management—Part 1: Concepts and principles* (Geneva: ISO, 2016).
5. Ludäscher, B., Marciano, R., and Moore, R. (2001). “Preservation of Digital Data with Self-Validating, Self-Instantiating Knowledge-Based Archives,” *ACM SIGMOD Record*, September 2001, 54–63, 10.1145/603867.603876.
6. National Archives and Records Administration (NARA), (2007). “Appraisal Policy of the National Archives and Records Administration,” 2007, <https://www.archives.gov/records-mgmt/publications/appraisal-policy.pdf>.
7. Pearce-Moses, R. (2017) “inactive record,” *Glossary of Archival and Records Terminology*, Society of American Archivist, www2.archivists.org/glossary/terms/i/inactive-records.
8. Robek, M. F. Brown, G. F. and Stephens, D. O. (1963). *Information and Records Management: Document-Based Information Systems* (New York: Glencoe/McGraw-Hill, 1996), 463.

Unit No. 8

**RECORDS MANAGEMENT EDUCATION AND
TRAINING**

**Compiled by: Muhammad Jawwad
Reviewed by: Dr Amjid Khan**

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INTRODUCTION

The unit focuses to highlight the basics of records management education and training programs. It will also identify the areas and options available to individuals who wish to prepare for positions in records and information management and will suggest ways in which those individuals can develop and implement enterprise-specific records management training for others.

OBJECTIVES

After studying this unit, the students will be able to explain the following:

1. What are records management education and training program?
2. How do prepare professionals for records management training?
3. What records management skills and knowledge are required for professionals?
4. What are the basics of a records management training program, and how is a model training program developed?

8.1 Introduction

Records and information management is perceived as a program for which a few dedicated employees are responsible. *Managing records and information*, on the other hand, is the responsibility of every employee who creates or maintains them, whether in the form of paper, microfilm, voicemail, email, social media posts, or computer data (e.g., letters, electronic calendar, database, etc.). This distinction means that organizations must consider two different types of individuals: records and information professionals and *everyone else*.

Although the organization does have an obligation to ensure that employees understand their records and information management responsibilities, those wishing to pursue a career in records and information management (and associated fields) must ensure their professional development. If records and information management is to be considered a profession, it must possess certain characteristics, including theory-based education, professional organizations, professional literature, and codes of ethics. A formal educational program at the master's level will introduce the learner to the theory and principles underpinning professional practice. Conversely, training programs, which are shorter in duration, provide participants with a discrete set of skills and knowledge. Training can be used for a variety of purposes, including orientation, policy updates, and the use of new software or hardware. Additional means of continuous learning include what first comes to mind when most of us hear the words "professional development": attending conferences, reading professional publications, networking with experts in the field, and more.

Today's records and information management professional must be a specialist when it comes to records and information management but a generalist when it comes to understanding the core business responsibilities of the organization and possessing the skills and abilities to interact with professionals from other domains, including legal, compliance, business, information technology, information governance, security and risk management.

8.2 Preparation for Records Management Professionals

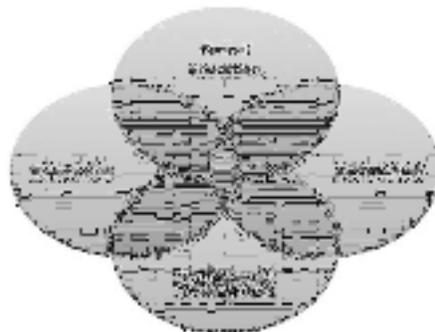
In the United States, the records management profession can credit its existence to archivists employed to help the United States federal government manage its records. In 1949, Emmett J. Leahy, a founding member of the Society of American Archivists (SAA), called for *records engineers* to serve the needs of management

in identifying records to be destroyed, leaving only those of value for preservation by the US federal government.

These records engineers were archivists who assumed records management responsibilities. More than sixty years later, in March of 2015, the US Office of Personnel Management, recognizing that records management involves administrative functions, announced a new classification for the records and information management workforce, *Records and Information Management Series, 0308*. The title for the series is *Records and Information Management Specialist*, and the general description reads: Records and Information Management (RIM) work involves the creation, dissemination, research, storage, and disposition of federal records. Records and Information Management (RIM) Specialists formulate policy, perform strategic analysis and planning, conduct program outreach, coordinate training, develop metrics, and ensure that sound information governance and accountability measures are in place. RIM Specialists ensure compliance with Federal laws, regulations, and guidance and advise managers on any issues in this area. Additionally, RIM Specialists are familiar with agency goals, objectives, and priorities, and ensure that the RIM program supports the organization's mission and needs.

Records manager is not listed in the *Occupational Outlook Handbook (OOH)* as a distinct occupation. The description of an *Administrative Service Manager* includes the following reference to recordkeeping: "Their specific responsibilities vary, but administrative service managers typically maintain facilities and supervise activities that include recordkeeping, mail distribution, and office upkeep."

Records management skills and knowledge can be acquired through experience, certification, formal education, and professional development (see figure below). Throughout their careers, records professionals will probably take advantage of all four avenues to improve their employment prospects.



8.2.1 Experience

“Experience is the best teacher” is an often-quoted proverb that aptly describes the value of professional experience to the records manager. There is no substitute for the opportunity to learn from other records management professionals, especially when it comes to accepted practices and technical skills.

8.2.2 Certification

When seeking a position in response to an advertisement, an applicant will be asked to provide evidence to support his or her claims. The applicant would, of course, provide documentation, such as letters of recommendation. Because letters of recommendation are subjective, the prospective employer may also seek an objective means to evaluate applicants, perhaps requiring certification of skills and knowledge.

8.2.3 Formal Education

Formal education for archivists and records managers exists most often at the graduate level. The curriculum for these programs is often influenced by guidance published by professional associations such as SAA and ARMA International. Guiding Principles and Core Competencies SAA maintains a directory listing of archival education that can be searched by program delivery method (on campus, online, a hybrid delivered both on campus and online) and by degrees or certificates offered (certificate, associate, bachelor, graduate certificate, master, and PhD). Currently, the list includes programs from twenty US states and two Canadian provinces. Many of these programs are offered through library and information science schools or information and computer science departments.

ARMA International also guides institutions developing records management programs and courses. ARMA identifies core competencies that define the knowledge, skills, characteristics, and traits that contribute to performing successfully in the records and information management (RIM) profession. RIM professionals can use *Records and Information Management Core Competencies*, 2nd edition, to identify their level of proficiency in six defined domains:

- I. Business Functions
- II. RIM Practices
- III. Risk Management
- IV. Communications and Marketing
- V. Information Technology
- VI. Leadership

The core competencies can also be used by those designing records and information management educational offerings or training programs.

8.2.4 Professional Development

Professional development can be defined as “the process of obtaining the skills, qualifications, and experience that allow you to make progress in your career, often through continuing education.” Continuing education is also a condition that certifying bodies impose to retain certification. Professional development experiences that count toward maintenance credit for the CRM, for example, range from attendance at workshops and conferences to publishing articles and teaching courses. Certified archivists must recertify every five years either by retaking the examination or submitting a petition for recertification based on participation in activities and events including full-time professional archival employment, courses taken in any of the archival domains, attendance at professional archival meetings, participation in conferences as panelist, delivering a paper, and teaching a semester course in an accredited college or university on topics in the archival domain.

Professional associations offer continuing education opportunities either as stand-alone courses or certificate programs (which are not to be confused with certification). In addition to a newsletter, professional journal, and standards, ARMA International offers both online courses for a fee and web seminars that are free to members. A learning management system allows ARMA members to track the courses they’ve taken and the credits earned. Courses can be sorted to see which apply toward the CRA, CRM, or IGP certifications. AIIM offers a variety of training programs in such topics as enterprise content management, electronic records management, business process management, and SharePoint. SAA offers online on-demand courses in the form of archived audiovisual recordings of live presentations, as well as live courses, seminars, and webinars on topics such as style sheets for encoded archival description (EAD), digital curation, and project management for archivists. SAA offers two certificate programs: The Digital Archives Specialist (DAS) Certificate and the Arrangement and Description (A&D) Certificate.

8.3 Records Management Training Programs

At some point, records professionals might be expected to design a training program for other records professionals and/or for all employees who create or manage records during daily operations. Some even earn recognition for the Records and Information Management or Information Governance programs they manage. Recognition for Meeting Records Management Program Requirements.

In 2017, Farmers Insurance was the recipient of the ARMA International Award of Excellence for an Organization. The Award recognizes the achievement of one organization that has implemented or enhanced its records and information management or information governance program based on the total points earned for each of the eight Principles: Accountability, Availability, Compliance, Disposition, Integrity, Protection, Retention, and Transparency and the maturity level of the program based on the ARMA International Information Governance Maturity Model.

The necessity of a training program is reflected in several of the principles; for example, to achieve the highest level (transformational) for the Principle of Accountability, the organization would, among other criteria, meet the following requirement: “There is an organized training and continuous improvement program across the organization.”

An introduction to the records lifecycle and specific topics such as retention schedules, information access, and search and retrieval methods will help the individual understand her or his role in the entire process. A good first step is an orientation to the records management policy and procedures manual.

8.3.1 Developing a Records Management Training Program

Regardless of the content of the training, the steps listed in the table below can be used to develop the training program.

Table: Steps to design and develop a records management training program

1. IDENTIFY PURPOSE, SET GOALS AND OBJECTIVES
What do you want the training to accomplish? Identify both short- and long-term goals.
What do you want learners to know and be able to do? Define learning objectives that are concrete, measurable, and attainable. Differentiate training according to staff responsibilities.
2. CHOOSE A TRAINING METHOD AND TOOLS
Classroom training (lectures, case studies, simulations, hands-on activities, instruction, role play, behavioral modeling)
Distance learning (books, videos, web-based instruction such as e-learning, and computer-based instruction)
On-the-job training (job rotation, apprenticeship, coaching, mentoring, and performance appraisal)
3. DETERMINE DELIVERY METHOD
Who will conduct the training? (in-house trainers, external trainers, local universities)
Where will it be held? (on-site, off-site, virtual)
How long should it last? (1-2 hours, half day, full day, several days?)
What adjustments must be made for the audience based on size, demographics, ability and readiness (level of content, amount of discussion, types of technology, types of exercises)?
4. MOTIVATE EMPLOYEES
To attend training (required, voluntary)
To perform well in training (incentives such as job security, raises, advancement)
To use their training on the job (opportunity to use newly acquired skills, recognition for performance improvement)
5. INSTITUTE REVIEW AND REPORTING MECHANISMS
Maintain records of individuals and of the programs offered
Evaluate the results of training (track success of individuals and of all employees)
Review and update the training program as necessary
Develop a method to ensure ongoing training for all employees

8.3.2 Basic RIM Training Topics

The following topics should be included in a basic records management training workshop:

- definition of records management
- key records management laws and regulations
- definition and example of electronic records
- electronic records management (ERM)
- steps to safeguard records
- personal papers versus corporate records
- recordkeeping responsibilities
- records retention
- records schedules
- identifying and managing essential records
- managing web records
- ethics and behavioural norms

Specific topics should be added as new technologies and practices emerge, such as those dealing with social media, cloud computing, and the use of mobile devices. Both training and tracking can be automated using learning management systems, training tracking software, and solutions that combine both.

8.4 The NARA Training Model

In keeping with the concept that all federal government employees have federal records management responsibilities, NARA makes training and resources available to all employees and contractors who create and manage records and information. A website dedicated to information about records management serves as a hub for records management-related resources. In addition to links to records management publications, resources, and NARA's YouTube Channel, information about the National Records Management Training Program is provided. Registered users of the system have access to a portal that allows them to check and change classes they're enrolled in, view their learning progress (including courses completed and exams passed), and print out certificates for classes completed.

The NARA model employs a modular approach to training that takes into account the training needs and time constraints of participants and covers a variety of topics, comprised of one optional knowledge area (Records Management Overview) and the five knowledge areas shown below that can result in a Certificate of Federal Records Management Training:

- **Knowledge Area 2:** Creating and Maintaining Agency Business Information
- **Knowledge Area 3:** Records Scheduling
- **Knowledge Area 4:** Records Schedule Implementation
- **Knowledge Area 5:** Asset and Risk Management
- **Knowledge Area 6:** Records Management Program Development

Candidates for this certification must complete each training course in person and then take and pass a test administered online. If they do not pass the test, candidates have the option of retaking it without repeating the course. Once all tests are completed, the applicant will receive a certificate in the mail.

8.5 Conclusion

Formal education introduces the learner to the theory and practice of a discipline, and training programs introduce participants to new skills they can apply directly

to their work. Records professionals can acquire skills and knowledge through experience, certification, formal education, and professional development (including training programs). Experience can be earned through employment, internships, and even volunteer work. Certification provides a standard by which professionals can be measured, accredited, and recognized according to criteria established by their peers.

The certifying organization for records professionals is the Institute of Certified Records Managers (ICRM), and the successful candidate is designated a certified records manager (CRM) or a certified records analyst (CRA). ARMA International oversees the Information Governance Professional (IGP) certification program, and archivists can earn the certified archivist (CA) designation from the Academy of Certified Archivists (ACA).

Records managers who wish to assume additional responsibilities may expand their skills and knowledge into other domains and seek certification to demonstrate those competencies. Related certifications include nuclear Specialist (CRM/NS), CRM/Federal Specialist, project management professional (PMP), certified information privacy professional (CIPP), and certified information professional (CIP).

Formal education is valued for records professionals throughout the world. In the United States, archives and records management programs are taught in community colleges and universities. Master's degree programs and professional certificates are becoming more common. Professional associations offer continuing education opportunities in a variety of formats, including annual conferences, webinars, publications, and even courses or certificate programs. The primary records management association in the United States and Canada is ARMA International. In the United States, records professionals often also belong to SAA and AIIM. And those who work in records management positions in local, state, and federal government benefit from membership in NAGARA the National Association of Government Archives and Records Administrators.

Records managers can be expected to develop and conduct records management training programs for other records professionals and all employees. The type of training varies depending on the purpose, goals, objectives, and target audience. Training may be as short as a few hours or as long as several days. Instruction can take place in face-to-face classes or web-based courses. An introduction to the organization and the records management program should be included in every new employee orientation. The records management policies and procedures manual is usually introduced at that time. Components of the manual can be the focus of more intense training; for example, email management and business continuity.

Curriculum can be developed in-house or acquired through commercial training providers. It is advisable to investigate external providers for complex topics such as regulatory compliance for specific industries. Records management training programs generate records that must also be managed. Training management software can keep track of training and generate reports that can be used as evidence of compliance.

Self-assessment Questions

1. Briefly explain the preparation for the records management professionals' program.
2. Discuss the basic RIM training topics
3. Explain with examples the records management training program.

Activity:

1. Develop a training model with the help of the tutor based on NARA Training Model.

Recommended reading:

1. ARMA International, (2017). *Records and Information Management Core Competencies*, 2nd ed. (Overland Park, Kansas, 2017).
2. Bureau of Labor Statistics, (2017). US Department of Labor, *Occupational Outlook Handbook*, Administrative Services Managers, accessed December 31, 2017, <https://www.bls.gov/ooh/management/administrative-services-managers.htm>.
3. Emmett J. Leahy, "Modern Records Management," *American Archivist* 12, no. 4 (3 July 1949): 239, <http://archivists.metapress.com/content/52344260u1064020/fulltext.pdf>.
5. NAGARA website, <https://www.thecompleteuniversityguide.co.uk/courses/details/10379302>.
6. National Archives, Records Managers, "Certificate of Federal Records Management Training," <https://www.archives.gov/records mgmt/training/certification.html>.
7. The SAA directory can be viewed at <https://www2.archivists.org/dae>.
8. US Office of Personnel Management, Position Classification Flysheet for *Records and Information Management Series, 0308*, March 2015, p. 5, <https://www.opm.gov/policy-data-oversight/classification-qualifications/classifying-general-schedule-positions/standards/0300/g0308.pdf>.

Unit No. 9

**BUILDING AN INFORMATION GOVERNANCE
PROGRAM FOR ARCHIVES**

**Compiled by: Muhammad Jawwad
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INTRODUCTION

The unit is specifically designed for the students to learn information governance and the role records and information management plays within that structure. The focus will be given to the information governance framework and RIM program elements, functions and activities.

OBJECTIVES

After studying this unit, you will be able to explain the following:

1. What is Information Governance?
2. What are the important elements, functions, and activities of RIM?
3. What is RIM Life Cycle?
4. What are the core elements of the information governance framework and how it works?

9.1 Introduction

The unprecedented growth of digital information, the diversity of file formats, and the accompanying challenges in determining what to trust keep, secure, discard, and preserve have resulted in a renewed interest in and appreciation for the value of records and information management (RIM) to the organization. During the first decade of the twenty-first century, organizations aspiring to manage records and information assets across the enterprise embraced the concept of information governance (IG). During the second decade of the twenty-first century, a focus on data governance reemerged, as raw digital data are recognized as a strategic business asset that can be analyzed (data analytics) to extract value in the form of patterns, predictions, and other insights.

IG requires more than one point of view. Representatives from legal, human resources, information technology, and business units must participate in developing the information governance strategy. But because of their understanding of the flow of information across the enterprise, records professionals are in a unique position to contribute their knowledge and skills to this initiative.

The major element of IG is accountability—accountability with the laws, regulations, and standards governing records and information. Therefore, in this chapter, you will also be introduced to the major laws, regulations, and standards to which RIM programs (and IG initiatives) must comply.

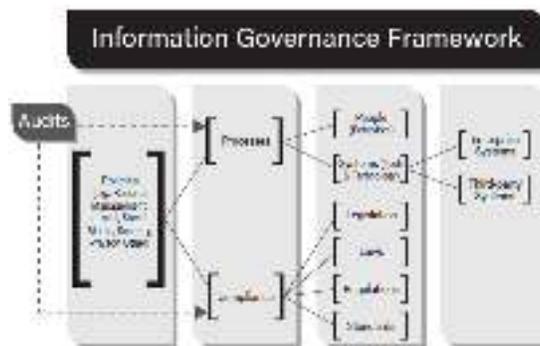
9.2 Information Governance

A renewed interest in RIM has resulted in a call by many to use fundamental records management principles as the foundation for sound IG. Information is a vital organizational asset, and information governance is an integrated, strategic approach to managing, processing, controlling, archiving, and retrieving information as evidence of all transactions of the organization. Writing in the *eDiscovery Journal* blog, Barry Murphy explained that IG provides a framework for the “conservative side of information management.”

Every organization must consider its legal and regulatory environment along with its risk tolerance when designing its IG framework. Questions to be asked include:

- What records and information are needed to support business processes?
- What steps must be taken to comply with governing laws and regulations?
- What records and information could/should be destroyed, when, and how?

Although the Gartner definition of IG, which describes the need for an accountability framework, is the most widely accepted, a recently released definition from the IG Initiative reads: “Information Governance is the activities and technologies that organizations employ to maximize the value of their information while minimizing associated risks and costs.” Although technologies and activities are basic to IG, on a higher level there are three core elements of an IG governance framework as shown in the figure below: policies, processes, and compliance.



Accountability measures in the form of audits and metrics must be used to monitor the components of these elements. Records management must be integrated throughout the process. An information governance model can be used to provide context to discussions of the integration of information management, risk management, and records management. This framework should address all types of information, whether meeting the criteria established for a record or not.

9.2.1 Records and Information Defined

Although an IG program manages both records and information, it is important to understand the difference between the two for legal and compliance purposes. A *record* is “any recorded information, regardless of medium or characteristics, made or received by an organization in pursuance of legal obligations or the transaction of business” according to ARMA International.

The definition of *record* provided by the International Standard Organization (ISO) is slightly different: “information created, received, and maintained as evidence and as an asset by an organization or person, in pursuance of legal obligations or the transaction of business.”

Information is a “collection of data, ideas, thoughts, or memories.” Information is also defined as “facts provided or learned about something or someone” and that which is “conveyed or represented by a particular arrangement or sequence of things;” for example, “data as processed, stored, or transmitted by a computer.”

Because no two organizations are the same, each IG program and IG framework will be unique. Ideally, the business will take a *holistic approach* as recommended by Robert Smallwood, Managing Director at the Institute for Information Governance. According to Smallwood: Information Governance is used as a means of improving the quality and security of information throughout its lifecycle. In essence, almost all of the management must be involved in supporting an Information Governance program, and the business is adjusted as a whole . . . all departments must be involved in managing data to meet the regulatory, legal, and business demands of the modern business world, to maximize the data’s value, while minimizing the risks and costs.

9.2.2 Policies

An IG framework relies foremost upon a comprehensive RIM policy that draws on best practices and can be adapted for almost any circumstance. It must address roles and responsibilities, communications and training, and metrics and monitoring. The RIM policy must refer to the requirements for managing records resulting from all business activities. And the RIM policy must acknowledge additional considerations for managing records created by or residing in social media and the cloud.

Policy teams must include representatives from the appropriate functional areas, such as records management, information technology, business units, compliance, human resources, sales and marketing, and communications and public relations. The advent of Web 2.0 and collaborative, web-based technologies has resulted in the formation of social media teams in many organizations. Input from this team should be included as well. Most organizations have several policies governing communications, security, privacy, compliance, and social media that must be harmonized.,

9.2.3 Compliance

Organizations must adhere to applicable laws, regulations, and standards. To comply, organizations understand that a records retention schedule should be media-neutral and that retention requirements must be met. At the same time, all new initiatives, such as wearable cameras for police officers, must be reviewed to determine if new records—and, therefore, records series—will result. Automated

processes should be utilized as much as possible when capturing and managing information, including placing a hold on the disposition process when a legal action is pending. Guidance should be provided to all individuals involved, including employees and consultants.

9.2.4 Processes

Processes are implemented to ensure compliance at an acceptable level of risk for the organization. Operational guidelines govern the selection of appropriate technology and services to accomplish the core mission of the organization. Best practices should be established for all parties involved with managing information. These include guidelines for the use of personal and enterprise information technology, participation on social media sites, ethical behaviour, and security and privacy concerns.

Confusion over the role of records management within IG comes from a focus exclusively on technology that can automate some records management functions, such as categorization, retention, and legal holds. There is much more to records management programs than automating technology to handle records management tasks.

9.3 Records Management as a Professional Management Discipline

The term *records management* describes a professional management discipline that originally managed physical documents (e.g., letters, contracts, minutes of meetings). This is in contrast to the term *information management*, which came into use in the 1970s to describe a computer environment in which structured information (data in columns and rows) was stored electronically. Today's holistic IG approach encompasses both and records management is an essential element.

To acknowledge the fact that records and information continue to exist in both electronic and physical form, the records management profession embraces the term *records and information management* to describe the services it provides. Regardless of the form of the record or information, the primary obligation remains the same accountability. Organizations expect their records and information management programs to enable the management of information in a timely, accurate, complete, and cost-effective manner. The information managed must be accessible and usable.

ISO 15489-1:2016 defines *records management* as the “field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records, including processes for capturing and

maintaining evidence of and information about business activities and transactions in the form of records.”

9.3.1 Record and Information Management Objectives

The activities of records and information management program are undertaken with specific objectives in mind. They are to:

- Develop and/or identify standards or procedures for the effective, efficient, and secure management of records and information throughout the organization;
- Provide effective control, appropriate security, and management over the creation, maintenance, use, and disposition of all records within the organization;
- Ensure that the records accurately reflect the business practices, policies, and transactions of the organization;
- Simplify the activities, systems, and processes of records creation, maintenance, and use;
- Preserve and dispose of records following business needs, statutes, and regulations;
- Protect vital records;
- Provide business continuity in the event of a disaster;
- Protect records of historical importance;
- Provide evidence of business, personal, and cultural activity; and
- Maintain corporate, personal, and collective memory.

9.3.2 Records and Information Management Risks

Organizations often look to RIM programs to mitigate risks. The risk management approach looks at the other side of the coin to describe what will happen if the organization does not have a comprehensive records management program in place.

Major concerns are:

- damage to the organization’s reputation;
- high costs for information management and storage;
- lost files and risk of spoliation;
- legal discovery penalties or sanctions; and
- audit and compliance violations.

An effective RIM program comprised of records management policy and procedures, well-trained personnel, and advanced information systems will reduce risks to the organization. More recently, organizations have turned to their

information assets (records included) as a source of business intelligence (BI). This value must also be considered when developing the organization's risk profile

9.4 Records and Information Management Life Cycle

An essential characteristic of information is its value, which may decline as time passes and eventually reaches zero. The value of the information contained in records must be considered at each stage of the RIM lifecycle. But models change over time, influenced by current practices and the technology available.

9.4.1 Document-Centric Records and Information Lifecycle

Throughout the twentieth century, records were controlled in the form of documents. *The document* is defined as (1) any written or printed work (writing); (2) information or data fixed in some media; (3) information or data fixed in some media, but which is not part of a record (a non-record); or (4) a written or printed work of a legal or official nature that may be used as evidence or proof; (a record.)

A document was traditionally considered to be text fixed on paper, but today drawings, word processing files, web pages, and database reports are also considered documents. Like records, they have content, context, and structure, but the nature of these attributes may change in an electronic environment (e.g., a hypertext document on the web may be formed by combining different sections housed on different servers in different countries through the use of links).

The lifecycle model **shown in the figure below** portrays a closed system that begins with the birth of a document (capture/creation) and ends with its death (destruction) or movement to an archive for permanent preservation.



This model is useful when describing the management of paper-based records. To save storage space, retention schedules are developed to document the method of disposition and to establish destruction dates. Records that are no longer in active use but that have not yet met their retention requirements may be transferred to a records center for storage and eventual destruction. Records that have permanent value are the most often transferred to an archive for preservation and use.

By 2011, the concept of document-centric records and information management lifecycle had evolved to reflect the electronic environment that allows for storage in a document library and to emphasize the continuing value of the information contained in the document management system. New electronic documents enter the system and those that no longer have value to daily operations exit the system. Records management functionality such as retention, disposition, and legal holds is integrated into most document management systems.

Documents not born digital are also brought into document management systems through digitization (scanning). The document management system automates storage and retention through indexing, search, and disposal capabilities that allow users to store and retrieve records within the electronic library. Document management systems are available as self-hosted or cloud-based options. Today's systems feature integrations for Microsoft Office, Salesforce, DocuSign, QuickBooks, and other programs, and some offer an application programming interface (API) for customized integrations.

9.4.2 Information Lifecycle Management

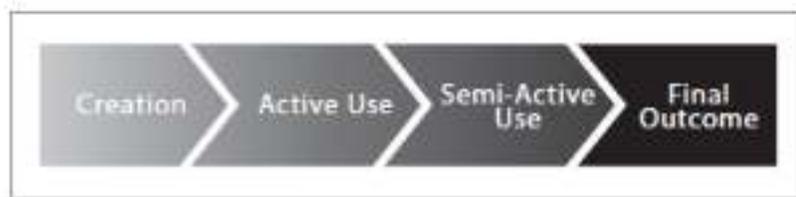
Not all information is created equal. Some will be classified as records, but other useful information may never be designated a formal record (e.g., work in progress). Therefore, organizations are justifiably concerned about managing all information and not just *official records* (those possessing legally recognized and enforceable qualities necessary to establish a fact). Some of the information will be structured and other information unstructured.

Structured data is organized in a way that makes it identifiable. An Access or SQL database is structured in columns and rows, which makes searching for the data type within the content possible. All other electronic information that has the potential to be recorded is stored as unstructured data.

Unstructured data is anything not in a database. Images, word documents, and even tweets are examples of unstructured data. Unstructured data are more difficult to

classify, maintain, archive, and dispose of than structured data. *Information*, whether structured or unstructured, can be thought of as “the communication or reception of knowledge or intelligence” that must be managed. *Information lifecycle management (ILM)* is a comprehensive approach to managing the flow of an information system’s data and associated metadata from creation and initial storage to the time when it becomes obsolete and is deleted.

There are many variations on the ILM model, from simple to complex. Like the records and information lifecycle model, it can take a *cradle-to-grave perspective*, as shown in the figure below:



This simplified diagram can be used to understand the controls that must be applied to information during each stage of its lifecycle, regardless of the technology employed.

- **Creation (including capture):** Planning is an essential part of the creation phase. Planning before creation can help ensure that the right information is created by the right people, that it is reliable and in the most appropriate format, and that the necessary metadata is created and captured.
- **Active use:** During this phase, information and records are in constant or frequent use, primarily to conduct business. During this stage, the purpose(s) for which the information can be used must be defined, the information must be findable and accessible, the individuals who need access must be granted such access, and the integrity of the information must be secured.
- **Semi-active use:** These are the most vulnerable records and information because they have declined in value and controls tend to be less stringent. During this phase information may be held to satisfy retention requirements, referred to on occasion for reference purposes, or retrieved for evidential purposes.
- **Outcome:** Information that is no longer useful to the organization and that has met its retention requirements is destroyed. Information that has enduring value for historic reference or research or that must be retained

due to regulatory obligations is preserved. The disposal of information that has met its retention requirements and no longer has value must be controlled. Even more, challenge is, the preservation of and access to information of the enduring value must be ensured.

9.5 Records Management Program Elements, Functions, and Activities

Although records management programs can and do vary depending on the size and culture of the organization, the industrial sector to which they belong, and the applicable laws and regulations, common functions must be performed.

9.5.1 Records Management Program Elements

The elements of a comprehensive records management program listed are as follows:

- policy and procedure development
- records inventory, appraisal, retention, and disposition
- active files management (paper and electronic)
- inactive files management and control (records center and digital archive)
- preservation and access (digital and physical)
- vital records protection, disaster recovery and business continuity planning
- training and outreach programs.

Through all of the stages of the RIM lifecycle, security, privacy, and risk management must be addressed.

9.5.2 Records Management Activities

To ensure that those functions listed previously are performed, the records and information manager is responsible for specific activities. The National Archives and Records Administration (NARA) defines the following typical records management (RM) program activities that are also applicable to records managers in the private sector:

- **Identifying records and records sources:** This involves distinguishing records from non-records for retention purposes; determining how, how many (in terms of volume) and by whom the records are being created and received; and identifying the relationship of the record to the organizations business operations or functions.
- **Developing a file plan:** Specify how records will be organized by identifying the classes of records (records series) the organization produces

and establishing how to associate records within a class with other records in the same class.

- **Developing records schedules:** The schedules will document how long the records must be retained and their final disposition (destruction or transfer of legal and/or physical custody to archives) based on time, event, or a combination of the two.
- **Providing records management guidance:** This involves developing policies and procedures for implementing records management activities, as well as recordkeeping practices establishing the records that are created to conduct agency/organization business and identifying parties within the agency/ organization with RM responsibilities, such as records officers of liaisons.

When determining the specific activities mentioned here, such as developing a records schedule, the records professional must refer to governing laws, regulations, and standards. Prevailing trends in case law must also be monitored and taken into consideration when evaluating risk. The next section of this chapter is developed into standards, laws, regulations, and the legal environment.

9.6 Conclusion

The volume, velocity, and variety of data created today present enormous challenges to the organization. Constantly evolving laws, regulations, and case law, along with the fact that much of the data is being created outside of the organization's firewalls, add to the complexity of the situation. An accountability framework that includes policies, processes, roles, standards, and metrics is necessary for the organization to effectively govern its records and information.

An information governance program built upon a solid records and information management foundation can produce benefits and mitigate risks to the organization. Benefits include the protection of essential records and those of historical importance; the preservation of corporate, personal, and collective memory; and effective control, appropriate security and management over the creation, maintenance, use, and disposition of all records within the organization. Risks that can be minimized include those that arise from lost files and potential charges of spoliation; high costs for information management and storage; and audits and compliance violations.

Several models have been developed to describe the various stages in the life of

records and information, including the document management lifecycle model, the information lifecycle model, the records management lifecycle model, and the records continuum. The goal of each of these is to ensure that the right information is available to the right person at the right time in compliance with all governing laws and regulations.

Records management programs vary across organizations and industries, but they all possess certain core elements (e.g., retention, disposition, preservation) and activities (e.g., records identification, disaster preparedness, and business continuity planning). Laws, regulations, and standards impact records and information management programs for both government and private organizations. Industry-specific laws and regulations must be taken into account. Organizations involved in international business must understand the laws and regulations of the countries in which they operate.

In the United States, we see a system struggling to provide adequate healthcare to its most important stakeholders, its patients. Robert Smallwood—an industry-leading author, keynote speaker, consultant, and educator on Information Governance and Electronic Records— provides an analysis of the problem and possible solutions. This paradigm is unique in that it is placed not in the context of one specific organization but of an entire industry—the healthcare industry.

Self-assessment Questions

1. What is information governance? Discuss its framework.
2. Define, record, and information, and describe RIM objectives, policies, and risks.
3. Explain RIM Life Cycle with the help of diagrams.
4. Write a comprehensive note on RIM Program elements, functions, and activities.

Activity:

1. Prepare a draft GI Framework of a Public Library Collection.

Recommended Reading:

1. ARMA International, (2016). *Glossary of Records Management and Information Governance Terms*, 5th ed. (ARMA TR 22-2016) (Overland Park, KS: ARMA International, 2016), 43.
2. Brooks, C. (2017). "Document Management Systems: A Buyers Guide," *Business News Daily*, January 19, 2017, available at: www.businessnewsdaily.com/8026-choosing-a-document-management-system.html.
3. Foote, K. D. (2016). "Data Governance and Information Governance: Contemporary Solutions," *DATAVERSITY*, September 13, 2016, www.dataversity.net/data-governance-information-governance-contemporary-solutions/.
4. Hobert, Tay, and Mariano, "Magic Quadrant for Enterprise Content Management."
5. International Organization for Standardization (ISO), (2016). *ISO 15489-1*, 2nd edition 4-15-2016 Information and documentation—Records management—Part 1: Concepts and Principles (Geneva: ISO, 2016), 2.
6. Iron Mountain, (n.d.). "The IG Initiative Definition of Information Governance," available at: www.ironmountain.com/Knowledge-Center/Reference-Library/View-by-Documents-Type/General-Articles/T/The-IG-Initiative-Definition-of-Information-Governance.aspx.
7. "What is Information Governance?" *Information Architecture Inc.* (blog), accessed August 29, 2017, www.informationarchitect.com/blog/what-is-information-governance/.
8. Woodbridge, M. (2017). "The Death of ECM and Birth of Content Services," *Gartner Blog Network*, available at: <http://blogs.gartner.com/michael-woodbridge/the-death-of-ecm-and-birth-of-content-services/>.