

Participant Guide  
January 2017

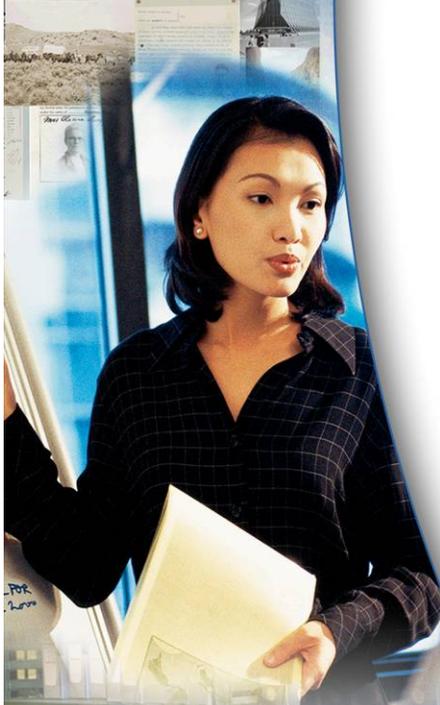
## Knowledge Area 5:

# Risk and Asset Management

## Welcome

THE  
NATIONAL  
ARCHIVES  
AND RECORDS  
ADMINISTRATION

RECORDS  
MANAGEMENT  
TRAINING  
PROGRAM



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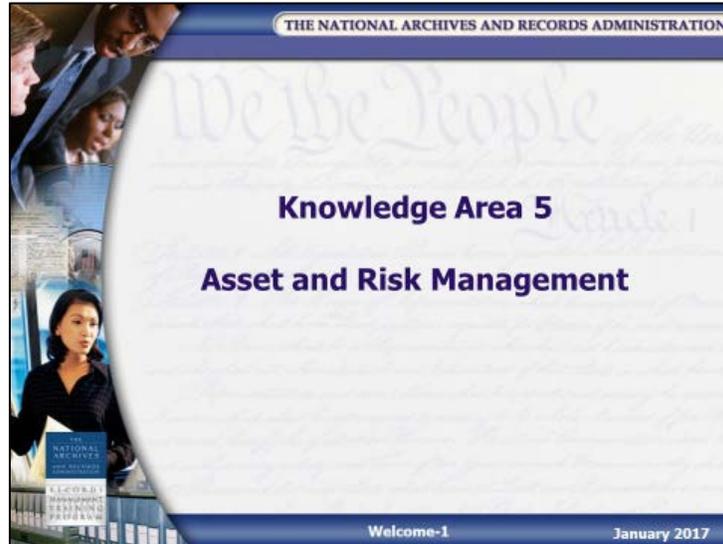
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# Administrative Items

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## NOTES

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## Administrative Items

Slide Welcome-2

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Administrative Items

- Emergency procedures
- Emergency exits
- Restrooms
- Break facilities
- Lunch facilities
- Cancellation policy
- Course attendance policy
- Please turn off mobile devices\*

Welcome-2

- Emergency procedures
- Emergency exits
- Restrooms
- Break facilities
- Lunch facilities
- Cancellation policy
- Course attendance policy
- Please turn off mobile devices\*

\*Mobile devices include, but are not limited to, portable computers, laptops or notebooks, netbooks, tablet computers, electronic readers, PDAs, smartphones, BlackBerrys and MP3 players.

### NOTES

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## **Cancellation and Attendance Policies**

NARA reserves the right to postpone or cancel a course at any time. We will make every effort to contact registrants by email and telephone if that occurs. Courses **WILL BE CANCELLED** if the Office of Personnel Management (OPM) announces a “closed,” “unscheduled leave,” “liberal leave,” or “delay arrival” policy for Federal employees for that day or if there has been an elevation to threat level RED in the Homeland Security status. Official government closure and leave policy is located on the OPM website at <http://www.opm.gov>.

**Attendance Policy for NARA Courses** – Course completion requires that you attend all course sessions. Instructors may deny a course completion certificate for unexcused absences which may require retaking the course for additional fees.

### **NOTES**

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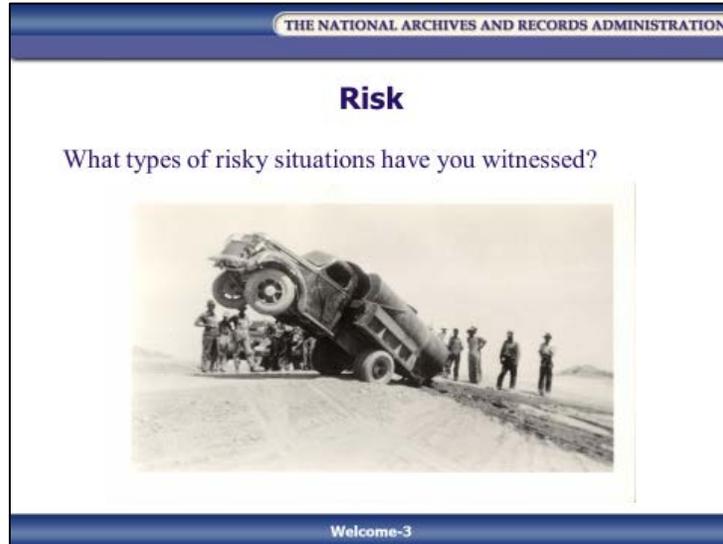
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## Getting to Know You

Slide Welcome-3



First, as a class, we'll work together to brainstorm a list of the different types of risky behaviors, situations and actions you have seen over the past few weeks. For example, was someone driving too fast? Are there records stored on the floor in a basement?

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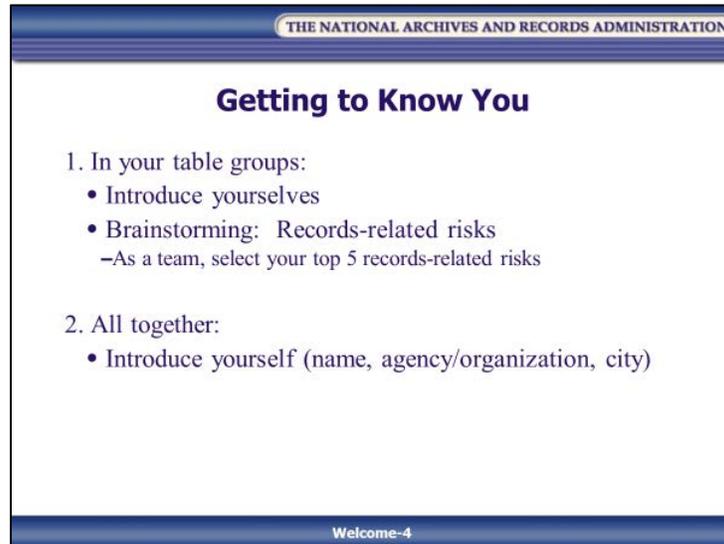
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## Getting to Know You

Slide Welcome-4



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Getting to Know You

1. In your table groups:
  - Introduce yourselves
  - Brainstorming: Records-related risks
    - As a team, select your top 5 records-related risks
2. All together:
  - Introduce yourself (name, agency/organization, city)

Welcome-4

In your small group, start by introducing yourself to the other members of your group.

Then, work together to brainstorm a list of records-related risks that could be a problem for agencies.

As a group, identify the top five records-related risks you identified. When we return to the full class, one member of your group will share one of your top five risks with the full class. Then, each member of the group should introduce him/herself to the class (name, agency/organization, city).

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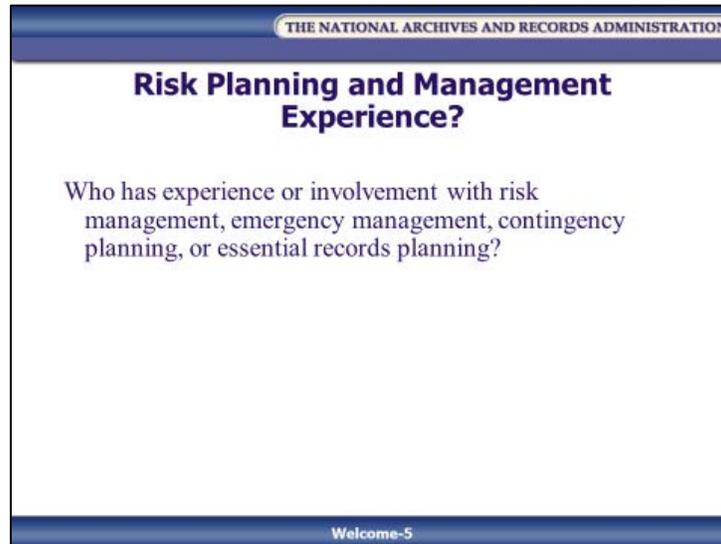
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## Your Risk Planning and Management Experience

Slide Welcome-5



Do you have experience with vital/essential records planning, risk management, emergency management, Continuity of Operations or contingency planning? Please share with the class.

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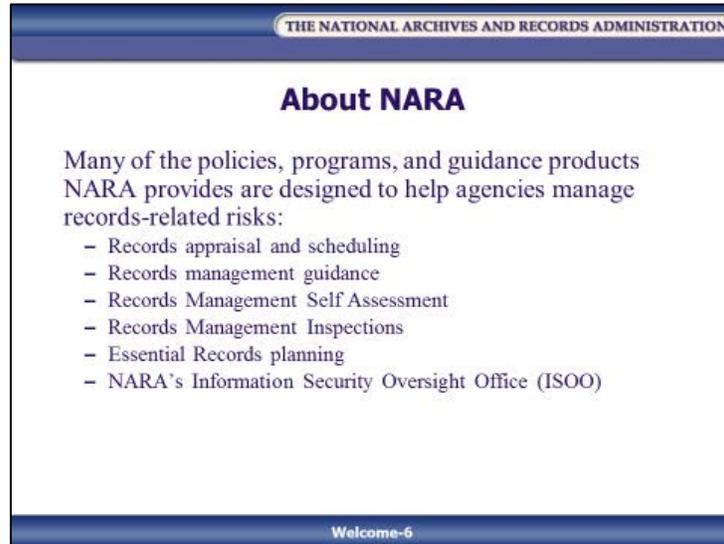
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## About NARA

Slide Welcome-6



Many of the policies, programs and guidance products NARA provides are designed to help agencies manage records-related risks and risks to agencies and their customers. These include:

- Records appraisal and scheduling
- Records management guidance
- Records Management Self Assessment
- Records Management Inspections
- Essential Records planning
- NARA's Information Security Oversight Office (ISOO)

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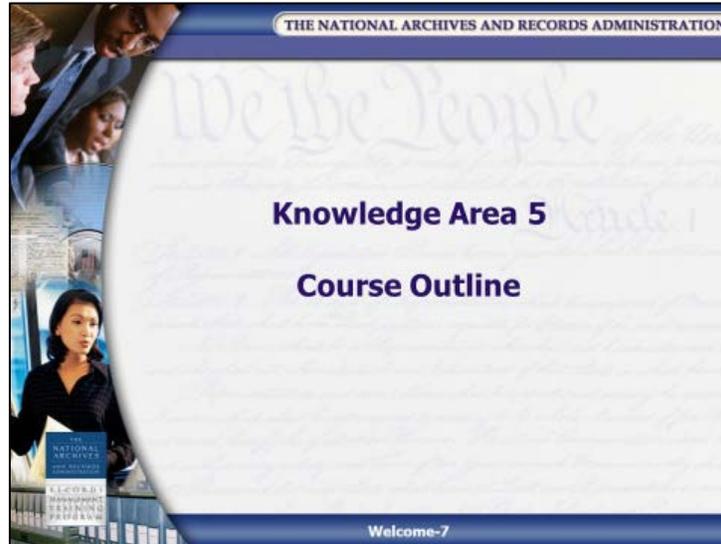
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# Course Outline

Slide Welcome-7



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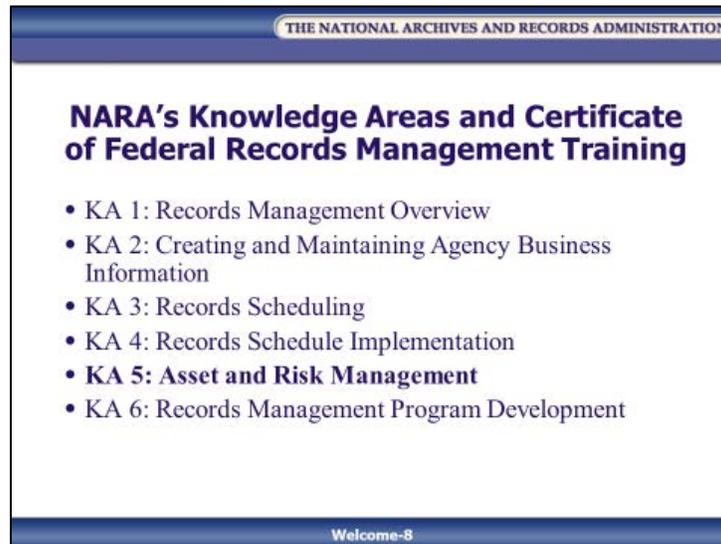
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## NARA's Certificate of Federal Records Management Training

Slide Welcome-8



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### NARA's Knowledge Areas and Certificate of Federal Records Management Training

- KA 1: Records Management Overview
- KA 2: Creating and Maintaining Agency Business Information
- KA 3: Records Scheduling
- KA 4: Records Schedule Implementation
- **KA 5: Asset and Risk Management**
- KA 6: Records Management Program Development

Welcome-8

With the changes that are occurring in information technology and Federal recordkeeping, NARA is pursuing ways to ensure that records professionals have the knowledge and skills to do their jobs effectively. NARA offers a series of records management courses leading to an optional Certificate of Federal Records Management Training. **Knowledge Area 5 (KA 5): Asset and Risk Management** is one of the five KAs (KA 2 to KA 6) in NARA's Federal records management training certificate program.

After completing KA 5, you may elect to take an examination on the course material to demonstrate both understanding and the ability to apply the information presented. The test is conducted online via NARA's Learning Center at <http://nara.csod.com>.

For more information about the records management courses offered by NARA, see: <http://www.archives.gov/records-mgmt/training>.

### NOTES

## Course Objectives

Slide Welcome-9

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Course Objectives

At the completion of this course, you will be able to do the following:

- Define key terms and concepts of asset and risk management
- Identify and access information and guidance resources pertaining to asset and risk management
- Describe the techniques and tools for identifying and assessing risk
- List the steps involved in a risk analysis

Welcome-9

At the completion of this course, you will be able to do the following:

- Define key terms and concepts of asset and risk management
- Identify and access information and guidance resources pertaining to asset and risk management
- Describe the techniques and tools for identifying and assessing risk
- List the steps involved in a risk analysis

### NOTES

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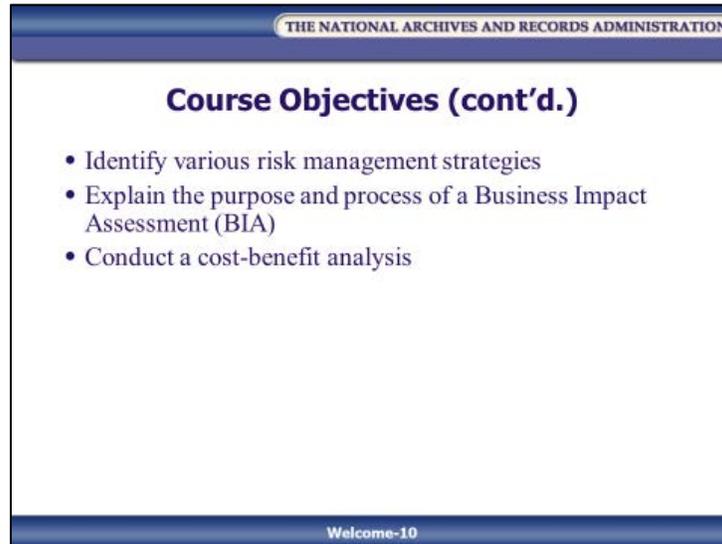
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Slide Welcome-10



- Identify various risk management strategies
- Explain the purpose and process of a Business Impact Assessment (BIA)
- Conduct a cost-benefit analysis

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## Course Agenda

Slide Welcome-11

**THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION**

### Course Agenda

Day 1	Day 2
<ul style="list-style-type: none"><li>• Welcome</li><li>• Course Outline</li><li>• Module 1: Introduction to Risk Management</li><li>• Module 2: Risk Assessment and Analysis</li><li>• Module 3: Handling Risk</li><li>• Day 1 Wrap-Up</li></ul>	<ul style="list-style-type: none"><li>• Welcome Back</li><li>• Module 3: Handling Risk, continued</li><li>• Module 4: Risk Management Project</li><li>• Module 5: Cost-Benefit Analysis</li><li>• Course Wrap-Up</li></ul>

Welcome-11

### Day 1

- Course Outline
- Module 1: Introduction to Risk Management
- Module 2: Risk Assessment and Analysis
- Module 3: Handling Risk
- Day 1 Wrap-Up

### Day 2

- Day 2 Course Outline Back
- Module 3: Handling, Risk, continued
- Module 4: Risk Management Project
- Module 5: Cost-Benefit Analysis
- Course Wrap-Up

### NOTES

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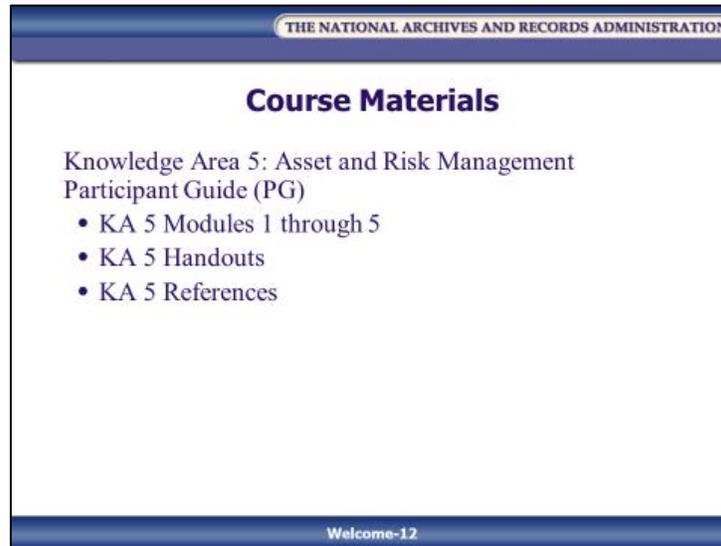
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## Course Materials

Slide Welcome-12



- KA 5: Asset and Risk Management Participant Guide (PG)
  - KA 5 Modules 1 through 5
  - KA 5 Handouts
  - KA 5 References

### NOTES

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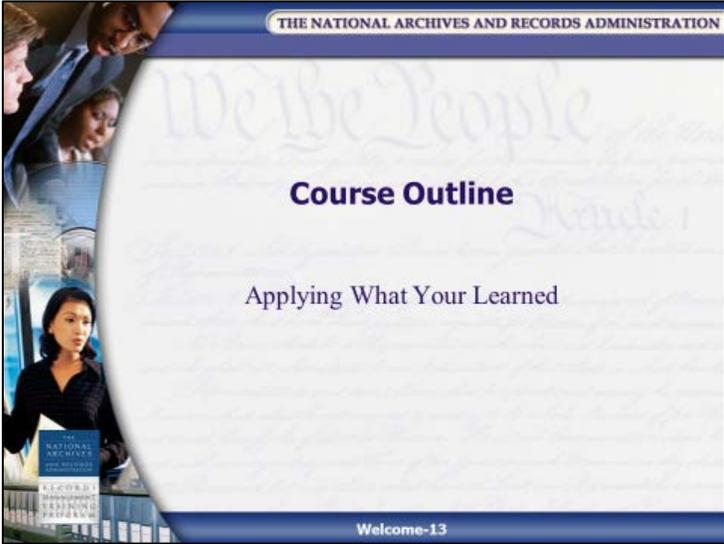
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# Applying What You Learned

Slide Welcome-13



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Slide Welcome-14

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Action Items Worksheets

- At the end of each module you will be given the opportunity to complete an Action Items Worksheet
- Use this worksheet to record what you've learned in the module and how you will apply it to your job



Course Outline-8

Training is useful only if you can apply it to your everyday responsibilities. It is important that you use the information and concepts you learn in this course to create a plan of action for when you return to your office.

To facilitate development of your plan, you will be given a few minutes at the end of each module to complete an Action Items Worksheet in which you can reflect upon what you've learned in the module and how you will apply it to your job. The worksheets will also give you a venue for recording any "aha!" moments you may have had during the module, including moments you so often forget upon leaving the training environment and returning to your office.

During this time, you will also be given the opportunity to share voluntarily items from your Action Items Worksheet with the rest of the class.

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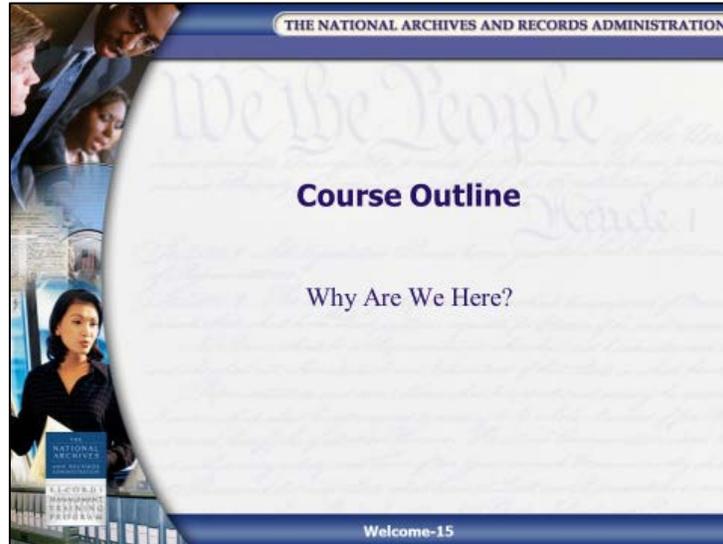
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# Why Are We Here?

Slide Welcome-15



## NOTES

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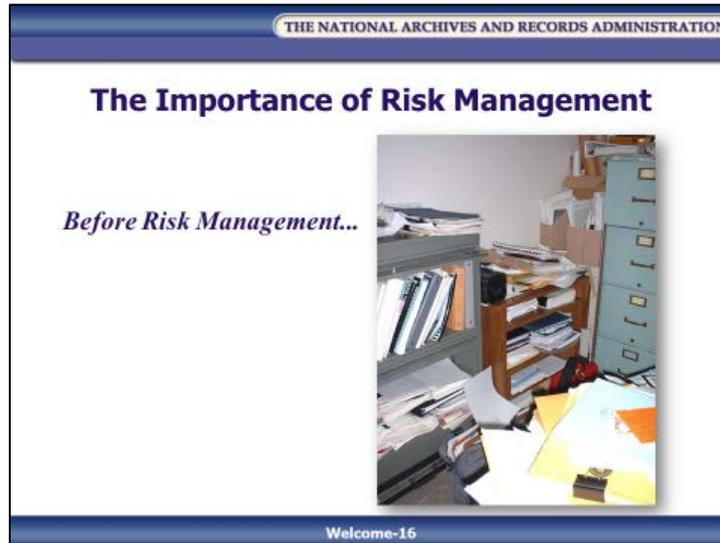
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## The Importance of Risk Management

### Before Risk Management

Slide Welcome-16



The Carlsbad, CA, Field Office of the Fish and Wildlife Service had not performed a risk analysis of its records management program and was not consistently managing the records that supported the functions within its office. As a result, the records-related risks faced by the office grew into major problems and eventually resulted in customer complaints to the Government Accountability Office (GAO).

Responding to those customer complaints, the GAO conducted an audit regarding the management of the Endangered Species Workload. In the audit, GAO performed a risk assessment of the Endangered Species Workload.

GAO found that there was no effective system for tracking the workload of consultations and Habitat Consultation Plans. A manual system was found to be incomplete and inaccurate for 75 percent of formal consultations. Formal consultations and Habitat Consultation Plans were often not completed within the Service's recommended or targeted timeframes.

#### NOTES

Insufficient documentation meant that GAO auditors were unable to determine why some projects exceeded targeted timeframes for completion. In some cases, documentation was not created at all, and in others, existing documentation contained insufficient details to explain the actions taken.

The GAO audit also found that there was no official system in place to monitor public complaints or their resolution. An examination of the office's project files found that the office was not managing its records in accordance with internal control standards and agency guidelines, and project files did not contain the complete history of the project. The audit also found that the system used to track staffing and funding was incomplete and inaccurate.

As a result of poor records management practices, endangered species were put at risk, and at the same time, the office ran the risk of fraud, waste, abuse, and mismanagement.

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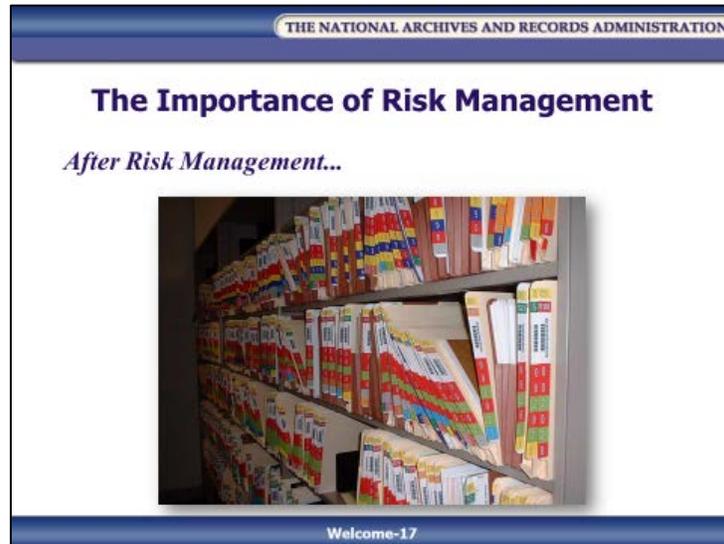
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## After Risk Management

Slide Welcome-17



As a result of the audit, the Carlsbad Field Office analyzed the situation and determined what steps needed to be taken to mitigate the problems.

The Field office began by implementing a new electronic project tracking system for consultations and Habitat Consultation Plans. The system included an indexed database and color coded files to make tracking and retrieval easier. The system allowed staff to access all case files by type of project, project number, and location.

They created and staffed a central file room for all endangered species project case files. The tracking system and file room worked so well that they extended the process to cover all files of the agency.

They also created a customer complaint system that was easily accessible to the public and fully documented all complaints and resolutions.

### NOTES

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Participant Guide  
January 2017

# Knowledge Area 5: Asset and Risk Management

## Module 1: Introduction to Risk Management

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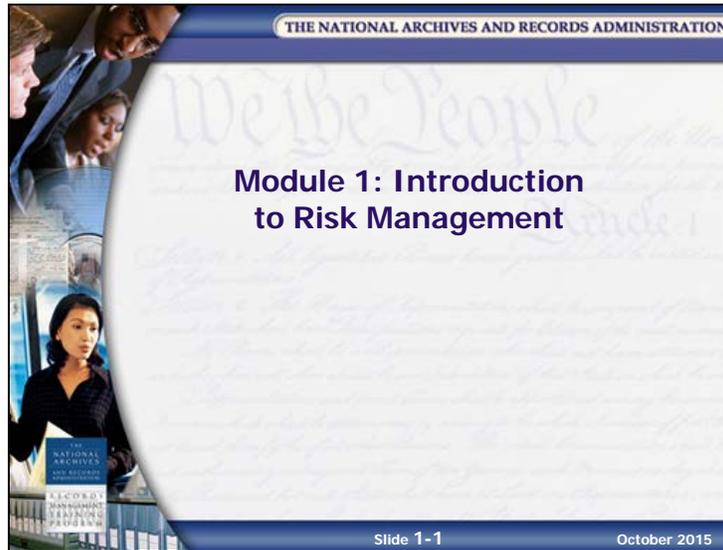
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# Introduction and Objectives

## Introduction

Slide 1-1



Module 1 defines the key terms and concepts related to risk management and explains how risk management works with records management.

### NOTES

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## Objectives

Slide 1-2

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Module 1 Learning Objectives

At the completion of this module, you will be able to do the following:

- Define risk management key terms and concepts
- Describe how risk management is an integral part of a records management program

Slide 1-2

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- Define risk management key terms and concepts
- Describe how risk management is an integral part of a records management program

### NOTES

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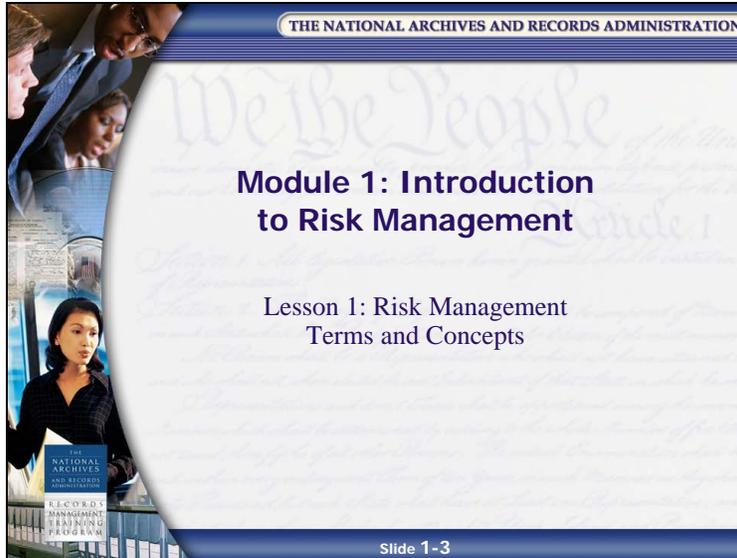
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# Lesson 1: Risk Management Terms and Concepts

Slide 1-3



## NOTES

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## Key Terms—Assets and Asset Management

Slide 1-4

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Key Terms—Assets and Asset Management

- An **asset** is anything of value or perceived value
- **Asset management** is the process of documenting and controlling all assets, either in use or under development by an agency

Slide 1-4

An **asset** is anything of value or perceived value.

**Asset management** is the process of documenting and controlling all assets, either in use or under development by an agency.

Asset management involves recognizing what your assets are and what you need to do to protect them.

Records management **is** asset management. The records are the assets, and the records inventory and records schedules are tools to document and manage your assets.

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## Key Terms—Risk

Slide 1-5

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Key Terms—Risk

- **Risk** is the potential harm that may arise from some present process or future event
- Risk contains two elements:
  - The likelihood of an event occurring
  - The consequence and/or impact if it happens

Slide 1-5

**Risk** is the potential harm that may arise from some present process or future event.

Risk contains two elements:

- The likelihood of an event occurring
- The consequence and impact if it happens

Examples of risks encountered in records management include:

- Damage to records
- Unauthorized destruction of records
- Alienation of records, etc.

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## Key Terms—Risk Management

Slide 1-6



Risk is unavoidable. No matter what you do or don't do, there is always going to be an associated risk. Your goal should not be to get the risk down to zero—zero risk is impossible. Instead, your goal should be to minimize risk as best you can with the resources available to you.

The tool used to minimize risk is risk management. **Risk management** is the process of identifying and evaluating risk and then developing strategies to manage the risk.

Risk management involves the following steps:

- In **Risk Identification**, we identify and document risks
- In **Risk Analysis**, we assess the likelihood and severity of each risk
- When we **Prioritize**, we make decisions about which risks to address
- In **Risk Mitigation Planning**, we choose strategies for managing the risks
- In **Implementation and Monitoring**, we implement risk management strategies and monitor their effects

### NOTES

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## Key Terms—Risk Assessment

Slide 1-7

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Key Terms—Risk Assessment

- **Risk assessment** is an examination of the potential harm that may result from exposure to certain hazards
- Risk assessment consists of two main phases:
  - Risk Identification
  - Risk Analysis and Prioritization

Slide 1-7

In risk management, the identification and analysis of potential risks is achieved through risk assessment.

**Risk assessment** is an examination of the potential harm that may result from exposure to certain hazards. In terms of records management, risk assessment is used to identify the risks to your records and information. It includes two main components: Risk Identification and Risk Analysis and Prioritization

The difference between a hazard and a risk: The Oxford Dictionary defines a hazard as a danger or potential source of harm. Example: An old, corroded water pipe above an area where records are being kept is a hazard. The risk is damage to the records if the pipe leaks and causes records to become waterlogged, making them unusable.

### NOTES

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## Key Terms—Risk Identification

Slide 1-8



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Key Terms—Risk Identification

**Risk identification** involves identifying, defining, categorizing, documenting, and communicating the risks that could affect an organization, program, or project.

Slide 1-8

**Risk identification** is the process through which we discover, describe, document, and communicate risks. Accurate and complete identification is important—in order to manage risks effectively, we must first identify them.

During this phase, it is important to capture as many potential risks as possible. Once we have identified and defined each risk, we can begin to evaluate how likely the risk is to happen and how severe the consequences would be if it did occur.

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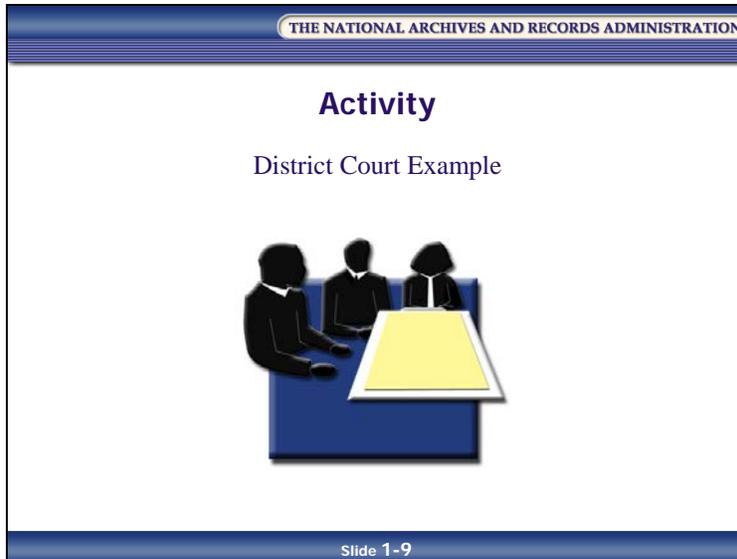
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## Activity—Federal Courts Example

Slide 1-9



Let's look at a real life example to get you thinking about risk identification:

A Federal District Court lost a majority of its funding for records management personnel, resulting in the loss of 32 positions and leaving only one employee to deal with all the records of the Court. Despite this reduction in funding and staff, the Court still had to provide the same services to the public, attorneys, judges, and Federal agencies (U.S. Attorneys, public defenders, the Department of Homeland Security, the Drug Enforcement Administration, etc.) that it had always provided.

What were the risks to the Federal District Court's records as a result of this situation?

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In order to balance the loss of staff with maintaining access to the records, the Federal District Court considered several options, including:

- Outsourcing records retirement and reference functions either to a private company or to NARA
- Allowing Federal agencies open access to the file room to pull the files they need and copy needed documents within the file
- Reducing the time the Court is open to the public and Federal agencies (five hours instead of eight hours a day)
- Making files requested by members of the public available for public review within 30 days of the Court's receipt of the request
- Implementing a phone tree so Court employees do not need to answer questions directly from the public

What were the risks associated with each of the options the Court considered?

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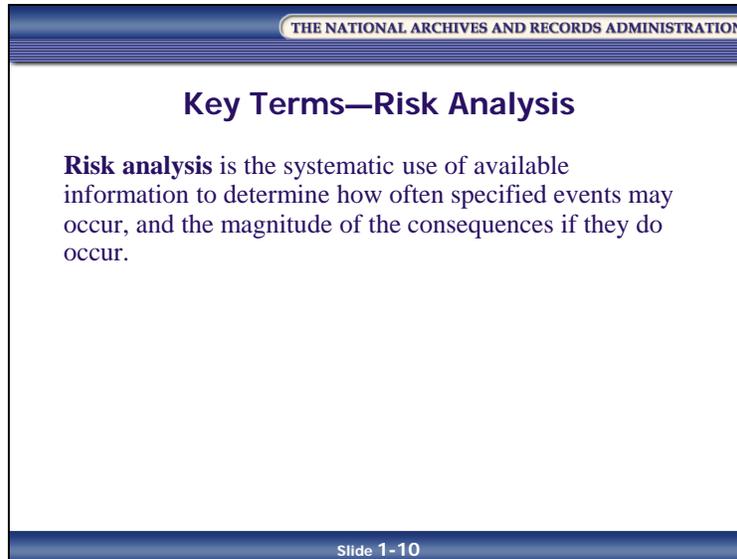
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Stay tuned. The outcome of this story will be provided in Module 3.

## Key Terms—Risk Analysis

Slide 1-10



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Key Terms—Risk Analysis

**Risk analysis** is the systematic use of available information to determine how often specified events may occur, and the magnitude of the consequences if they do occur.

Slide 1-10

In risk management, after risks have been identified, they must be evaluated as to the potential severity of the harm they may cause and as to the probability of occurrence. This is where risk analysis comes in.

**Risk analysis** is the systematic use of available information to determine how often specified events may occur, and the magnitude of the consequences.

In terms of records management, risk analysis is used to evaluate the probability of the risks identified in the risk assessment, and the impact the occurrence of those risks would have on your records and information.

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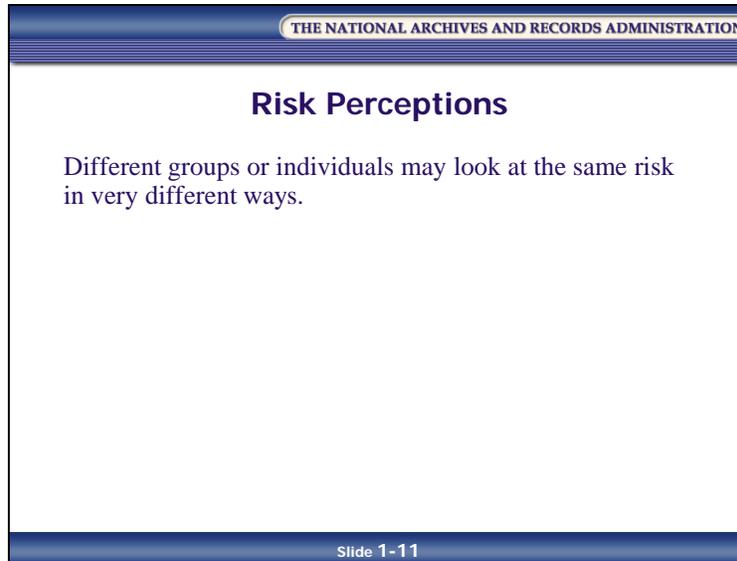
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## Risk Perceptions

Slide 1-11



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Risk Perceptions

Different groups or individuals may look at the same risk in very different ways.

Slide 1-11

The assessment of risk is subjective—influenced by an individual’s past experiences, point of view, risk tolerance, understanding of a situation, etc. For example, someone who is fearful of flying may feel that a plane trip is extremely risky, whereas someone who enjoys flying may feel that a plane trip poses little risk.

This subjectivity means risk management is an inexact science. How risks are identified and perceived depends upon the individuals involved. Therefore, it’s important to balance the component of subjectivity by taking into account others’ perceptions of risk.

### NOTES

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Slide 1-12

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Risk Perceptions (cont'd.)

**Public perception:**  
It would be helpful to be able to browse through records in the stacks at the Archives.



Slide 1-12

Slide 1-13

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Risk Perceptions (cont'd.)

**Agency perception:**  
Access to the records must be controlled to minimize risks to the records, including damage, theft, loss, or misfiling.



Slide 1-13

**NOTES**

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## Players Involved in Risk Management

Slide 1-14

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Players Involved in Risk Management

The government does risk management on many different levels—the players are government-wide:

- Congress and the President
- Government Accountability Office (GAO)
- Agencies

Slide 1-14

The government performs risk management on many different levels, and the players involved can be anyone from Congress and the President of the United States to the GAO to senior management within your agency to you. In other words, the players are government-wide.

Examples of some of the risks managed by these players include:

- Congress and the President:
  - Manage risks to the government overall
  - Manage risks to the public
  - Manage risks to the United States
- The Government Accountability Office (GAO):
  - Performs risk assessment for an agency as a whole or for specific programs and projects within an agency

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- Agencies:
  - The agency head and program management:
    - Manage risk for program planning, development and execution, and performance
  - Agency staff:
    - Manage day-to-day risks
    - Should be involved in risk assessment and mitigation planning because the success of any effort hinges on staff buy-in and support
  - The Chief Information Officer (CIO):
    - Manages risk to information technology (IT)
  - Agency procurement officials:
    - Manage risk for all IT and system investment policy decisions (have a solid Cost Benefit Analysis – CBA)
  - Records management and IT staff:
    - Manage records-related risk in order to protect agency business process

**NOTES**

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## Lesson Summary

In this lesson, you learned that:

- An **asset** is anything of value or perceived value
- **Asset management** is the process of documenting and controlling all assets, either in use or under development by an agency
- **Risk** is the potential harm that may arise from some present process or from some future event
- Risk contains two elements:
  1. The likelihood of an event occurring
  2. The consequence and impact if it happens
- Risk is unavoidable. No matter what you do or don't do, there is always going to be an associated risk
- Your goal should be to minimize risk as best you can with the resources available to you
- The tool used to identify, minimize, and monitor risk is risk management
- **Risk management** is the process of identifying and evaluating risk and then developing strategies to manage the risk
- **Risk assessment** is an examination of the potential harm that may result from exposure to certain hazards
- **Risk identification** involves identifying and describing potential risks
- **Risk analysis**, the risk evaluation part of risk management, is the systematic use of available information to determine how often specified events may occur and the magnitude of the consequences
- The assessment of risk is subjective, and it is important to balance the component of subjectivity by taking into account others' perceptions of risk
- The government does risk management on many different levels, and the players involved can be anyone from Congress and the President of the United States to the GAO to senior management within your agency to you

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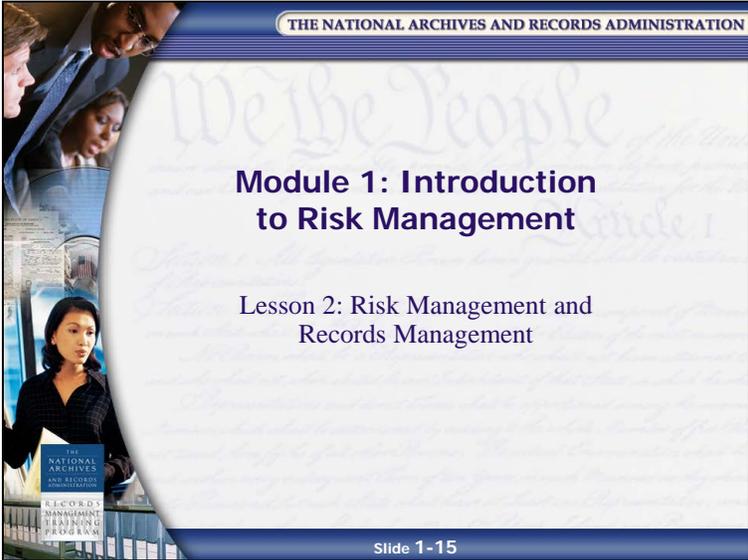
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# Lesson 2: Risk Management and Records Management

Slide 1-15



**NOTES**

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## Risk Management as a Tool for Records Management

Slide 1-16

**Risk Management as a Tool for Records Management**

Risk management helps to:

- Ensure that the records management program is doing the best job possible
- Identify records-related risks that may jeopardize your program
- Ensure that the records management program is making the best use of limited resources

Slide 1-16

When looking at the relationship between risk management and records management, you're faced with a chicken-and-egg scenario. It could be argued that records management is a tool for risk management. And in a big-picture sense, this is true. Looking at an agency as a whole and all the possible risks associated with it, we see that records management is just one of the many tools used to manage those risks. But, for the purposes of this course, because we're looking at risk management within the confines of records management, we will examine risk management as a tool for records management.

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As a tool, risk management helps you to decide where your records management activities should be focused to support your program most effectively. Risk management helps to do the following:

- **Ensure that the records management program is doing the best job possible**—To ensure that the records management program is doing the best job it can to protect the agency’s programs, you need to focus your records management assistance on the areas most likely to have a problem, and those where a problem would have the most significant negative impact on the agency
- **Identify records-related risks that may jeopardize your program**—From natural disasters to human errors to funding shifts, the number of risks faced by records management programs can be overwhelming. Using risk management in your records program will help you identify the risks that are most probable/likely to affect your program, and to determine the best course of action for your needs
- **Ensure that the records management program is making the best use of limited resources**—Most records management programs are small in proportion to the agencies they serve. The Agency Records Officer (ARO) cannot be everywhere, in every office, ensuring that all records are being created and maintained appropriately. The ARO must prioritize by using the structured tools of risk management to decide where the greatest risks are, and where resources should be concentrated.

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## Risk and the Critical Components/Elements of a Records Management Program

Slide 1-17

**Risk and the Critical Components/Elements of a Records Management Program**

Each critical component/element of a records management program helps to manage risk, including:

- Policy and procedures
- Asset management
- Records schedules
- Management support
- Training
- Budget and resources

A records management program already has some aspects of risk management built into it. Each of the critical components and elements of a records management program helps to manage risk, including:

- Policy and procedures to govern the appropriate creation, maintenance, scheduling, and disposition of agency information in a usable, reliable format
- Asset management to reduce the risk that information will become a liability after its usefulness to the organization ends
- Records schedules to manage the appropriate disposition of records, prevent the unauthorized destruction of critical information, and ensure that records are kept and are available for as long as needed to conduct agency business
- Management support to make proper records management a critical priority
- Training to ensure the accurate execution of policy and procedures, thereby minimizing risk to the program
- Budget and resources to determine the best allocation of resources and make sure the resources are applied to the highest-priority risk

### NOTES

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## Lesson Summary

In this lesson, you learned that:

- Risk management is a tool for records management to help you decide where your records management activities should be focused to best support your program
- Risk management helps to:
  - Ensure that the records management program is doing the best job possible
  - Identify records-related risks that may jeopardize your program
  - Ensure that the records management program is making the best use of limited resources
- A records management program already has aspects of risk management built into it. Each critical component/element of the program helps to manage risk, including:
  - Policy and procedures
  - Asset management
  - A records schedule
  - Management support
  - Training
  - Budget and resources

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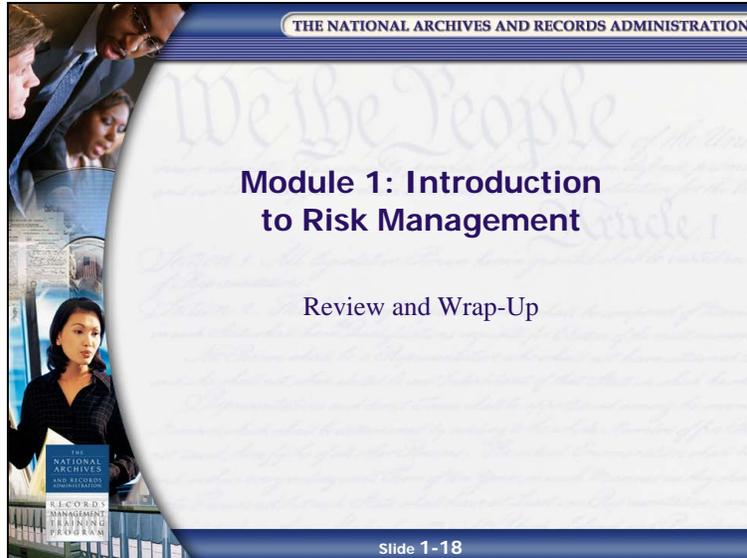
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# Module 1 Review and Wrap-Up

Slide 1-18



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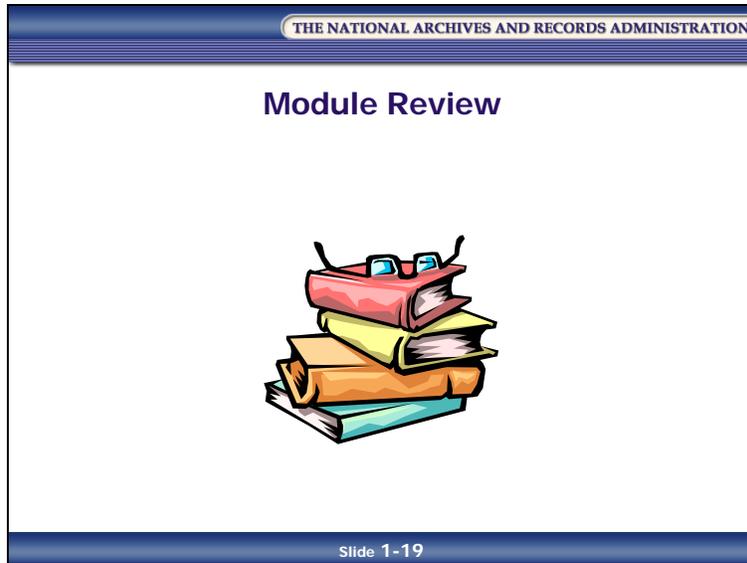
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## Module Review

Slide 1-19



In Module 1, you learned:

- The definitions of asset, asset management, risk, risk management, risk assessment, risk identification, and risk analysis
- That risk management is a tool for records management
- That a records management program already has risk management built into it via the critical components and elements of the program

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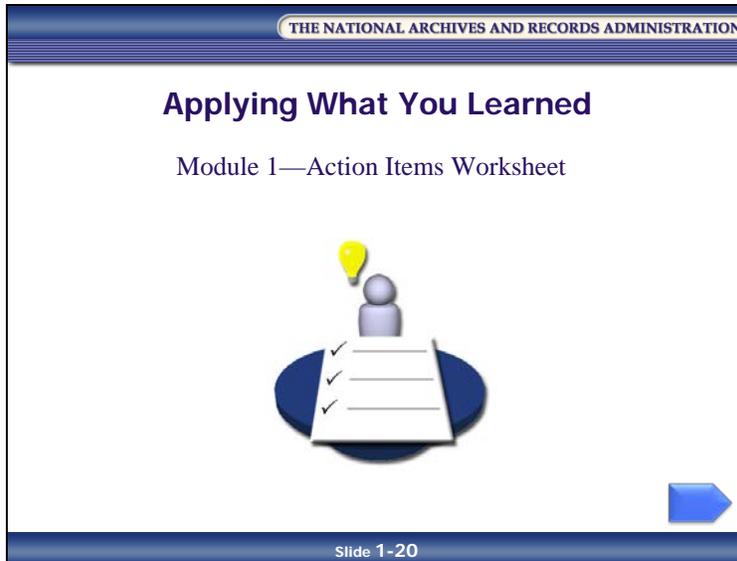
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## Applying What You Learned

Slide 1-20



Reflect upon what you've learned in Module 1 and how you will apply it to your job.

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## Module 1—Action Items Worksheet

*Table 1-2: Module 1—Action Items Worksheet*

**What did I learn about risk management and records management that will help me at my job?**

List at least one thing you learned about risk management and records management that is relevant to your records management role and responsibilities.

**How will I apply what I learned about risk management and records management to my job?**

List at least one thing you learned about risk management and records management that you will apply to your job, and explain how you will apply it.

**What “aha!” moments did I have during this module?**

List any “aha!” moments you experienced during this module.  
(“Risk management is a tool for records management?!? Aha!”)

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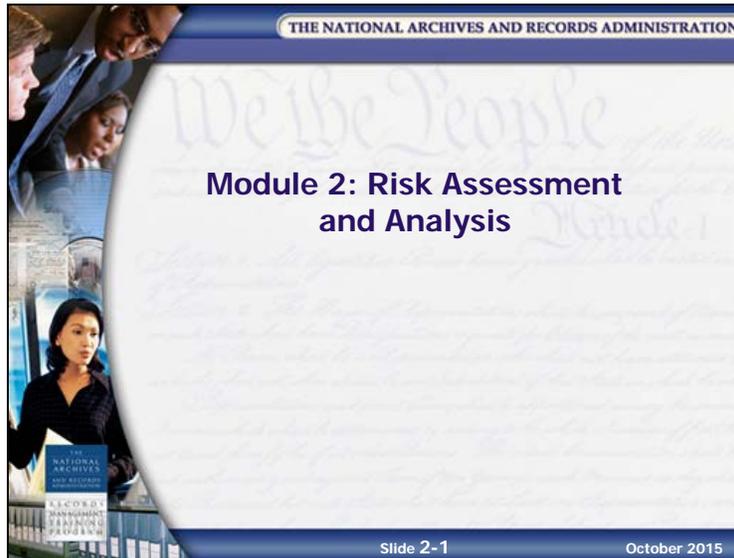
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# Introduction and Objectives

## Introduction

Slide 2-1



Module 2 explains how to identify and evaluate risk within a records management environment. We will first look at the various types of risk relevant to a records management program and learn ways to identify risks. We will then learn how to evaluate risks using three risk analysis tools: Risk Probability/Impact Assessment, Risk Acceptability/Tolerance Matrix, and Business Impact Analysis (BIA).

### NOTES

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## Objectives

Slide 2-2

**Module 2 Learning Objectives**

At the conclusion of this module, you will be able to

- Identify the types of risk relevant to agency records
- Explain the Expert Interview, Brainstorming, and Nominal Group techniques for identifying risk
- Given a scenario, perform a Risk Probability/Impact Assessment
- Given a scenario, complete a Risk Acceptability/Tolerance Matrix
- Explain the purpose and process of a Business Impact Analysis (BIA)

At the conclusion of this module, you will be able to do the following:

- Identify the types of risk relevant to agency records
- Explain the Expert Interview, Brainstorming, and Nominal Group techniques for identifying risk
- Given a scenario, perform a Risk Probability/Impact Assessment
- Given a scenario, complete a Risk Acceptability/Tolerance Matrix
- Explain the purpose and process of a Business Impact Analysis (BIA)

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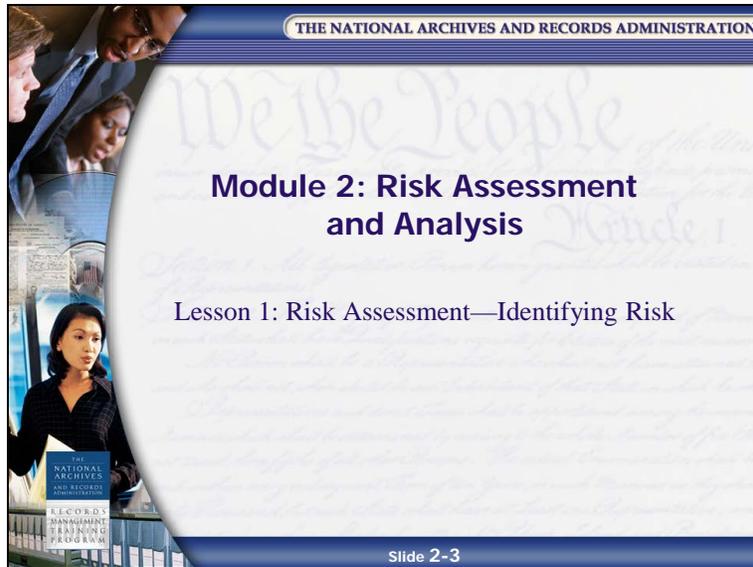
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# Lesson 1: Risk Assessment—Identifying Risk

Slide 2-3



Risk is a measure of deviation from the expected. Risk consequences can be either bad or good. Bad risk consequences drain resources and interfere with an agency’s ability to fulfill its mission. Risk is not always negative. Good risk consequences produce better than expected results or unexpected opportunities.

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## Types of Risk

Slide 2-4

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Types of Risk

The types of risks relevant to a records management program include:

- Disaster-related risks
- Records control risks
- Records lifecycle risks
- Technology-related risks
- Records preservation risks
- Project-related risks

Slide 2-4

In order to identify risks properly, you must first be aware of the types of risk you may encounter. The types of risks relevant to a records management program include:

- Disaster-related risks
- Records control risks
- Records lifecycle risks
- Technology-related risks
- Records preservation risks
- Project-related risks

To list all possible types of risks involved in records management would be impossible. Every records management program is different and faces its own unique types of risk. The risks included in these categories may or may not apply to your records management program, but they will serve as a starting point to get you thinking about the risks faced by your program.

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## Disaster-Related Risks

Slide 2-5

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Disaster-Related Risks

- Natural disasters
- Mechanical, structural, and technical disasters
- Human disasters



Slide 2-5

When we think of risks, we often think of natural disasters and the damage they cause. Disasters can be devastating to an organization. If the disaster is severe enough, or if the loss of records and information is critical enough, it is possible that the organization will not be able to recover.

There are three different categories of disasters:

- **Natural disasters**, such as earthquakes, fires, and floods
- **Mechanical or technical disasters**, such as failures in heating, ventilation, and air conditioning (HVAC) systems; power failures; and radioactive contamination
- **Human disasters**, such as computer operator errors, theft and vandalism, and improper handling of sensitive data or security-classified material

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## Records Control Risks: Physical Control

Slide 2-6

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Records Control Risks: Physical Control

- Records storage
- Storage media
- Access control



Slide 2-6

Without proper records controls, agencies may lose valuable information and records—essentially, losing agency memory. When valuable program and administrative information are not created, captured, and retained properly, agencies may face the risks of poor decisions based on outdated or incomplete information, risk of incorrect information given to citizens, and risk of the loss of a historical record of the agency’s work.

Agencies face risks related to the physical control of records.

- **Records storage** environments may not provide proper security, or they may offer poor environmental controls, leading to the deterioration or destruction of the records. Careless or improper handling of paper and electronic media can also pose a risk.
- **The media on which records are stored** may pose risks, when the physical medium used to store, preserve, and manage the record deteriorates, becomes unstable, or jeopardizes the integrity of the record, as when electronic media fail or unstable film deteriorates
- **A lack of effective access controls** may pose the risk of loss, theft, or unauthorized release of sensitive or classified information

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## Records Control Risks: Intellectual Control

Slide 2-7

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Records Control Risks: Intellectual Control

- Organization and retrieval
- Version control
- Failure to create or capture records
- High-ranking officials leave and take records with them



Slide 2-7

In addition to the risks related to the storage and handling of records, agencies may face risks related to the loss of intellectual control over records.

- **Organization and retrieval** risks pose a threat to both the physical and intellectual control of records. When agency employees maintain information on their individual desktop computers or take files home, agencies often have no control over, or idea of, what information is available and where it is located. A lack of naming conventions, appropriate metadata, and indexing can make it difficult to retrieve and manage information.
- **A lack of version control** and audit trails can cause confusion over which is the latest version of a document or make it difficult to know what changes were made, and when

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- Intellectual loss can also occur from **the failure to create or capture records** that ensure the accountability of the agency. This can happen when an agency has contracts with vague or missing recordkeeping requirements or when an employee retires without documenting and passing on important knowledge. In cases like these, the agency faces a loss of agency memory.
- There is a risk of records being lost when high-ranking officials and other government employees separate from government service and incorrectly take records with them when they leave

**NOTES**

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## Records Lifecycle Risks

Slide 2-8

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Records Lifecycle Risks

- Retention
- Legal
- Security
- Business
- Personnel
- Accountability



Slide 2-8

AROs are always balancing risks against each other to set the most effective policies, design and select systems, and determine the best records retention periods, among other things.

There are several types of records management-related risks:

- **Retention**—Records retention periods are designed to ensure that records are kept for the right amount of time—not too long, and not too short. If you keep records too long, you risk incurring unnecessary storage costs, wasting time, and unnecessarily exposing records during legal discovery. If you keep a record for too short a time, you risk losing accountability for government actions, hampering business operations because the organization does not have the information it needs to function, and incurring additional costs to re-create the content.
- **Legal**—This includes the risk of losing a legal challenge because the agency may not have created or maintained records necessary to prove its case. Poor records management may make the agency unable to respond to a discovery or Freedom of Information Act (FOIA) request, and retaining records for long periods increases the number of records that an agency must sort through in response to such requests. Agencies may risk significant fines or loss of court cases for failure to preserve valuable records.

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- **Security**—Inadequate physical and network security measures increase the risk of loss or alteration of records. Also, there is a risk of restricted information, such as classified or Privacy Act information, being released inappropriately.
- **Business**—This includes the risk of bad decision-making without necessary records, and of poor organization of records hindering daily operations, rendering the program ineffective. Besides a general lack of good records management controls, there are several other possible causes for this kind of risk.
- **Personnel**—This risk arises from the daily interaction of individuals, teams of people, outside contractors, and management oversight working within large, complex organizations. The risks resulting from these dynamics can include poor communication, poor documentation, mismanagement of records, unauthorized destruction of records, confusion over ownership of records management responsibilities, and uncertainty about legal and agency program requirements.
- **Accountability**—This risk entails not being able to satisfy public scrutiny to provide full government accountability, and not being able to respond to FOIA requests because records are not created or maintained appropriately.

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## Technology Risks

Slide 2-9



As the variety of forms, formats, and technologies used to store information increases, it becomes more difficult to control the potential risk factors.

**Decentralized file storage**—Current electronic recordkeeping practices often lead to decentralized file storage as records are often stored on personal computers. Records on individual hard drives are not available on the network for others to use as needed.

Records stored on individual PCs make it more difficult to figure out what records an agency has and where they are located, and as a result:

- It is harder to respond to an inquiry such as a FOIA request or an e-discovery order
- Applying disposition schedules and monitoring version control are more difficult
- Records stored on individual hard drives, laptops, or removable drives may not be backed up with the network, and therefore may be at risk

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**Technical obsolescence** involves rapid changes in hardware and software formats and media. These changes put records at risk because the agency may not be able to open and read records in the future. Imagine coming across a box of 5¼" floppy disks. Chances are you'd have a difficult time trying to find a computer with a 5¼" floppy drive and an even more difficult time trying to find the correct operating system and software to read the files.

**Data migration** is often used to ensure that information is migrated forward from one system to a new version of the software or a new system. However, migration can also pose a risk when the agency fails to identify and migrate all needed information, fails to map data fields properly from the old to the new system, or experiences loss of data and data quality during migration.

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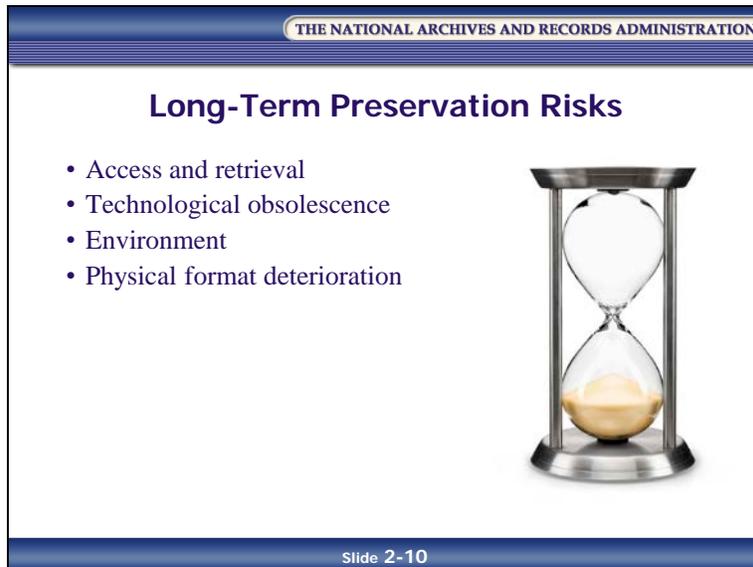
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## Long-Term Preservation Risks

Slide 2-10



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Long-Term Preservation Risks

- Access and retrieval
- Technological obsolescence
- Environment
- Physical format deterioration

Slide 2-10

Records which must be retained permanently or retained for an extended period of time face their own special risks:

- **Access and retrieval**—Records must be safely stored and adequately described and indexed so that agency staff and archivists can locate and retrieve records, understand their context, and manage the records over long periods of time. Complete, accurate, effective metadata and descriptive finding aids can help agency staff and AROs ensure continued life for the records.
- **Technological obsolescence**—Records stored in electronic form are at risk from rapid changes to software, storage media, hardware, and operating systems. AROs and archivists must take steps to monitor electronic records and ensure their continued accessibility, usability, and integrity.
- **Environment**—Environmental conditions such as excessive heat, humidity, and sunlight increase the risk that the physical media on which the records are stored will deteriorate
- **Physical format deterioration**—The longer records are kept, the greater the risk of records being lost because the physical format degraded over time, because of inherent instability in media such as CDs, DVDs, acid in paper, etc.

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## Project-Related Risks

Slide 2-11

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Project-Related Risks

- Financial
- Technical
- Operational
- Schedule
- Legal and contractual
- Organizational



Slide 2-11

Project-related risks include:

- **Financial**—Risks that could cause the agency to pay out unexpected fees and fines
- **Technical**—Risk posed by the inability of the proposed project to predict accurately the lifecycle of the project, which can result in failure to attain the expected benefits from the project, inaccurate figures for project cost and duration, and failure to integrate a new system fully into existing hardware and software
- **Operational**—Risk to the degree to which a proposed project fails to solve business problems or takes advantage of business opportunities
- **Schedule**—Risk to the expected timeframe and completion dates for all activities within a project
- **Legal and Contractual**—Project ramifications that result from the construction of a building, development of an information system, or similar activities
- **Organizational**—Redistribution of power is the single greatest element increasing organizational risk, although the greater the number of stakeholders from whom you can get buy-in, the lower the risk

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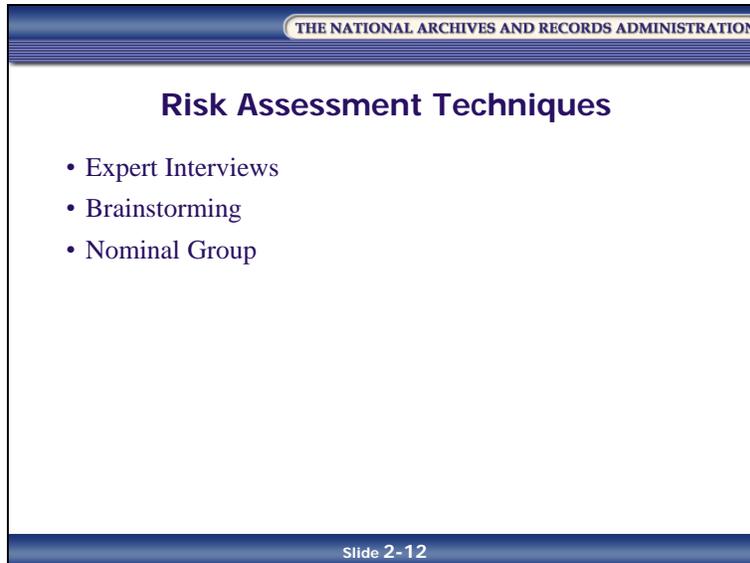
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## Risk Assessment Techniques

Slide 2-12



There are many different techniques for identifying risk. We will focus on the three most common techniques:

- Expert Interviews
- Brainstorming
- Nominal Group Technique

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## Expert Interviews

Expert interviews are the easiest and most often used risk identification tool, although the quality of the results depends heavily on the skill of the interviewer.

This technique provides a means for collecting risk-related data from subject matter experts and other stakeholders. It relies on “expert” judgment to identify and analyze risk events and develop alternatives.

Expert interviews involve a four-step process:

1. Identify individuals who should participate in the interviews. Do not use the buddy system as the basis for selecting interview candidates.
2. Prepare for the interview and target appropriate individuals, such as project managers and process owners, for expert interviews
3. Solicit stakeholder judgment and general information (people who can provide additional expert perspective). Stakeholders include project team managers, case managers, end-users, upper management, etc.
4. Quantify the information (if desired) or apply a qualitative rating

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## Brainstorming

The goal of the brainstorming technique is to help people search creatively for risks and stimulate thinking outside the box.

Brainstorming has two stages:

- Stage 1
  - Each member of the group is asked to provide input on major issues dealing with the selected proposition (proposal). Members are then encouraged to use each other's ideas to generate new ideas.
  - All ideas are written on a list—no idea is evaluated or thrown away
- Stage 2
  - When all input from the members is exhausted, the group proceeds through the list and discusses the merits of each idea
  - The results of this discussion are summarized as the group's results, and risk issues are identified

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## Nominal Group Technique

This technique of identifying risk is useful in establishing agency program priorities. It also gives all participants an equal voice, which can be useful when there is the possibility of an individual with a strong personality dominating the process to the exclusion of others.

The nominal group technique is an eight-step process:

1. Create a small group of interested stakeholders
2. Establish a premise or proposition

For example, what are the risks when an agency converts a program process to an electronic system?

3. Solicit responses to the premise or proposition from each group member

Depending upon the people and personalities in the group, this may best be achieved by having group members respond anonymously in writing and giving their responses to the group leader.

4. List the responses of each group member on a board or easel chart
5. Continue the process until the list is complete
6. Rank each item on the list, making sure that each member participates
7. Continue the process until the entire list is ranked
8. Tabulate the rankings, with the highest being #1, the next highest #2, etc.

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## Things to Consider When Identifying Risk

Slide 2-13

**THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION**

### Things to Consider When Identifying Risk

- Identify risks early, often, regularly, and at all levels
- Teams can be an effective way to help identify and analyze risks
- Risks are seldom deeply held secrets
- Risks may have more than one cause. Treat each cause as a separate risk.

Slide 2-13

When identifying risk, consider the following:

- It takes time and effort to identify risks properly, and risks are always changing. Therefore, identify risks early, often, regularly, and at all levels.
- Teams can be an effective way to help identify and analyze risks at the agency and bureau levels
- Risks are seldom deeply held secrets. Experience indicates that virtually all risks of impact are more or less common knowledge. Therefore, the challenge is articulating the knowledge of that risk so that the risk can be mitigated.
- A complicating factor is that risks may have more than one cause. For example, the risk of the loss of valuable business information can be caused by fire, flood, sabotage, a system crash with no current back-up tapes, etc. Treat each cause as a separate risk.

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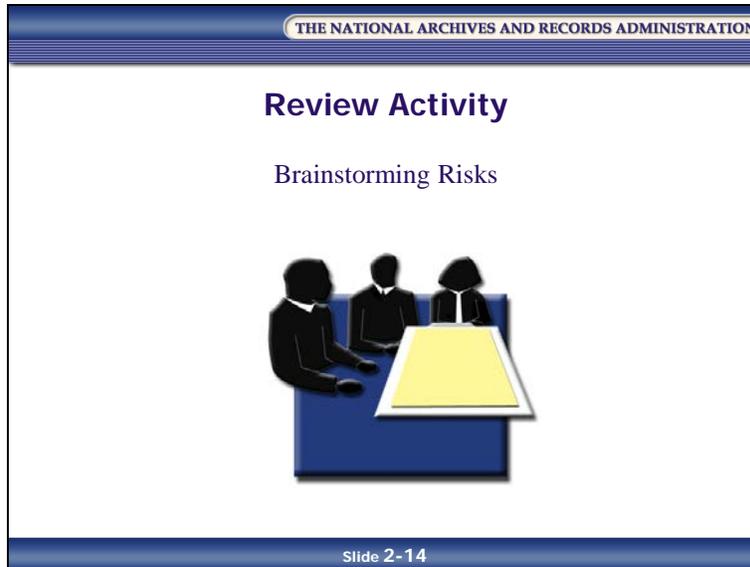
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## Review Activity: Brainstorming Risks

Slide 2-14



### NOTES

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*Table 2-5: Worksheet: Risk Identification, Probability/Impact Assessment, and Risk Acceptability/Tolerance Matrix Table*

IDENTIFIED RISK	PROBABILITY	IMPACT	RISK FACTOR	TOLERANCE RATING
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

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## Lesson Summary

In this lesson, you learned that:

- The types of risks relevant to a records management program include:
  - Disaster-related risks
  - Records control risks
  - Records lifecycle risks
  - Technology-related risks
  - Records preservation risks
  - Project-related risks
- Disaster-related risks come from categories such as natural disasters, mechanical or technical disasters, and human disasters
- Records control risks include:
  - Physical control—records storage, storage media, and access control
  - Intellectual control—organization and retrieval, version control, capture/creation
- Technology risks include decentralized storage of records, obsolescence, data migration, hardware and media failure, and viruses
- Records lifecycle risks include retention, legal risks, security risks, business risks, personnel risks, and accountability risks
- Long-term preservation risks include access and retrieval, obsolescence, environmental risks, and physical format deterioration
- Project-related risks include financial, technical, operational, schedule, and legal and contractual risks
- Risk assessment techniques include:
  - Expert Interviews
  - Brainstorming
  - Nominal Group Technique
- Expert interviews are the easiest and most often used risk identification tool, although the quality of the results depends heavily on the skill of the interviewer

### NOTES

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- Expert interviews involve a four-step process:
  1. Identify who should participate in the interviews
  2. Prepare for the interview and target appropriate individuals, such as project managers and process owners, for expert interviews
  3. Solicit stakeholder judgment and general information
  4. Quantify the information or apply a qualitative rating
- Brainstorming helps search creatively for risks and stimulates thinking outside the box
- Brainstorming has two stages:
  - Stage 1: Gather and record any and all ideas from the group
  - Stage 2: Discuss and evaluate each idea
- The Nominal Group Technique of identifying risk is useful in establishing agency program priorities; it also gives all participants an equal voice
- The Nominal Group Technique is an eight-step process:
  1. Create a small group of interested stakeholders
  2. Establish a premise or proposition
  3. Solicit responses from each group member
  4. List the responses of each group member on a board or easel chart
  5. Continue the process until the list is complete
  6. Rank each item on the list, making sure that each member participates
  7. Continue the process until the entire list is ranked
  8. Tabulate the rankings, with the highest being #1, etc.
- One of the most useful constructs of traditional risk management is that a risk consists of probability and impact
- It takes time and effort to properly identify risks, and risks are always changing. Therefore, identify risks early, often, regularly, and at all levels.
- Risks are seldom deeply held secrets

**NOTES**

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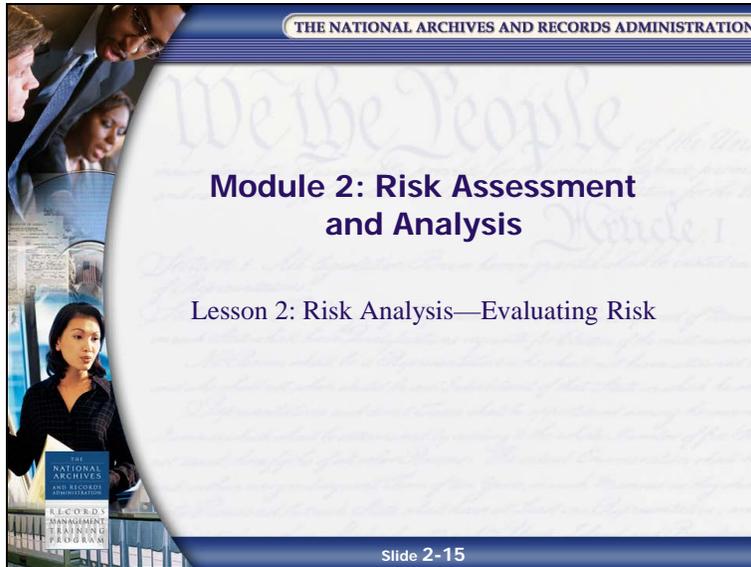
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# Lesson 2: Risk Analysis—Evaluating Risk

Slide 2-15



## NOTES

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## Introduction to Risk Analysis

Slide 2-16

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Introduction to Risk Analysis

- Risk analysis evaluates the probability and the impact of identified risks.
- Three methods for evaluating risk are:
  1. Risk Probability/Impact Assessment
  2. Risk Acceptability/Tolerance Matrix
  3. Business Impact Analysis (BIA)

Slide 2-16

As you learned in Module 1, **risk analysis** is the systematic use of available information to determine how often specified events may occur and the magnitude of the impact. In other words, risk analysis evaluates the probability and the impact of identified risks.

Let's look at three methods for evaluating risk:

- Risk Probability/Impact Assessment
- Risk Acceptability/Tolerance Matrix
- Business Impact Analysis (BIA)

### NOTES

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## Risk Probability/Impact Assessment

Slide 2-17

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### Risk Probability/Impact Assessment

A risk probability/impact assessment is used to analyze and prioritize the risks identified in the risk assessment. It consists of three steps:

- Establish a rating system:
  - Probability rating
  - Impact rating
- Determine the risk factors
- Determine the risk score

Slide 2-17

A **risk probability/impact assessment** is used to analyze and prioritize the risks identified in the risk assessment. A risk probability/impact assessment consists of three steps:

1. Establish a rating system:
  - Probability rating
  - Impact rating
2. Determine the risk factors
3. Determine the risk score

### NOTES

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## Step 1: Establish a Rating System

Slide 2-18

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### Step 1: Establish a Rating System

The rating system should incorporate two types of ratings:

1. Probability rating
2. Impact rating

Slide 2-18

The rating system is based on your professional experience, your best judgment, and/or the experience of consultants and all levels of records management contacts.

The system incorporates two types of ratings—probability rating and an impact rating.

### NOTES

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Slide 2-19

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### Step 1: Establish a Rating System (cont'd.)

**Probability rating**

Scale	Probability	Description
3	High	The event is expected to occur
2	Medium	Similar events have occurred in the past
1	Low	The event has little chance of occurring

Slide 2-19

- Probability rating:** Create your probability rating by selecting the numerical scale you wish to use (examples: 1–3, 1–5, 1–10) and defining the corresponding criteria for probability and description

An example probability rating system is shown in Table 2-6.

*Table 2-6: Probability Rating System Example*

Scale	Probability	Description
3	High	The event is expected to occur
2	Medium	Similar events have occurred in the past
1	Low	The event has little chance of occurring

It is important that you define the corresponding criteria for probability and the probability descriptors. The probability descriptors should be based on history and past experience.

**NOTES**

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Slide 2-20

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### Step 1: Establish a Rating System (cont'd.)

Impact rating

<u>Scale</u>	<u>Impact</u>	<u>Impact Descriptor</u>
3	Catastrophic	Extremely high impact; devastating loss
2	Serious/Critical	Major impact; significant loss
1	Minor/Marginal	Some loss; sustainable

Slide 2-20

- **Impact rating:** Create your impact rating by selecting the numerical scale you wish to use (examples: 1–3, 1–5, 1–10) and defining the corresponding criteria for impact and the impact descriptors. The impact descriptors should be based on the financial and program implications of the risk event, such as:
  - The cost to reconstruct lost or damaged records
  - The probability of compromising an agency’s program objectives
  - The possibility of generating a lawsuit
  - The dilution of intangible agency assets such as agency credibility
  - The unauthorized release of sensitive agency information by agency personnel

An example impact rating system is shown in Table 2-7.

*Table 2-7: Impact Rating System Example*

SCALE	IMPACT	IMPACT DESCRIPTOR
3	Catastrophic	Extremely high impact; devastating loss
2	Serious/Critical	Major impact; significant loss
1	Minor/Marginal	Some loss; sustainable

**NOTES**

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## Step 2: Determine the Risk Factors

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**Step 2:  
Determine the Risk Factors**

- Rate the probability of each risk
- Rate the impact of each risk
- Probability × Impact = Risk Factor

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A **risk factor** is an overall rating of the seriousness of a single risk. It is useful for comparing one risk to another and, therefore, for prioritizing which risk should be addressed first.

The process for determining the risk factor of each risk is:

- Rate the *probability* of the risk event occurring using your probability rating system
  - 3 = Certainty of occurrence
  - 2 = Significant probability of occurrence
  - 1 = Minimal probability of occurrence
- Rate the *impact* of the risk event occurring using your impact rating system
  - 3 = High impact
  - 2 = Significant impact
  - 1 = Low impact
- Determine the *risk factor* of the risk event by multiplying the probability rating by the impact rating
  - Probability × Impact = Risk Factor

### NOTES

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Slide 2-22

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

**Step 2:  
Determine the Risk Factors (cont'd.)**

<u>Identified Risk</u>	<u>Probability</u>		<u>Impact</u>		<u>Risk Factor</u>
1. Cost overruns	3	×	3	=	9
2. Unfamiliar with similar systems	2	×	2	=	4
3. Limited resources	2	×	3	=	6
4. Scheduled timeframe is impossible	3	×	3	=	9
5. Unhappy stakeholders	2	×	3	=	6
6. System not integrated with current system	2	×	3	=	6

Slide 2-22

An example of how risk factors are determined is shown in Table 2-8.

*Table 2-8: Risk Factors Determination Example*

IDENTIFIED RISK	PROBABILITY		IMPACT		RISK FACTOR
1. Cost overruns	3	×	3	=	9
2. Unfamiliar with similar systems	2	×	2	=	4
3. Limited resources	2	×	3	=	6
4. Scheduled timeframe is impossible	3	×	3	=	9
5. Unhappy stakeholders	2	×	3	=	6
6. System not integrated with current system	2	×	3	=	6

**NOTES**

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### Step 3: Determine the Risk Score

Slide 2-23

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### Step 3: Determine the Risk Score

The risk score is the average of the risk factors of all a project's risk.

- To calculate the risk score:
  - Calculate the risk rating:
    - Risk rating = the sum of all risk factors
  - Then divide the risk rating by the number of risks:
    - Risk score = risk rating ÷ number of risks

Slide 2-23

To complete the risk probability/impact assessment, you need to determine risk score. The **risk score** is the average of the risk factors of all of a project's risk.

The risk score is used to determine the level of impact that risk has on the proposed project. It's also useful for comparing one project to another to find out which is the riskier project.

To calculate the risk score you must first calculate the risk rating. This is done by adding all the risk factors together.

**Risk rating** = the sum of all risk factors

Then divide the risk rating by the number of risks listed to get the risk score.

**Risk score** = risk rating ÷ number of risks

#### NOTES

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Slide 2-24

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**Step 3:  
Determine the Risk Score (cont'd.)**

<u>Identified Risk</u>	<u>Probability</u>		<u>Impact</u>		<u>Risk Factor</u>
1. Cost overruns	3	×	3	=	9
2. Unfamiliar with similar systems	2	×	2	=	4
3. Limited resources	2	×	3	=	6
4. Scheduled timeframe is impossible	3	×	3	=	9
5. Unhappy stakeholders	2	×	3	=	6
6. System not integrated with current system	2	×	3	=	6
6 Risks				Risk Rating =	40

**Risk Score for Project =  $40 \div 6 = 6.67$**

Slide 2-24

The risk rating and risk score are determined from the risk factor numbers shown in Table 2-8. That table is repeated as Table 2-9, along with the computation of the risk score.

**Table 2-9: Risk Factor Determination Example (cont'd.)**

IDENTIFIED RISK	PROBABILITY		IMPACT		RISK FACTOR
1. Cost overruns	3	×	3	=	9
2. Unfamiliar with similar systems	2	×	2	=	4
3. Limited resources	2	×	3	=	6
4. Scheduled timeframe is impossible	3	×	3	=	9
5. Unhappy stakeholders	2	×	3	=	6
6. System not integrated with current system	2	×	3	=	6
			Total	=	40

Risk rating (sum of risk factors) = 40

Risk score (risk rating divided by number of risks) =  $40 \div 6 = 6.67$

**NOTES**

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Slide 2-25

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**Step 3:  
Determine the Risk Score (cont'd.)**

**Low risk** = Risk score between 1 and 3  
**Medium risk** = Risk score between 4 and 6  
**High risk** = Risk score between 7 and 9

**Risk score = 6.67**  
**Project is borderline high-risk**

Slide 2-25

**Low risk** = Risk score between 1 and 3

**Medium risk** = Risk score between 4 and 6

**High risk** = Risk score between 7 and 9

**NOTES**

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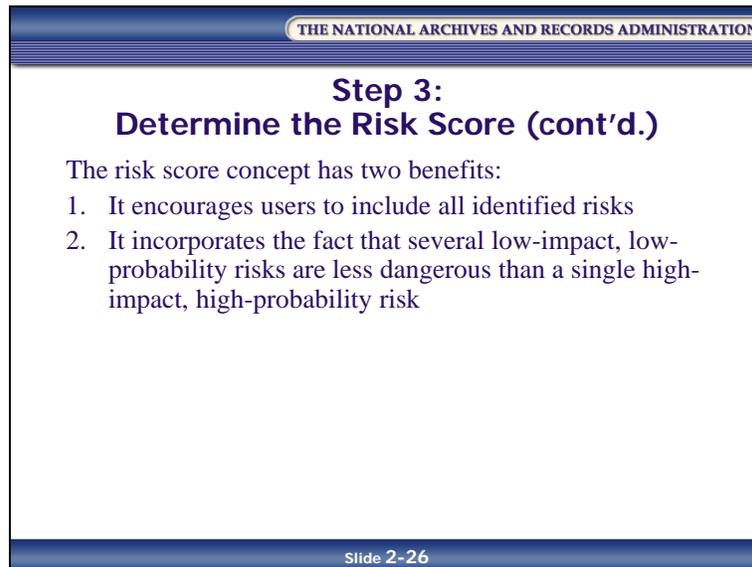
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Slide 2-26



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

**Step 3:  
Determine the Risk Score (cont'd.)**

The risk score concept has two benefits:

1. It encourages users to include all identified risks
2. It incorporates the fact that several low-impact, low-probability risks are less dangerous than a single high-impact, high-probability risk

Slide 2-26

The risk score concept has two benefits:

- It encourages users to include all identified risks
- It incorporates the fact that several low-impact, low-probability risks are less dangerous than a single high-impact, high-probability risk

However, a large group of low-impact, low probability risks, in addition to one or a few high-impact, high-probability risks, does not reduce the fact that your project has a high risk.

**NOTES**

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## Risk Acceptability/Tolerance Matrix

Slide 2-27

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Risk Acceptability/Tolerance Matrix

The **risk acceptability/tolerance matrix** represents your agency's tolerance level for acceptable and unacceptable risks.

Slide 2-27

The **risk acceptability/tolerance matrix** represents your agency's tolerance level for acceptable and unacceptable risks. It is created with input from your agency's top-level policy personnel, including your legal department, and once completed, serves as a gauge for which risks need immediate attention.

### NOTES

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## Creating the Matrix

Slide 2-28

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### Creating the Matrix

		Degrees of impact →		
		<u>Catastrophic Impact</u>	<u>Serious/Critical Impact</u>	<u>Minor/Marginal Impact</u>
Degrees of probability ↓	<u>Probability</u>			
	Certainty	U	U	U
	Significant	U	U	U/A <small>(depending on circumstances)</small>
	Minimal	A	A	A

**Tolerance levels:**  
 U = Unacceptable Risk  
 A = Acceptable Risk

Slide 2-28

The matrix begins with degrees of impact (i.e., catastrophic, serious/critical, minor/marginal) listed across the top and degrees of probability (certainty, significant, minimal) listed down the side.

Then the agency defines the criteria for each degree of impact. A “Serious/Critical” event for one agency may be a “Catastrophic” event for another, so agencies need to make sure they have a clear definition to apply when assessing risks.

Finally, the agency completes the matrix by rating their tolerance level (i.e., unacceptable, acceptable) for each impact/probability combination. For example, catastrophic circumstances that are certain to occur are rated unacceptable, whereas catastrophic circumstances that are very unlikely to occur are rated acceptable.

### NOTES

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## Using the Matrix

Slide 2-29

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### Using the Matrix

**Example:** BPR decides that mold would have catastrophic effects and has a significant probability of occurring; therefore, the tolerance rating is unacceptable.

Probability	Catastrophic Impact	Serious/ Critical Impact	Minor/ Marginal Impact
Certainty	U	U	U
Significant	U	U	U/A
Minimal	A	A	A

Slide 2-29

Once the matrix is completed, it becomes a metric for assessing risk and determining what action to take. To use the matrix, select an identified risk, determine its degree of impact, determine its probability, and then simply find where they converge to determine its tolerance rating.

For example, the Southeastern Seaboard Regional Office of the Bureau of Public Recreation (BPR) is located on the Southeastern seaboard of the country, in a very warm and humid climate, thus making mold a risk to records. Using their risk acceptability/tolerance matrix (shown below), BPR decides that mold would have catastrophic effects and has a significant probability of occurring; therefore, the tolerance rating is unacceptable, as shown in Table 2-10.

*Table 2-10: Risk Acceptability/Tolerance Matrix Example*

PROBABILITY	CATASTROPHIC IMPACT	SERIOUS/ CRITICAL IMPACT	MINOR/MARGINAL IMPACT
Certainty	U*	U	U
Significant	U	U	U/A (depending on circumstances)
Minimal	A	A	A

\* **Key:** **U** = Unacceptable risk, **A** = Acceptable risk

### NOTES

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One of the reasons for using the matrix is to help determine which risks deserve immediate attention/resources and which do not. Risks that are unacceptable need to be addressed immediately, whereas risks that are acceptable do not. To continue the BPR's risk-of-mold example, its tolerance rating for mold was unacceptable; therefore, immediate action needed to be taken.

Use the results from the matrix to help determine your priorities:

- Risks identified as unacceptable should be ranked highest priority
- Risks identified as acceptable should be ranked lowest priority. (A risk could be deemed acceptable even if it is extremely likely but has marginal impact.)

Be aware that some circumstances may require a different tolerance rating for apparently similar circumstances. For example, if the Internal Revenue Service's website crashed on April 14, it would have catastrophic impact, but if it crashed on June 27, the impact might not be as catastrophic.

**NOTES**

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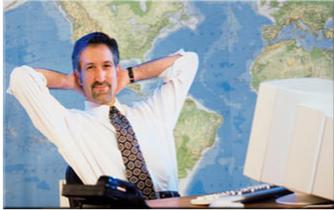
## The “Do Nothing” Analysis

Slide 2-30

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### The “Do Nothing” Analysis

The “do nothing” analysis will give you the comparison point by which to decide whether implementing change is the best alternative.



Slide 2-30

When evaluating risk, it is important that you also evaluate the risks involved in doing nothing. This “do nothing” analysis will give you the comparison point by which to decide whether implementing change is the best alternative.

Perform a “do nothing” analysis just as you would any other risk analysis. Identify the risks of doing nothing, and then evaluate those risks with the risk probability/impact assessment and risk acceptability/tolerance matrix.

### NOTES

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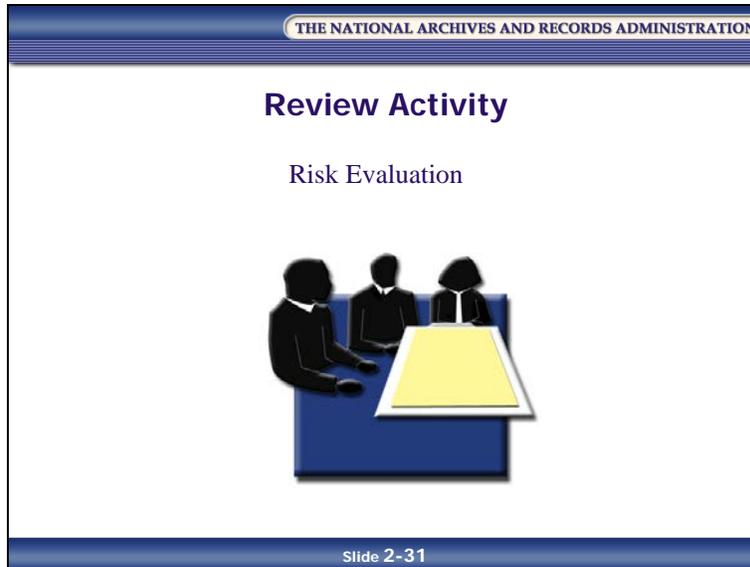
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## Review Activity: Risk Evaluation

Slide 2-31



### NOTES

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## Risk Evaluation Worksheet

Using the 10 risks identified on your Risk Identification, Probability/Impact Assessment, and Risk Acceptability/Tolerance Matrix Table Worksheet from Lesson 1, complete a risk probability/impact assessment and risk acceptability/tolerance matrix, and calculate the risk rating and the risk score. Record your answers on the Risk Probability/Impact Assessment and Risk Acceptability/Tolerance Matrix Table provided.

### Risk Probability/Impact Assessment

Use the following rating systems to complete the risk probability/impact assessment:

*Table 2-12: Probability Assessment*

SCALE	PROBABILITY	PROBABILITY DESCRIPTOR
3	High	The event is expected to occur
2	Medium	Similar events have occurred in the past
1	Low	Little chance of occurring

*Table 2-13: Impact Assessment*

SCALE	IMPACT	IMPACT DESCRIPTOR
3	Catastrophic	Extremely high impact; devastating loss
2	Serious/Critical	Major impact; significant loss
1	Minor/Marginal	Some loss; sustainable

### Risk Acceptability/Tolerance Matrix

Complete the risk acceptability/tolerance matrix by identifying your tolerance rating for each impact/probability combination. After completing the matrix, apply it to each risk to determine the risk's tolerance rating.

*Table 2-14: Risk Acceptability/Tolerance Matrix*

PROBABILITY	CATASTROPHIC IMPACT	SERIOUS/ CRITICAL IMPACT	MINOR/ MARGINAL IMPACT
Certainty			
Significant			
Minimal			

**Key:**

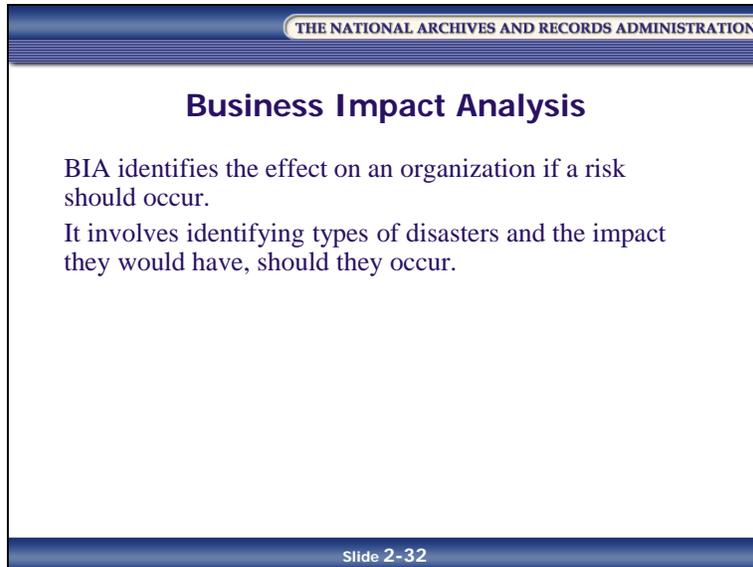
U = Unacceptable risk

A = Acceptable risk

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## Business Impact Analysis

Slide 2-32



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### Business Impact Analysis

BIA identifies the effect on an organization if a risk should occur.

It involves identifying types of disasters and the impact they would have, should they occur.

Slide 2-32

### Introduction to Business Impact Analysis

A **Business Impact Analysis (BIA)** identifies the effect on an organization if a risk should occur. Essentially, it involves identifying types of disasters and the impact each type would have on the business function. It is important to understand that a BIA is part of a certain kind of formal risk assessment, and that it is often done in the context of disaster planning.

From the records management point of view, BIA is important because it should result in the identification of vital records—those records the agency can least afford to lose, and must therefore protect.

Vital records are also known as essential information.

#### NOTES

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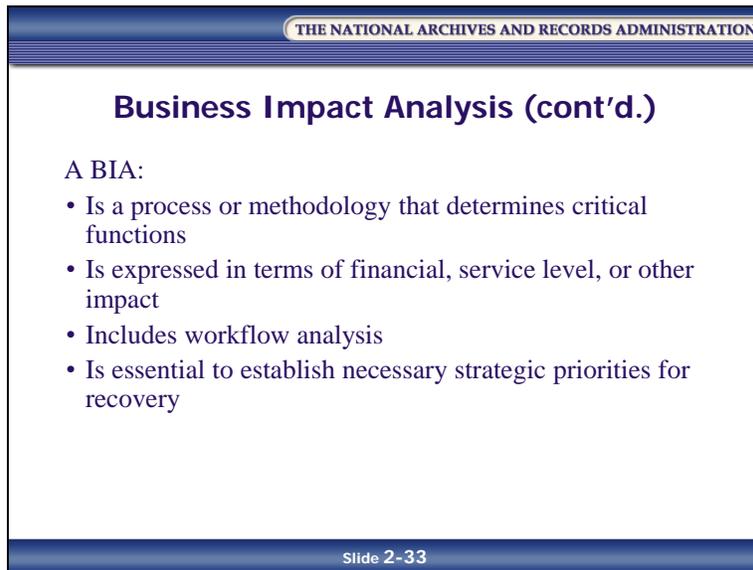
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Slide 2-33



The slide features a blue header with the text "THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION". Below the header, the title "Business Impact Analysis (cont'd.)" is centered. The main content area lists four bullet points under the heading "A BIA:". At the bottom of the slide, there is a blue footer with the text "Slide 2-33".

A BIA:

- Is a process or methodology that determines critical functions
- Is expressed in terms of financial, service level, or other impact
- Includes workflow analysis
- Is essential to establish necessary strategic priorities for recovery

A BIA represents the best starting point for strategy development because it provides the foundation for planning based on data provided by the entire organization, and by those most qualified to identify impacts and exposures to possible risk.

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Slide 2-34

The slide features a blue header with the text "THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION". Below the header, the title "Business Impact Analysis (cont'd.)" is centered. The main content area contains a paragraph and a bulleted list. At the bottom, a blue footer contains the text "Slide 2-34".

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Business Impact Analysis (cont'd.)

A BIA focuses on identifying the impact of something going wrong in each function, with the goal of protecting those functions that the agency can least afford to lose.

- Evaluation of the probability of threat
- Identification of essential functions
- Determination of the decline in service levels
- Workflow analysis to determine where work and records might be exposed to potential risk
- Interviews and meetings with key staff

Slide 2-34

A BIA focuses on identifying the impact of something going wrong in each function, with the goal of protecting those functions that the agency can least afford to lose.

A BIA consists of:

- An evaluation of the probability of threat occurrence, vulnerability of agency functions, and dollar investment of controls to mitigate
- An identification of the **essential functions** of an agency that require quick resumption after an event occurs, often across departmental lines
- A determination of the decline in service levels, the departments likely to be affected, and the nature of the effect, to estimate the allowable times to recover
- A workflow analysis to determine where work and records might be exposed to potential risk, and an identification of vulnerabilities of the records or the program (e.g., lack of records awareness, lack of records creation, noncompliance with policies and procedures, lack of proper protection of records)
- Interviews and meetings with key staff

#### NOTES

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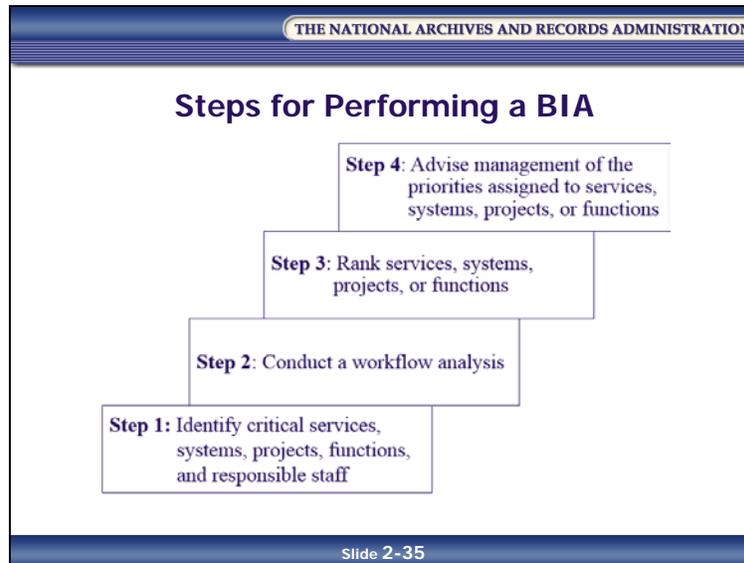
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## Steps for Performing a BIA

Slide 2-35



1. Identify the following:
  - a. Critical services, systems, projects, or functions of your organization (once identified, you will also want to create a brief description of the critical service, system, project, or function)
  - b. Responsible staff
2. Engage responsible individuals to conduct a workflow analysis and gather information on key dependencies of the service, system, project, or function, including:
  - a. Critical clients that would be affected by service loss
  - b. Critical providers whose loss would negatively affect service, system, project, or function
  - c. Critical inputs and outputs
  - d. Significant financial, legal, or public relations exposures due to loss of the service, system, project, or function

(Refer to **Handout 2.02**—Laboratory Research Flowchart and **Handout 2.03**—Research Work Unit Flowchart, located in the Handouts section of your PG, for examples of workflows.)

### NOTES

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3. Rank services, systems, projects, or functions, based on gathered information. Present this ranking to management for fine-tuning and review.
4. Advise management of the priorities assigned to services, systems, projects, or functions under their management, and focus planning efforts on those services or functions in the Priority One category

**NOTES**

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## Best Practices—BIA

Slide 2-36

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Best Practices—BIA

- Consider how likely records generated by each function are to become disordered or damaged
- Consider asking the following questions:
  - Is the work process well-defined and repeated often?
  - Does the work process occur rarely, so that standard operating procedures are less likely to be in place?
  - What are the potential records-related risks to our agency performing its mission?
  - What do they pose risks to?
  - What would happen if these things came to pass?
  - How likely are they to happen?

Slide 2-36

- Consider how likely records generated by each function may become disordered or damaged
- Consider asking the following questions:
  - Is the work process well-defined and repeated often?
  - Does the work process occur rarely, so that standard operating procedures are less likely to be in place?
  - What are the potential records-related risks to our agency performing its mission?
  - What do they pose risks to?
  - What would happen if these things came to pass?
  - How likely are they to happen?

### NOTES

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## Lesson Summary

In this lesson, you learned the following:

- **Risk analysis** evaluates the probability and the impact of identified risks
- Three methods for evaluating risk are:
  - Risk Probability/Impact Assessment
  - Risk Acceptability/Tolerance Matrix
  - Business Impact Analysis (BIA)
- A **risk probability/impact assessment** is used to analyze and prioritize the risks identified in the risk assessment
- A risk probability/impact assessment consists of three steps:
  1. Establish a rating system:
    - Probability rating
    - Impact rating
  2. Determine the risk factors
  3. Determine the risk score
- Risk Factor = Probability Rating  $\times$  Impact Rating
- Risk Rating = The Sum of All Risk Factors
- Risk Score = Risk Rating  $\div$  Number of Risks
- The risk score concept has two benefits:
  - It encourages users to include all identified risks
  - It incorporates the fact that several low-impact, low-probability risks are less dangerous than a single high-impact, high-probability risk
- The **risk acceptability/tolerance matrix** represents your agency’s tolerance level for acceptable and unacceptable risks. It also serves as a gauge for which risks need immediate attention.
- When evaluating risk, it is important that you also perform a “do nothing” analysis
- A BIA is the identification of the effect on an organization if a risk should occur

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- A BIA:
  - Determines critical functions
  - Is expressed in terms of financial, service level, or other impact
  - Includes workflow analysis
  - Is essential to establish necessary strategic priorities for recovery
- A BIA consists of:
  - An evaluation of the probability of threat occurrence, vulnerability of agency functions, and dollar investment of controls to mitigate
  - An identification of the **critical functions** of an agency that require quick resumption after an event occurs
  - A determination of the decline in service levels, what departments will likely be affected, and the nature of the effect, to estimate the allowable times to recover
  - A workflow trace to determine where work and records might be exposed to potential risk, and an identification of vulnerabilities of the records or the program
  - Interviews and meetings with key staff
- The steps for performing a BIA include:
  1. Identifying services, systems, projects, or functions of your organization; responsible staff; and a brief description of the service, system, project or function
  2. Conducting a workflow analysis and gathering information on key dependencies of the service, system, project, or function
  3. Ranking services, systems, projects, or functions based on gathered information, and presenting this ranking to management for fine-tuning and review
  4. Advising management of the priorities assigned to services, systems, projects, or functions under their management, and focusing planning efforts on those services or functions in the priority one category

**NOTES**

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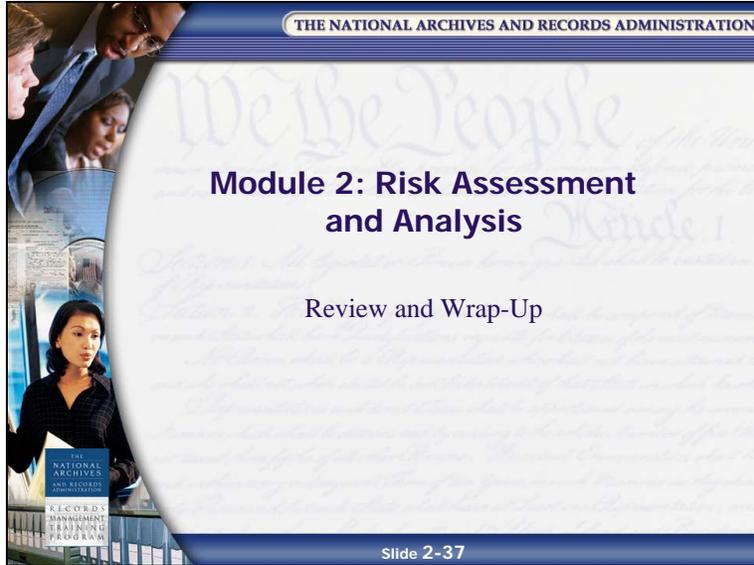
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## Module 2 Review and Wrap-Up

Slide 2-37



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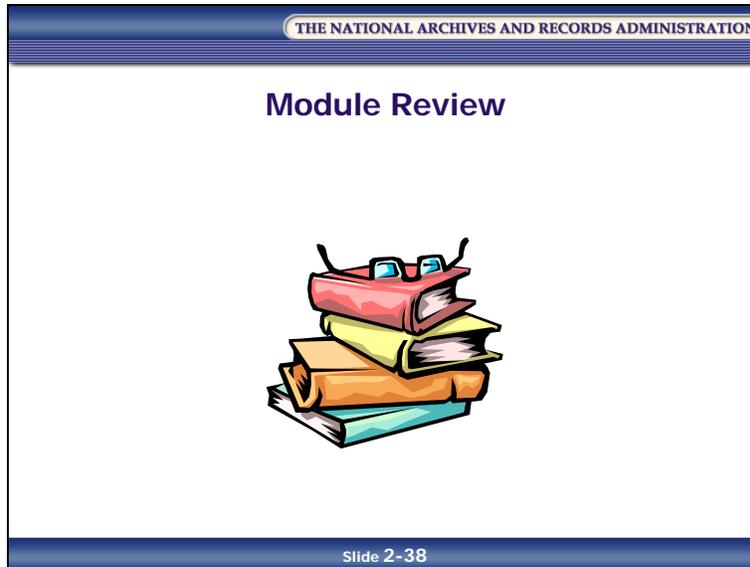
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## Module Review

Slide 2-38



In Module 2, you learned:

- The types of risks relevant to a records management program can be grouped into four categories:
  - Risks from loss of agency memory
  - Disaster-related risks
  - Records management-related risks
  - Project-related risks
- Risk assessment techniques include:
  - Expert Interviews
  - Brainstorming
  - Nominal Group Technique

### NOTES

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- Three methods for evaluating risk are:
  - Risk Probability/Impact Assessment
  - Risk Acceptability/Tolerance Matrix
  - Business Impact Analysis (BIA)
- A **risk probability/impact assessment** is used to analyze and prioritize the risks identified in the risk assessment.
- The **risk acceptability/tolerance matrix** represents your agency's tolerance level for acceptable and unacceptable risks.
- A **BIA** is the identification of the effect on an organization if a risk should occur.

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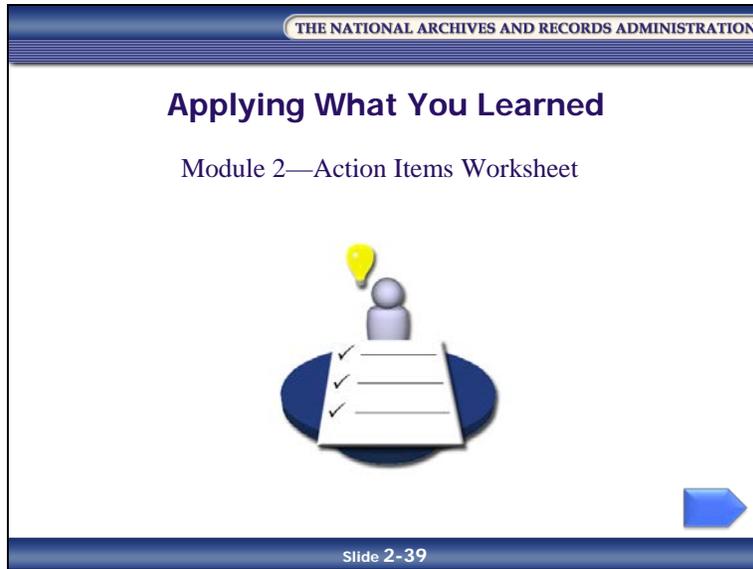
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## Applying What You Learned

Slide 2-39



Reflect on what you've learned in Module 2 and how you will apply it to your job.

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## Module 2—Action Items Worksheet

*Table 2-15: Module 2—Action Items Worksheet*

**What did I learn about risk assessment and risk analysis that will help me at my job?**

List at least one thing you learned about risk assessment and risk analysis that is relevant to your records management role and responsibilities.

**How will I apply what I learned about risk assessment and risk analysis to my job?**

List at least one thing you learned about risk assessment and risk analysis that you will apply to your job, and explain how you will apply it.

**What “aha!” moments did I have during this module?**

List any “aha!” moments you experienced during this module.  
(“A risk score equals the risk rating divided by number of risks. Aha!”)

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Participant Guide  
January 2017

# Knowledge Area 5: Asset and Risk Management

## Module 3: Handling Risk



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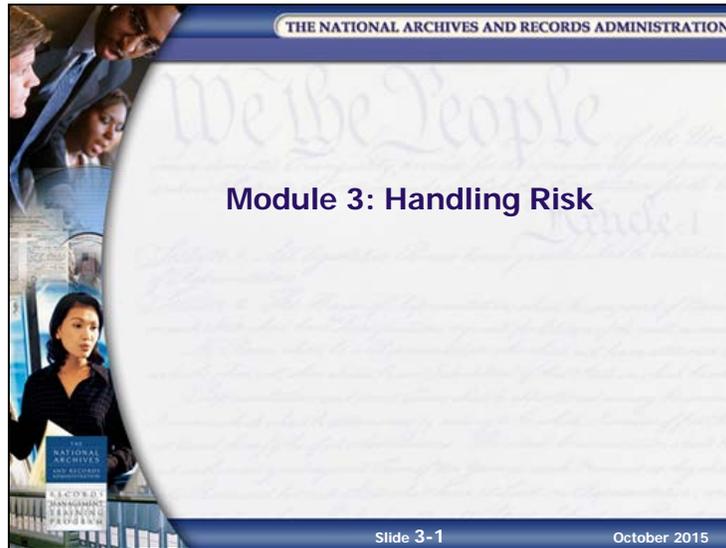
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# Introduction and Objectives

## Introduction

Slide 3-1



Module 3 discusses the process for creating and implementing a risk management strategy. We will review the three courses of action an agency can take to handle risk, and we will discuss the steps in creating and implementing a risk management strategy. Finally, we will examine how to develop a risk control plan.

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## Objectives

Slide 3-2

**Module 3 Learning Objectives**

At the conclusion of this module, you will be able to do the following:

- Describe the three basic risk management strategies and the circumstances in which their use would be appropriate
- Describe the steps in creating and implementing a risk management strategy
- Describe the elements of risk control plan

At the conclusion of this module, you will be able to do the following:

- Describe the three basic risk management strategies and the circumstances in which their use would be appropriate
- Describe the steps in creating and implementing a risk management strategy
- Describe the elements of a risk control plan

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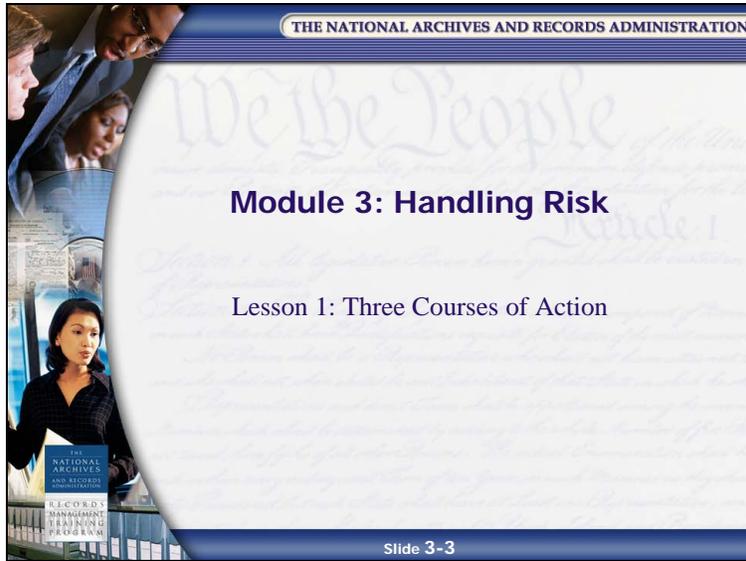
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# Lesson 1: Three Courses of Action

Slide 3-3



**NOTES**

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## Risk Management Strategies: Acceptance, Avoidance, and Mitigation

Slide 3-4

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

**Risk Management Strategies:  
Acceptance, Avoidance, and Mitigation**

The three risk management strategies used to manage risk are:

1. Acceptance
2. Avoidance
3. Mitigation

Slide 3-4

After identifying and evaluating risks, your next step is to manage the risks. There are three courses of risk management strategies an agency can use to manage risk:

- Acceptance
- Avoidance
- Mitigation

### NOTES

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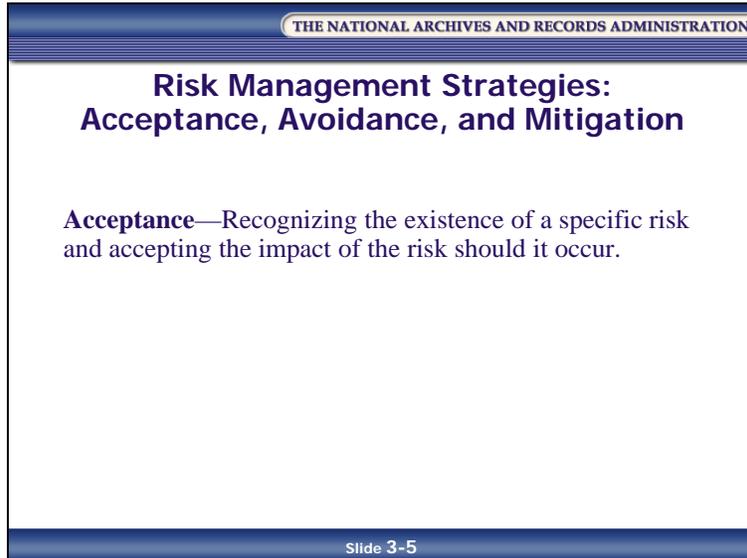
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Slide 3-5



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

**Risk Management Strategies:  
Acceptance, Avoidance, and Mitigation**

**Acceptance**—Recognizing the existence of a specific risk and accepting the impact of the risk should it occur.

Slide 3-5

- **Acceptance**—Recognizing the existence of a specific risk and accepting the impact of the risk should it occur. No action is taken (i.e., the “do nothing” option).

**NOTES**

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Slide 3-6

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Risk Management Strategies: Acceptance, Avoidance, and Mitigation

**Avoidance**—Taking specific, necessary measures to remove a potential threat by eliminating the cause of the risk.



Slide 3-6

- **Avoidance**—Taking specific, necessary measures to remove a potential threat by eliminating the cause of the risk. For example, an agency might avoid the risk of water damage to records by moving them from a basement storage room in a building in a flood plain to an FRC facility.

**NOTES**

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Slide 3-7

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Risk Management Strategies: Acceptance, Avoidance, and Mitigation

**Mitigation**—Taking actions to *reduce* the expected value/future cost of the risk.



Slide 3-7

- **Mitigation**—Taking actions to **reduce** the expected value/future cost of the risk by:
  - Minimizing the probability of the risk
  - Minimizing the impact should the risk occur
  - Deflecting or passing the risk to others

Consider the following actions to mitigate the risk of water damage to your records if your office building is in a flood plain:

- You will minimize the probability of the risk occurring by building your facility on higher ground
- You will minimize the impact of the risk by regularly ensuring that your records are transferred to safer storage facilities and by backing up your information systems regularly and shipping to offsite/regional locations outside the flood zone
- You will transfer risk by physically transferring your permanent records to NARA and transferring legal responsibility to NARA as cited in an approved records schedule as soon as the records are no longer needed. Transfer to NARA deflects all risks to the records and information as far as the agency is concerned.

**NOTES**

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**Example**

Let's return to the Federal District Court story from Module 1 to see a real-life example of risk mitigation.

The Court realized that it needed some help, so it contacted the records management staff at NARA.

NARA and the Court entered into an interagency agreement, with NARA employees taking over the records transfer function for the Court, including:

- Pulling all closed files and merging them with transcripts and depositions
- Barcoding cases
- Entering cases into the computer tracking database
- Boxing and preparing records for shipment to the Federal Records Center Program (FRCP)
- Picking up and delivering the records to the FRCP

Some 5,000 cubic feet (cf) of records were pulled and transferred the first year and 1,500 cf of additional records could have been processed, but the contract was for only 5,000.

The Court contracted out the public access desk, interfiles and refiles, and all records pulls for the judges and agencies. The Court was able to get the job completed within its budget.

The project was so successful that it was extended to the other courts in the region.

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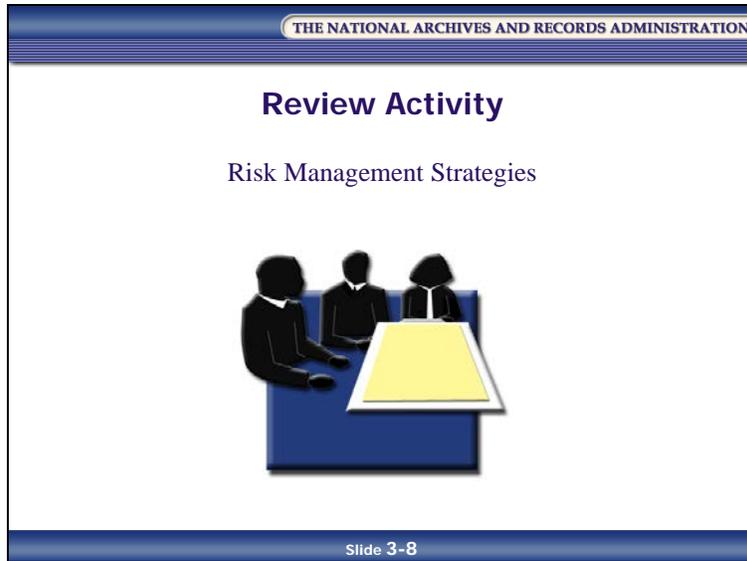
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## Review Activity: Risk Management Strategies

Slide 3-8



### NOTES

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### Risk Management Strategies Worksheet

Using the 10 risks listed on your Risk Identification, Probability/Impact Assessment, and Risk Acceptability/Tolerance Matrix Table Worksheet from Module 2, Lesson 1; determine which of the three risk management strategies (acceptance, mitigation, and avoidance) should be used to manage each of the risks. Explain your reasons for choosing the strategy.

*Table 3-5: Worksheet: Risk Management Strategies Table*

RISKS	RECOMMENDED RISK MANAGEMENT STRATEGY	REASONS FOR RECOMMENDED RISK MANAGEMENT STRATEGY
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

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## Risk Management Considerations

Slide 3-9

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Risk Management Considerations

Records-related risk must be managed to reduce the chance of problems, which include:

- Inability to retrieve records easily and quickly
- Failure to destroy obsolete records
- Susceptibility to illegal destruction of records
- Greater difficulty of finding inactive records that are not indexed
- Costs of records that are poorly controlled or not indexed; electronic records on obsolete formats

Slide 3-9

Records-related risk must be managed to reduce the chance of problems, which include:

- Agency inability to retrieve records easily and quickly
- Failure to destroy obsolete records, which might result in keeping unnecessary records
- Susceptibility to illegal destruction of records
- Greater difficulty of finding inactive records that are not indexed
- The costs of records that are poorly controlled or not indexed, or electronic records on obsolete formats:
  - Office of Management and Budget (OMB) and Government Accountability Office (GAO) audits can highlight deficiencies that will cost you staff time and resources until they are corrected
  - Legal issues that cannot be resolved efficiently may cost your agency in terms of excess discovery demands, delayed litigation, and/or the loss of an important court case
  - Delay in the payment of grants, subsidies, etc., can affect citizens' rights, cost the government added interest expense, and generate time-consuming Congressional inquiries. These payments are legal obligations of the government.

### NOTES

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## Tactics for Managing Risks to Program Records

Slide 3-10

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Tactics for Managing Risks to Program Records

Agency Records Officers have many tactics to manage risks to program records.

- Adequate rules must be in place and followed
- Records schedules must identify the office of records
- Electronic records may require migration plans
- Stored records accessed in consistent and comprehensive manner
- Agency has a loss prevention and disaster recovery plan and/or vital records program
- Special protection for vital records

Slide 3-10

AROs use the following tactics to manage risks to program records:

- Ensuring adequate rules relating to records creation and maintenance must be in place and followed
- Insisting agency records schedules must identify the office of records
- Being aware that electronic records may require migration plans, depending on legal retention requirements
- Ensuring stored records must be accessed in a consistent and comprehensive manner
- Ensuring that the agency has an adequate, effective loss prevention and disaster recovery plan and/or vital records program (also known as essential information)
- Providing special protection for vital records identified by the Business Impact Analysis, including duplication of records, dispersal of records to alternate locations, and creation of hot and cold sites for vital electronic records
- Insisting that record series/systems ready for, or in, storage contain all the applicable records, including those created or maintained at individual workstations

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Slide 3-11

The slide features a blue header with the text 'THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION'. Below the header, the title 'Tactics for Managing Risks to Program Records (cont.)' is centered in bold. A bulleted list follows, detailing various risk management tactics. At the bottom of the slide, the text 'Slide 3-11' is displayed.

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

**Tactics for Managing Risks to Program Records (cont.)**

- Records series/systems contain all the applicable records
- Approved records schedules
- Custom-built schedules, following NARA's guidance
- Schedules kept up-to-date and user-friendly
- Compliance audits, employee awareness checks, and staff education programs
- Periodically review the agency's records plan
- Use training, change management, and follow-up to reduce risk
- Assign each risk to an "owner"

Slide 3-11

- Insisting there must be properly implemented and approved **records schedules** with systematic and routine disposal
- Using custom-built schedules to meet the agency's needs, following NARA's guidance
- Insisting records schedules must be kept up-to-date and user-friendly
- Ensuring compliance audits, employee awareness checks, and staff education programs are conducted
- Periodically reviewing the agency's records plans to document the segregation of records, non-record materials, and personal papers, to ensure that records remaining in the files are arranged according to the agency's file plan
- Using communication tools like training, change management, and follow-up support to reduce risk
- Assigning each risk to an "owner" to mitigate the risk

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## Lesson Summary

In this lesson, you learned the following:

- Acceptance, avoidance, and mitigation are the three risk management strategies an agency can take to manage risk
  - **Acceptance** is recognizing the existence of a specific risk and accepting the impact of the risk should it occur
  - **Avoidance** is taking specific, necessary measures to remove a potential threat by eliminating the cause of the risk
  - **Mitigation** is taking actions to **reduce** the expected value/future cost of the risk
- Records-related risk must be managed to reduce the chance of problems, which include:
  - Agency inability to retrieve records easily and quickly
  - Failure to destroy obsolete records, which might result in keeping unnecessary records
  - Susceptibility to illegal destruction of records
  - Greater difficulty of finding inactive records if they are not indexed
  - The costs of records that are poorly controlled or not indexed, or electronic records on obsolete formats
- AROs have several tactics they can use to manage risks to program records

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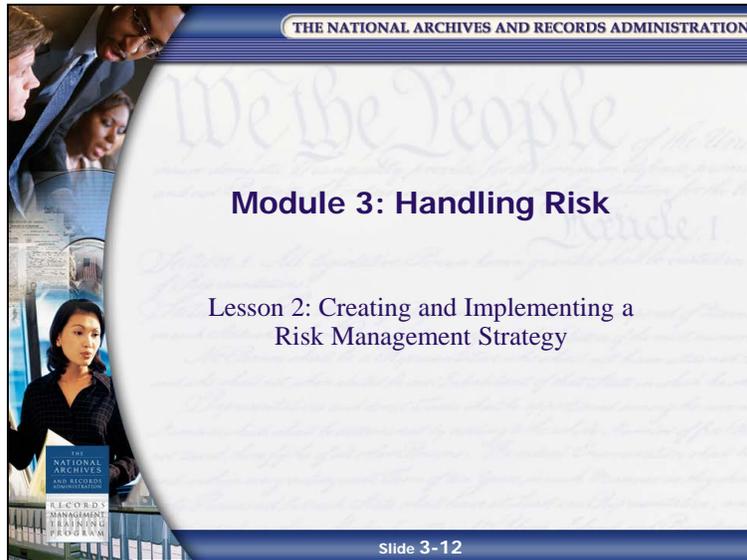
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# Lesson 2: Creating and Implementing a Risk Management Strategy

Slide 3-12



## NOTES

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## The Risk Management Strategy

Slide 3-13

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### The Risk Management Strategy

A risk management strategy is developed in three steps:

1. Identify the appropriate strategy
2. Develop the strategy
3. Implement the strategy

Slide 3-13

You've performed a risk assessment to identify your risks, and you've performed a risk analysis to evaluate your risk. Now it's time to create your strategy for managing the risk.

A risk management strategy is developed in three steps:

1. Identify the appropriate strategy
2. Develop the strategy
3. Implement the strategy

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## Step 1: Identify the Appropriate Strategy

Slide 3-14

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

**Step 1: Identify the Appropriate Strategy**

Identify the appropriate risk management strategy (either avoidance, mitigation, or acceptance) by applying the risk acceptability/tolerance matrix:

- Unacceptable risk = avoidance or mitigation
- Acceptable risk = acceptance or mitigation

Slide 3-14

Identify the appropriate risk management strategy (avoidance, mitigation, or acceptance) by applying the risk acceptability/tolerance matrix:

- If the risk acceptability/tolerance matrix indicates a risk is unacceptable, then the strategy should be avoidance or mitigation
- If the risk acceptability/tolerance matrix indicates a risk is acceptable, then the strategy should be acceptance or mitigation

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## Step 2: Develop the Strategy

Slide 3-15

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 2: Develop the Strategy

After you have identified the appropriate strategy, you need to develop *how* you will achieve that strategy.

- Determine whether your agency has strategic guidance on risk management
- Check to see whether the agency has addressed similar risks
- Check to see whether the agency has a risk management strategy in place
- Determine the resources available (e.g., money, time)
- Identify the people affected by the risk

Slide 3-15

After you have identified the appropriate strategy, you need to develop **how** you will achieve that strategy. For example, you've determined that mitigation is the appropriate strategy for preventing mold growth on BPR's records, so now you must develop the strategy whereby mold growth will be mitigated (for example, by installing an air conditioner).

There is no predefined way to develop the strategy, as every agency, risk, and situation are unique. But there are some tips to help you develop the strategy:

- Review agency policies and procedures to determine whether your agency has strategic guidance on risk management
- Check to see whether the agency has addressed similar risks
- Check to see whether the agency has a risk management strategy in place
- Determine the resources available (e.g., money, time)
- Identify the people affected by the risk

### NOTES

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## Risk Controls

Slide 3-16

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Risk Controls

Risk controls are the specific measures put in place to ease or reduce the probability of a risk, including:

- Accountability
- Business
- Disaster
- Financial
- Legal and contractual
- Operational
- Organizational
- Records management
- Security
- Schedule
- Technical

Slide 3-16

Part of developing your risk management strategy is identifying risk controls. **Risk controls** are the specific measures put in place to ease or reduce the probability of a risk.

For example, you've identified cost overruns as a potential risk for your project design. Therefore, design and place financial controls to control cost overruns.

When developing your strategy, you need to develop risk controls for each stage of the project. You must also include at least one risk control for each identified risk. Frequently, you will need to include multiple controls to address each risk fully.

Listed below are some of the types of risk controls that you can use in your risk management strategy:

- **Accountability controls**, such as controls that ensure responsible personnel are identified
- **Business controls**, such as controls that ensure that the agency's policies and procedures are followed properly
- **Disaster controls**, such as controls that limit exposure to and effects of disasters
- **Financial controls**, such as controls that minimize cost overruns for the lifecycle of the project

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- **Legal and contractual controls**, such as controls that ensure that the project meets legal and contractual obligations
- **Operational controls**, such as controls that establish project requirements, objectives, goals, and a reporting structure
- **Organizational controls**, such as controls that ensure continuing support from all stakeholders through effective communication
- **Records management controls**, such as controls that use tools and strategies of records management
- **Security controls**, such as controls that ensure that security processes and procedures are obeyed
- **Schedule controls**, such as controls that ensure appropriate time and resource management
- **Technical controls**, such as controls to ensure effective project management

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## Step 3: Implement the Strategy

Slide 3-17

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 3: Implement the Strategy

Put the strategy in place by doing the following:

- Get senior management buy-in
- Identify the players involved in implementing the risk management strategy
- Create the risk control plan to document the strategy.
- Communicate the strategy
- Train staff on the strategy
- Monitor and incorporate necessary changes to the risk control plan

Slide 3-17

Once you've identified the appropriate strategy and developed how you will achieve that strategy, it's time to put the strategy in place.

Implement the strategy by doing the following:

- Get senior management buy-in
- Identify the players involved in implementing the risk management strategy and assign ownership for each risk
- Create the risk control plan to document the strategy
- Communicate the strategy
- Train staff on the strategy
- Monitor and incorporate necessary changes to the risk control plan

### NOTES

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## Performance Metrics

Slide 3-18

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Performance Metrics

Performance metrics help you answer questions like:

- What are you doing?
- How well are you doing it?
- How do you know?
- How can you demonstrate how well you're doing it?

Slide 3-18

When implementing a risk management strategy, you must determine and apply performance metrics by which you can evaluate whether your strategy is working. Some performance metrics are known as key performance indicators, and workers will often refer to performance metrics as “keeping statistics.”

A key role of metrics is to support the decision-making process quantitatively. Performance metrics should be designed to help you answer questions like:

- **What are you doing?** For example, by installing a dehumidifier to reduce the risk of a mold outbreak.
- **How well are you doing it?** For example, we are keeping the temperature at 72 degrees, plus or minus 2 degrees; we are keeping the relative humidity at 50 percent, plus or minus 5 percent.
- **How do you know how well you are doing it?** For example, we are recording the temperature and humidity electronically in each records storage room and downloading and monitoring the data once a day.

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- **How can you demonstrate to others how well you are doing it?** For example, we have the documentation of temperature and humidity readings over time and can show that they are within our target range.

Metrics can allow you to estimate the impact of a risk in terms of expense, lost time, or degraded quality. They can also allow you to monitor your agency to see when a risk becomes a problem (something that is actually happening).

The motivating factor behind using metrics is that you cannot control what you cannot measure.

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## Risk Control Plan

Slide 3-19

**Risk Control Plan**

Used to document your risk management strategies. For each risk identified, your risk control plan should specify the following information:

- Name of the risk
- Risk management strategy
- Owner of the risk
- Risk controls
- Mitigation resources
- Performance metrics
- Current status
- Target completion date

As mentioned in Step 3, a risk control plan is used to record your risk management strategies. It is the overall document that tracks all risks identified, along with their mitigation strategies, owners, and current status of the risk. The risk control plan is the tool for managing all of the risk and the implementation of the mitigation strategies.

For each risk identified, your risk control plan should specify the following information:

- Name of the risk
- Risk management strategy
- Owner of the risk
- Risk controls
- Mitigation resources
- Performance metrics
- Current status
- Target completion date

### NOTES

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Slide 3-20

**THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION**

### Sample Risk Control Plan

Name of Risk	Risk Management Strategy	Owner	Risk Controls	Mitigation Resources	Performance Metrics	Current Status	Target Completion Date
Cost overruns Risk of going over budget and not being able to complete project	Mitigation	Joe Smith Procurement 231-555-2252	<b>Financial Controls:</b> Analyze costs during all phases of the project to control cost overruns	The team is trained in cost-benefit analysis and can use the method to track and control the project overruns	Actual cost data. Projected cost data. Amount of funds available for project	Obligating and monitoring fund for each phase of project	Final payment due 4 weeks after project is completed
Unfamiliar with similar systems Risk of IT staff not understanding technical requirements of the new system	Mitigation	Jane Doe IT Staff 231-555-2279	<b>Operational Controls:</b> Analyze project requirements during all phases of the project  <b>Technical Controls:</b> Analyze technical requirements during all phases of the project	Training of IT staff on similar systems. Project developer required to document and describe the system fully. Training requirements for new system added to overall project contract	Percentage of employees who have completed training Monitoring technical and project requirements	25% of IT staff have completed first course. Other training scheduled  Meeting all technical and project requirements	Training of staff on similar systems to be completed within 6 weeks. Training on new system right before final rollout of completed system

Slide 3-20

**NOTES**

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## Sample Risk Control Plan

Table 3-6: Sample Risk Control Plan

NAME OF RISK	RISK MANAGEMENT STRATEGY	OWNER	RISK CONTROLS	MITIGATION RESOURCES	PERFORMANCE METRICS	CURRENT STATUS	TARGET COMPLETION DATE
<p>Cost overruns</p> <p>Risk of going over budget and not being able to complete project</p>	Mitigation	<p>Joe Smith</p> <p>Procurement</p> <p>231-555-2252</p>	<p><b>Financial Controls:</b></p> <p>Analyze costs during all phases of the project to control cost overruns</p>	<p>The team is trained in cost-benefit analysis and can use the method to track and control the project overruns</p>	<p>Actual cost data</p> <p>Projected cost data</p> <p>Amount of funds available for project</p>	<p>Obligating and monitoring fund for each phase of project</p>	<p>Final payment due 4 weeks after project is completed</p>
<p>Unfamiliar with similar systems</p> <p>Risk of IT staff not understanding technical requirements of the new system</p>	Mitigation	<p>Jane Doe</p> <p>IT Staff</p> <p>231-555-2279</p>	<p><b>Operational Controls:</b></p> <p>Analyze project requirements during all phases of the project</p> <p><b>Technical Controls:</b></p> <p>Analyze technical requirements during all phases of the project</p>	<p>Training of IT staff on similar systems</p> <p>Project developer required to document and describe the system fully</p> <p>Training requirements for new system added to overall project contract</p>	<p>Percentage of employees who have completed training</p> <p>Monitoring technical and project requirements</p>	<p>25% of IT staff have completed first course. Other training scheduled.</p> <p>Meeting all technical and project requirements</p>	<p>Training of staff on similar systems to be completed within 6 weeks</p> <p>Training on new system right before final rollout of completed system</p>

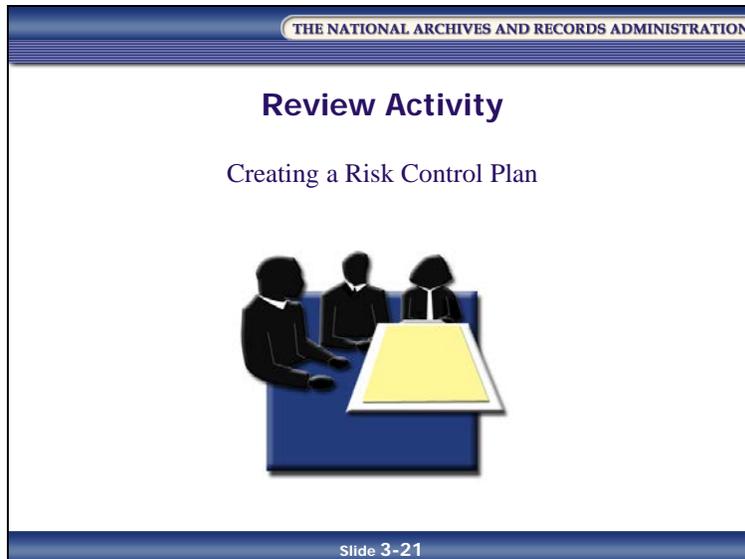
NAME OF RISK	RISK MANAGEMENT STRATEGY	OWNER	RISK CONTROLS	MITIGATION RESOURCES	PERFORMANCE METRICS	CURRENT STATUS	TARGET COMPLETION DATE
Limited resources Risk that resources will not be available when needed during each phase of the project, leading to cost overruns	Mitigation	Joe Smith Procurement 231-555-2252	<b>Organizational Controls:</b> Acquiring adequate resources <b>Financial Controls:</b> Allocate funds necessary for resources and monitor for cost overruns	Acquire adequate resources base on statement of work  Budget for project estimated and based on developer's statement of work Costs based on final signed contract. Review and approvals of costs received.	Monitor level of resources at each phase of the project  Level of project funding in the current budget Allocation of funds to proper divisions. Monitor ongoing costs of project.	Funding secured Allocation completed Oversight of project costs ongoing	Completion of project
Scheduled timeframe is impossible Risk that system will not be up and running within the scheduled timeframe and will fail because of a violation of a contract or legal agreement	Avoidance	Joe Adams Project Management 231-555-2289	<b>Schedule Controls:</b> Monitor time and resources during all phases of the project  <b>Legal Controls:</b> Analyze contractual obligations during all phases of the project	Team should monitor time schedule and resources to avoid such problems as cost overruns and contractual and operational problems Monitor the progress or setbacks during all phases of the project	Weekly updates of the proposed schedule  Providing to legal weekly updates of progress or setbacks during all phases of the project	Project is on schedule	Completion of project

NAME OF RISK	RISK MANAGEMENT STRATEGY	OWNER	RISK CONTROLS	MITIGATION RESOURCES	PERFORMANCE METRICS	CURRENT STATUS	TARGET COMPLETION DATE
<p>Unhappy stakeholders Risk that project will fail due to lack of buy-in by end users</p>	<p>Mitigation</p>	<p>Jon Smith Agency Director 231-555-2200</p>	<p><b>Business Controls:</b> Ongoing education of staff in approved records management practices to get buy-in for new system <b>Organizational Controls:</b> Continue to solicit support from stakeholders during all phases of the project</p>	<p>Team should also coordinate training activities that illustrate improvements in the work process  Team must monitor all phases of the project and keep stakeholders informed while continually soliciting their support</p>	<p>Percentage of employees trained  Results of surveys showing stakeholder satisfaction</p>	<p>Training sessions scheduled  Surveys being developed and scheduled for various times during the development of the system</p>	<p>Training completed by system completion  Surveys completed and analyzed at significant milestones during the project</p>

NAME OF RISK	RISK MANAGEMENT STRATEGY	OWNER	RISK CONTROLS	MITIGATION RESOURCES	PERFORMANCE METRICS	CURRENT STATUS	TARGET COMPLETION DATE
<p>System not integrated with current system Risk that older data will be lost and compromise the work process</p>	<p>Avoidance</p>	<p>Jane Jones IT Management 231-555-2239</p>	<p><b>Operational Controls:</b> Analyze project requirements during all phases of the project <b>Technical Controls:</b> Analyze technical requirements during all phases of the project <b>Disaster Controls:</b> Backing up system to prevent loss of data</p>	<p>Project developer obligated to ensure that older data are integrated into the system. Older data will be backed up and secured until the completion of the project. Work process has been redesigned to incorporate the new system.</p>	<p>Amount of data preserved in backup system Determine how long older data need to be accessible for business needs.</p>	<p>Backup of old system complete  Backup test to ensure there is no loss of data</p>	<p>Backup of old system completed Launch of new system and redesigned business process scheduled at project completion</p>

## Review Activity: Creating a Risk Control Plan

Slide 3-21



### NOTES

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**Mini-Risk Control Plan Worksheet**

Using two of the highest-priority risks listed on your Risk Management Strategies Worksheet from Lesson 1, create a risk control plan. Record your answers in the table below.

*Table 3-10: Mini Risk Control Plan Worksheet*

NAME OF RISK	RISK MANAGEMENT STRATEGY	OWNER	RISK CONTROLS	MITIGATION RESOURCES	PERFORMANCE METRICS	CURRENT STATUS	TARGET COMPLETION DATE

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## Risk Management: An Ongoing Process

Slide 3-22



Managing risk is an ongoing process. Any change in an agency—from personnel changes to policy changes to implementing a risk management strategy—will cause a change in the risk environment. Therefore, risk management needs to be performed on a regular basis, not only to manage new risks, but also to monitor how existing risks are being handled.

### NOTES

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## Lesson Summary

In this lesson, you learned that:

- A risk management strategy is developed in three steps:
  - **Step 1: Identify the appropriate strategy** is performed by applying the risk acceptability/tolerance matrix
  - **Step 2: Develop the strategy** is performed by reviewing agency policies and procedures, determining the resources available, identifying your risk controls, etc.
  - **Step 3: Implement the strategy** is performed by:
    - Getting senior management buy-in
    - Identifying the players involved in implementing the risk management strategy
    - Creating the risk control plan to document the strategy
    - Communicating the strategy
    - Training staff on the strategy
    - Monitoring and incorporating necessary changes to the risk control plan
- Performance metrics are used to evaluate whether your risk management strategy is working
- A risk control plan is used to document your risk management strategies
- Risk management is an ongoing process

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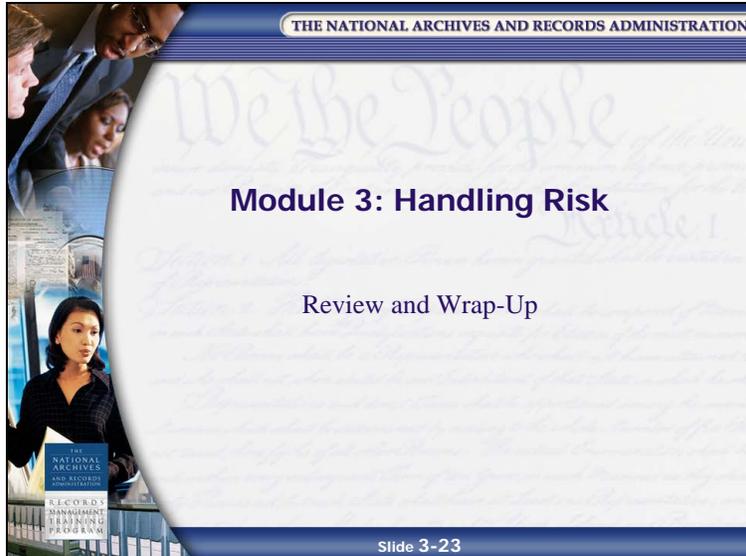
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# Module 3 Review and Wrap-Up

Slide 3-23



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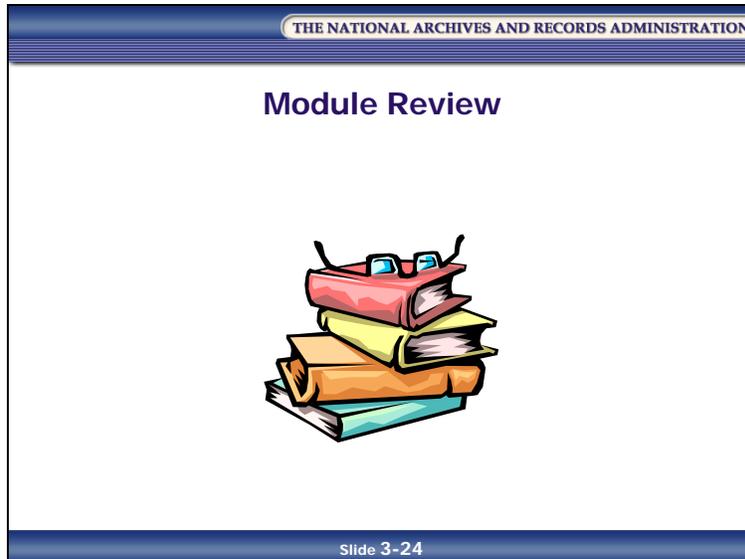
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## Module Review

Slide 3-24



In Module 3, you learned:

- The three risk management strategies an agency can take to manage risk
- That records-related risk must be mitigated to reduce the chance of problems
- That AROs have several tactics they can use to manage risks to program records
- That a risk management strategy is developed in three steps:
  - Step 1: Identify the appropriate strategy
  - Step 2: Develop the strategy
  - Step 3: Implement the strategy
- About performance metrics
- About risk control plans
- That risk management is an ongoing process

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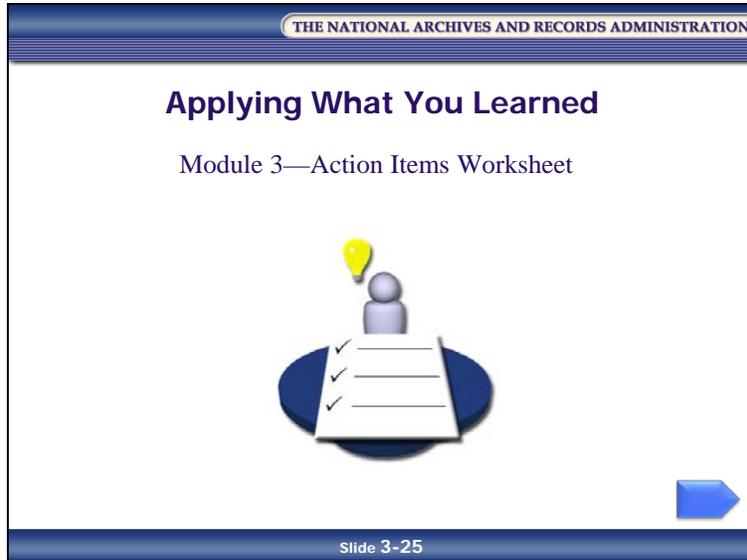
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## Applying What You Learned

Slide 3-25



Reflect upon what you've learned in Module 3 and how you will apply it to your job.

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## Module 3—Action Items Worksheet

*Table 3-11: Module 3—Action Items Worksheet*

**What did I learn about handling risk that will help me at my job?**

List at least one thing you learned about handling risk that is relevant to your records management role and responsibilities.

**How will I apply what I learned about handling risk to my job?**

List at least one thing you learned about handling risk that you will apply to your job, and explain how you will apply it.

**What “aha!” moments did I have during this module?**

List any “aha!” moments you experienced during this module.

(“I need to create performance metrics in order to evaluate whether my risk management strategy is working. Aha!”)

Participant Guide  
January 2017

# Knowledge Area 5: Asset and Risk Management

## Module 4: Risk Management Project



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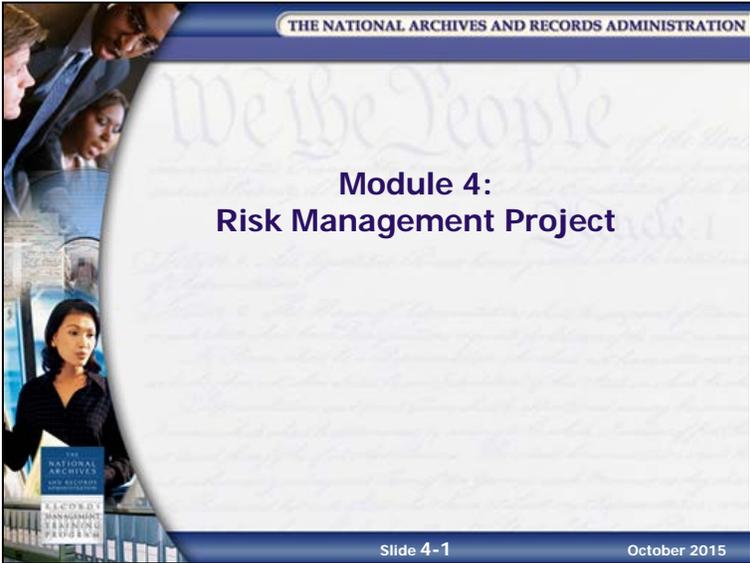
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# Introduction and Objectives

## Introduction

Slide 4-1



Module 4 provides you with the opportunity to apply what you’ve learned up to this point. Working in small groups, using a scenario for the BPR agency, you will:

- Perform a risk assessment to identify the project’s risk
- Use the risk probability/impact assessment and the risk acceptability/tolerance matrix to evaluate the risk
- Create a risk management strategy
- Document your strategy in a risk control plan
- Present your results to the class

**NOTES**

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# Objectives

Slide 4-2

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Module 4 Learning Objectives

At the conclusion of this module, you will be able:

- Identify at least six project-related risks
- Evaluate the identified risks using the Risk Probability/Impact Assessment and the Risk Acceptability/Tolerance Matrix
- Create a risk management strategy for each identified risk

Slide 4-2

At the completion of this module, you will be able, within the scope of a scenario, to:

- Identify at least six project-related risks
- Evaluate the identified risks using the risk probability/impact assessment and the risk acceptability/tolerance matrix
- Create a risk management strategy for each identified risk

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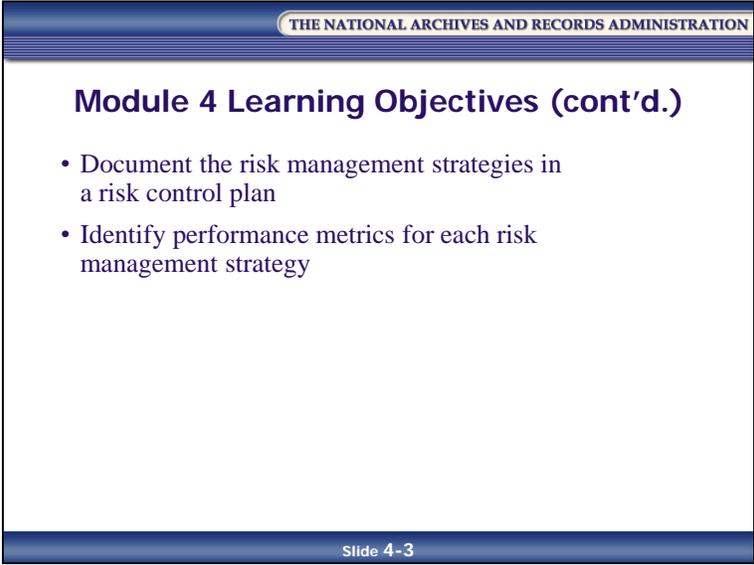
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Slide 4-3



The slide features a blue header with the text "THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION". Below the header, the title "Module 4 Learning Objectives (cont'd.)" is displayed in bold. The main content consists of two bullet points: "Document the risk management strategies in a risk control plan" and "Identify performance metrics for each risk management strategy". A blue footer at the bottom of the slide contains the text "Slide 4-3".

- Document the risk management strategies in a risk control plan
- Identify performance metrics for each risk management strategy

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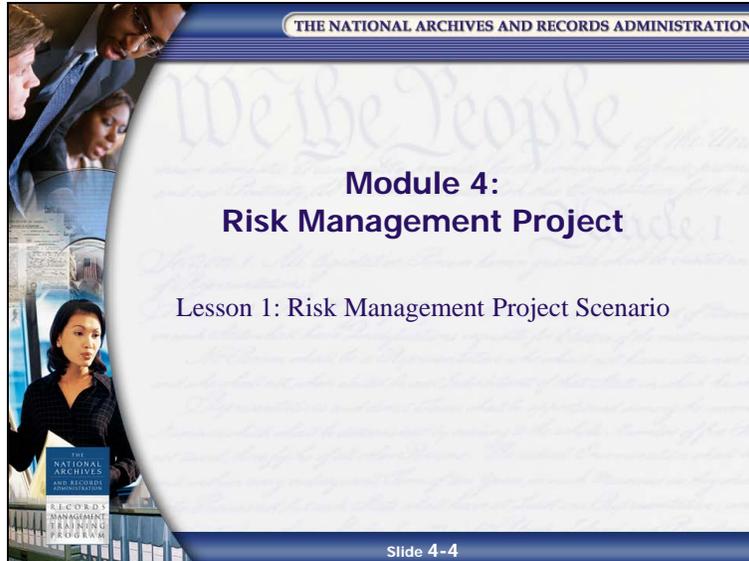
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# Lesson 1: Risk Management Project Scenario

Slide 4-4



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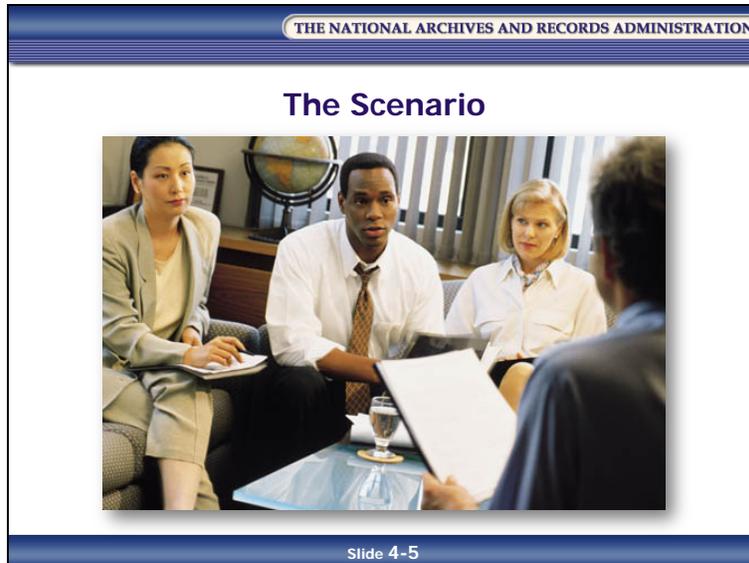
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## The Scenario

Slide 4-5



You have just come from a meeting where you learned about a new initiative from the Management Committee. The Committee has announced that \$1.6 million in excess funds is anticipated at the end of the fiscal year, in about seven months. The Committee wants to use these funds to purchase a sophisticated records management application (RMA) for the Engineering Department. This is the first you've heard about it.

An RMA is software that aids the management of records, especially electronic records, including the use of a file plan for classifying records and a records schedule for identifying records that are due for disposition. (SAA definition)

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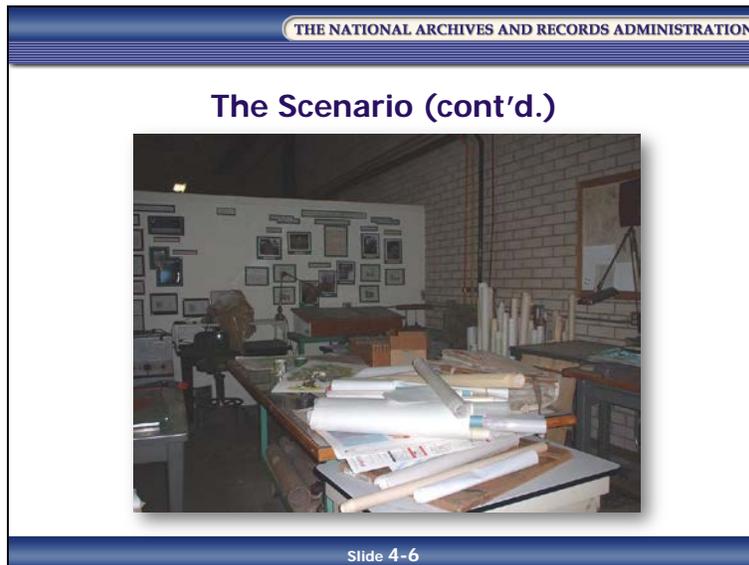
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Slide 4-6



The Engineering Department's records are in disarray. While a few policies and procedures exist, they inadequately address the day-to-day management of projects and the records that are produced. Engineers are allowed to keep official copies of records in their offices.

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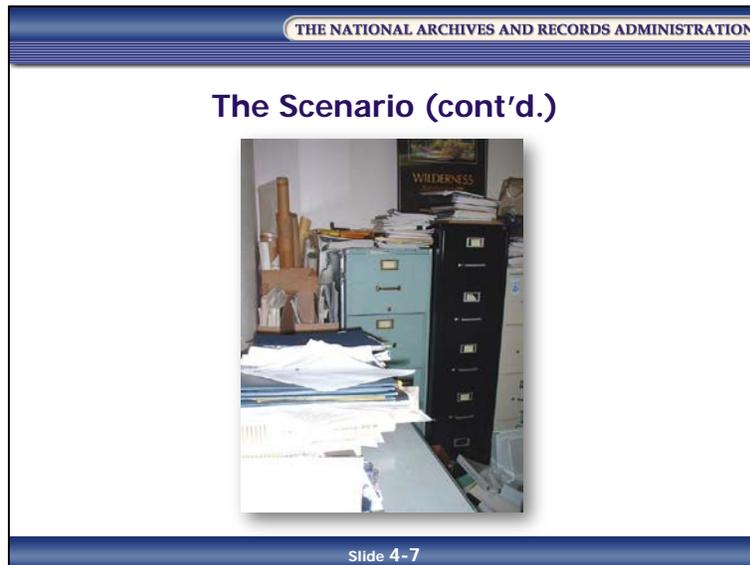
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Slide 4-7



The frustrated administrative support staff makes an effort to keep things organized in a central file area, but has little success. Records and plans are lost on a regular basis, and sometimes never found again. When this happens, some engineers have to recreate the lost records.

Records are needed by the Legal Department for litigation support about once a month. The engineers and staff scramble to find records each time they receive a request from agency counsel. The agency has been fined a couple of times because records could not be found for a lawsuit.

The agency has a records schedule, but it has not been updated for five years (you have wanted to do it, but have not received much support from management—everyone is so busy.) Records management training occurs sporadically, and many employees are not aware of their records management responsibilities.

**NOTES**

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Slide 4-8



The RMA project manager is assigned to the Information Technology (IT) manager. He was hired two months ago and is inexperienced, having completed his graduate program only two years ago. In your discussions with him, you have discovered that he is not very aware of records management issues and has not managed a large project before.

**NOTES**

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## The Project

Slide 4-9

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### The Project

- Perform a risk assessment to identify at least six project-related risks
- Evaluate the identified risks by completing a risk probability/impact assessment and a risk acceptability/tolerance matrix
- Create a risk management strategy
- Document your strategy in a risk control plan

Slide 4-9

- Perform a risk assessment to identify at least six project-related risks
- Evaluate the identified risks by completing a risk probability/impact assessment and a risk acceptability/tolerance matrix
- Create a risk management strategy
- Document your strategy in a risk control plan

### NOTES

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### Step 1: Risk Assessment

Identify at least six project-related risks, and record them on the Risk Probability/Impact Assessment and Risk Acceptability/Tolerance Worksheet.

### Step 2: Risk Probability/Impact Assessment

Rate the probability and impact of each risk using the following rating systems. Record your answers on the Risk Probability/Impact Assessment and Risk Acceptability/Tolerance Worksheet.

*Table 4-6: Risk Probability*

SCALE	PROBABILITY	DESCRIPTION
3	High	The event is expected to occur
2	Medium	Similar events have occurred in the past
1	Low	The event has little chance of occurring

*Table 4-7: Impact Assessment*

SCALE	IMPACT	IMPACT DESCRIPTOR
3	Catastrophic	Extremely high impact; devastating loss
2	Serious/Critical	Major impact; significant loss
1	Minor/Marginal	Some loss; sustainable

After you have rated the probability and impact for each risk, determine the:

- Risk Factor
- Risk Rating
- Risk Score

Based on the risk score, is the project high-risk, medium-risk, or low-risk?

Record your answers in the Risk Probability/Impact Assessment and Risk Acceptability/Tolerance Worksheet.

**Step 3: Risk Acceptability/Tolerance Matrix**

Complete the risk acceptability/tolerance matrix by identifying your tolerance rating for each impact/probability combination. After completing the matrix, apply it to each risk to determine the risk tolerance rating. Record your answers in the Risk Probability/Impact Assessment and Risk Acceptability/Tolerance Worksheet.

*Table 4-8: Risk Probability/Impact Assessment and Risk Acceptability/Tolerance*

PROBABILITY	CATASTROPHIC IMPACT	SERIOUS/CRITICAL IMPACT	MINOR/MARGINAL IMPACT
<b>Certainty</b>			
<b>Significant</b>			
<b>Minimal</b>			

**Key:**

U = Unacceptable risk

A = Acceptable risk

**Step 4: Risk Management Strategy**

Identify the appropriate strategy (accept/mitigate/avoid), and develop how you will achieve that strategy. Record your answers in the Risk Control Plan Worksheet. Be prepared to justify your choices and describe your solution.

**Step 5: Risk Control Plan**

Using the Risk Control Plan Worksheet, complete a risk control plan for each of the identified risks. You will need to make up some of the risk control plan information, such as Owner and Target Completion Date.

**Risk Probability/Impact Assessment and Risk Acceptability/Tolerance Worksheet**

*Table 4-9: Worksheet: Risk Probability/Impact Assessment and Risk Acceptability/Tolerance Table*

IDENTIFIED RISK	PROBABILITY	IMPACT	RISK FACTOR	TOLERANCE RATING
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

**Risk Rating = \_\_\_\_\_**

**Risk Score = \_\_\_\_\_**

**Based on the risk score, is the project high-risk, medium-risk, or low-risk? = \_\_\_\_\_**

**Risk Control Plan Worksheet**

*Table 4-10: Worksheet: Risk Control Plan Table*

<b>NAME OF RISK</b>	<b>RISK MANAGEMENT STRATEGY</b>	<b>OWNER</b>	<b>RISK CONTROLS</b>	<b>MITIGATION RESOURCES</b>	<b>PERFORMANCE METRICS</b>	<b>CURRENT STATUS</b>	<b>TARGET COMPLETION DATE</b>

## Lesson Summary

In this lesson, you learned that:

- You can perform a risk assessment
- You can perform a risk probability/impact assessment
- You can complete a risk acceptability/tolerance matrix
- You can create a risk management strategy
- You can complete a risk control plan

### NOTES

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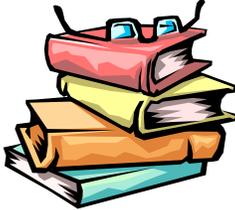
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# Module 4 Review and Wrap-Up

Slide 4-10

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

## Review and Wrap-Up



Slide 4-10

## Needs Assessment and Feasibility Studies

Slide 4-11

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Needs Assessment and Feasibility Studies

- Needs Assessment – Determines best solution to a problem
- Feasibility Study – Analyzes ability of an organization to acquire and implement new technology

Slide 4-11

### Needs Assessment

A “needs assessment” is a detailed report that analyzes a records-related problem and determines the best solution to that problem. A good needs assessment is objective. It starts with a “clean sheet of paper” and does not assume the technology an agency wants is necessarily what it needs.

The goals of a needs assessment are to provide an analysis of a current recordkeeping system and the records series involved, identify problems, evaluate possible solutions (both procedural and technological), and recommend the best solution to the problem.

A needs assessment addresses very specific questions, such as whether to eliminate certain steps in a work process or what portion of a back file of records an organization should convert to another format.

## Feasibility Study

A feasibility study analyzes the ability of an organization to acquire, implement, and maintain a new technology. You must look at the cost of technology over the long run, not just acquisition costs; you must consider the continuing cost of training, support, and upgrades.

A feasibility study may identify a number of possible scenarios, ranging from the most expensive to more modest solutions. This allows an organization to choose a solution that fits its budget yet still makes improvements to its system.

For more information, see **Reference 04**—Needs Assessment and Feasibility Studies.

## Project Chartering

Slide 4-12

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Project Chartering

- Defines scope—what’s in/out
- Identifies resource needs risks, assumptions, restraints, deliverables, milestones
- Gains commitment from stakeholders
- Is what you’re proposing even possible?

Slide 4-12

A Project Charter is the major deliverable of project planning. The Project Charter outlines the business case, objectives and constraints of the project as well as the major deliverables and identities of the main stakeholders.

The Project Charter gives the Project Manager authorization to start working on the project and an overview document to share with project stakeholders to provide vital project information.

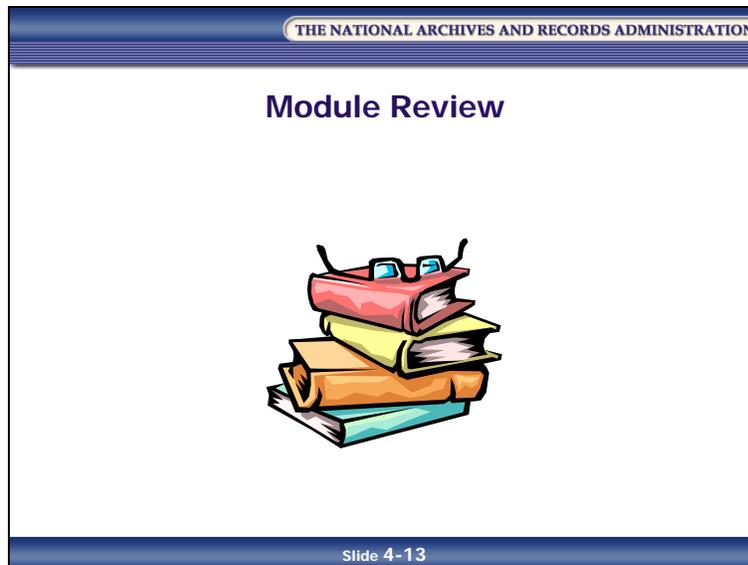
Chartering forces you to think hard about your project before you commit resources. The goal is to gather and agree on enough information about the project to start planning the project. Some good reasons to charter even a small project include:

- Defines the scope – what is included and what is not included
- Identifies resource needs, risks, assumptions, restraints, deliverables and milestones
- Gains commitment from the key stakeholders
- Is what you are proposing even possible?

For more information, see **Reference 06**—Sample Project Charter Template.

## Module Review

Slide 4-13

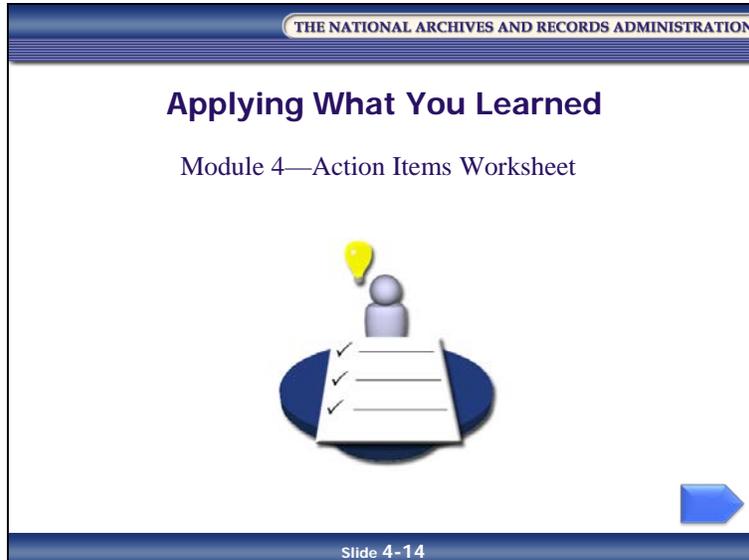


In Module 4, you learned that:

- You can successfully complete all the processes involved with risk management

## Applying What You Learned

Slide 4-14



Reflect upon what you've learned in Module 4 and how you will apply it to your job.

## Module 4—Action Items Worksheet

*Table 4-11: Module 4—Action Items Worksheet*

**What did I learn from completing the risk management project that will help me at my job?**

List at least one thing you learned from completing the risk management project that is relevant to your records management role and responsibilities.

**How will I apply what I practiced in the risk management project to my job?**

List at least one thing you did in the project that you will apply to your job, and explain how you will apply it.

**What “aha!” moments did I have during this module?**

List any “aha!” moments you experienced during this module.  
(“This risk management stuff isn’t as hard as it looks. Aha!”)

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Participant Guide  
January 2017

# Knowledge Area 5: Asset and Risk Management

## Module 5: Cost-Benefit Analysis



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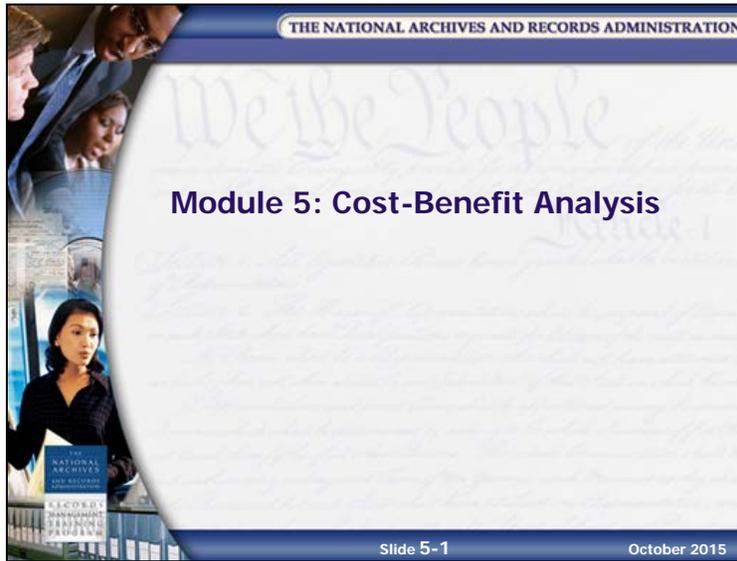
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# Introduction and Objectives

## Introduction

Slide 5-1



In Module 5, we will examine cost-benefit analysis (CBA) as a method of assessing potential records management projects. We will discuss why CBA is important to AROs, and we will review the step-by-step process for conducting a cost-benefit analysis.

Our goal in this module is to give you an understanding of how CBA works so that you will be able to use the ideas for evaluating your own projects, including risk mitigation projects. This knowledge will allow you to contribute when CBAs conducted by your agency involve records management issues.

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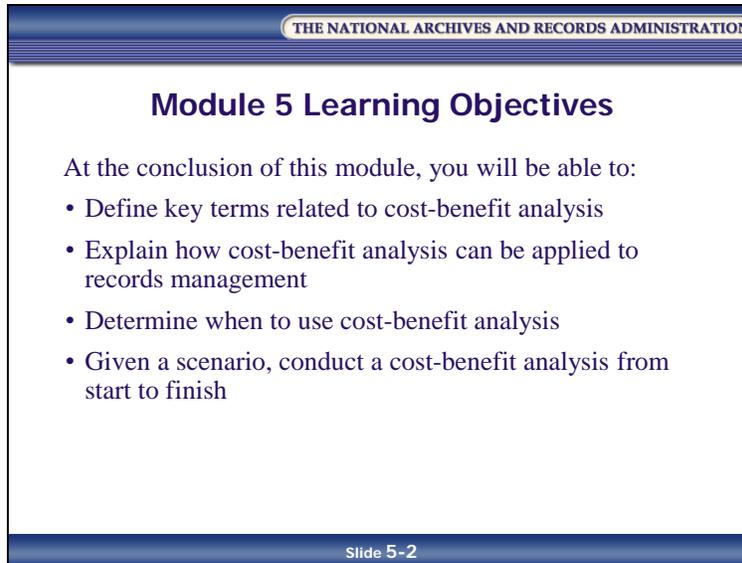
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## Objectives

Slide 5-2



**Module 5 Learning Objectives**

At the conclusion of this module, you will be able to:

- Define key terms related to cost-benefit analysis
- Explain how cost-benefit analysis can be applied to records management
- Determine when to use cost-benefit analysis
- Given a scenario, conduct a cost-benefit analysis from start to finish

At the conclusion of this module, you will be able to:

- Define key terms related to cost-benefit analysis
- Explain how cost-benefit analysis can be applied to records management
- Determine when to use cost-benefit analysis
- Conduct a cost-benefit analysis from start to finish

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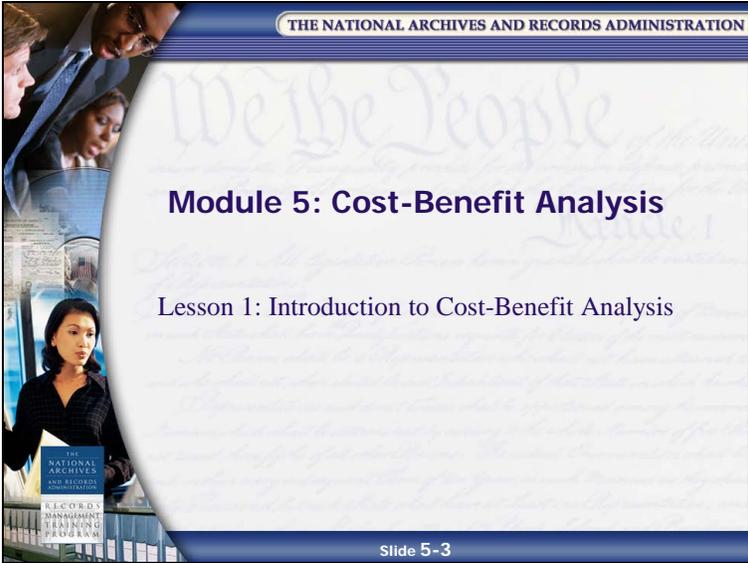
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# Lesson 1: Introduction to Cost-Benefit Analysis

Slide 5-3



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## Overview

Slide 5-4

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Overview

Simply put, CBA weighs costs against benefits to help determine the best course of action.



Slide 5-4

Cost-benefit analysis (CBA) is a specialized methodology that helps agencies make good decisions when choosing among projects, or when selecting the best strategy for achieving a particular goal.

CBA relies on identifying all the costs and benefits of a particular project and converting them into a common, quantifiable measure, usually dollars, so the total costs and total benefits can be compared.

### NOTES

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## Key Terms

Slide 5-5

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Key Terms

- **Cost**—The total money, time, and resources associated with a purchase or activity
- **Benefit**—A payment or entitlement or, more generally, something of value or usefulness
- **Net benefit**—The result when the sum of the benefits is great enough to exceed or offset the sum of the costs

Slide 5-5

- **Cost**—The total money, time, and resources associated with a purchase or activity
- **Benefit**—A payment or entitlement or, more generally, something of value or usefulness
- **Net benefit**—The result when the sum of the benefits is great enough to exceed or offset the sum of the costs

The basic idea of CBA is to provide a way to identify which project will provide the greatest value for your money, and overall, the greatest net benefit.

### NOTES

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## Regulatory Framework Surrounding CBA

Slide 5-6

**Regulatory Framework Surrounding CBA**

The Information Technology Management Reform Act addresses CBA:

“...the purpose of [a CBA] is to promote efficient resource allocation through well-informed decision-making by agencies of the Executive Branch of the Federal Government when initiating, renewing, or expanding programs or projects which would result in a series of measurable benefits or costs extending for three or more years...”

The Information Technology Management Reform Act (ITMRA; also called the Clinger-Cohen Act) addresses CBA in Section 5122, Capital Planning and Investment Control:

“...the purpose of [a CBA] is to promote efficient resource allocation through well-informed decision-making by agencies of the Executive Branch of the Federal Government when initiating, renewing, or expanding programs or projects which would result in a series of measurable benefits or costs extending for three or more years...”

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## Why Should CBA Be Important to You?

Slide 5-7

A presentation slide with a blue header and footer. The header contains the text "THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION". The main content area has the title "Why Should CBA Be Important to You?" followed by a bulleted list of five points. The footer contains the text "Slide 5-7".

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Why Should CBA Be Important to You?

- Helps to ensure that your resources are effectively allocated
- Looks at other ongoing projects or services of the agency, not just new projects
- Measures policy effectiveness
- Finds ways to improve your agency's programs
- Enhances your position within your agency

Slide 5-7

There are several reasons that CBA is important to you. CBA can help you to:

- Ensure that your resources are effectively allocated by supporting better decision-making
- Look at other ongoing projects or services of the agency, not just new projects
- Measure how effective a policy or system has been
- Find ways in which your agency's program could be improved
- Enhance your position within your agency

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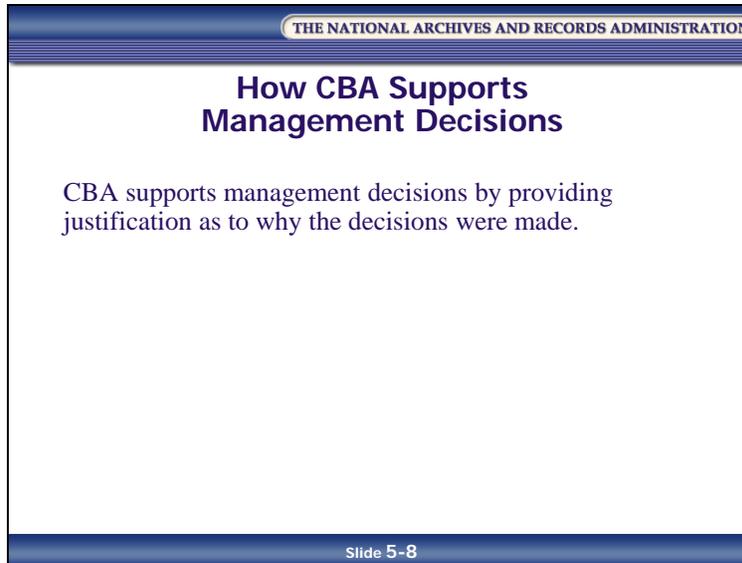
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## How CBA Supports Management Decisions

Slide 5-8



CBA supports management decisions by providing justification as to why the decisions were made. Because government agencies are funded by taxpayers' dollars, they are accountable for the decisions they make when spending the public's money. By examining alternatives and comparing the costs against the benefits, CBA gives agencies the information they need to justify their decisions.

For example, a county courthouse wants to replace its cumbersome paper-based filing system for storage and retrieval of land deeds. The proposed electronic document imaging system will cost \$300,000, but will speed up the retrieval and printing of land records. Service to the citizens will be greatly improved, compared with the existing system. In order to be sure that the proposed electronic document imaging system is the right solution and to justify spending public monies, the county conducts a CBA and determines that the recognized benefits of the new system (faster retrieval, better storage, more efficiency) outweigh the costs, thereby making the new system a good decision. Based on these results, the county decides to proceed with the system.

CBA can be used in many management processes, from personnel decisions to capital outlay and equipment, facilities, monetary systems, and information systems, including records management.

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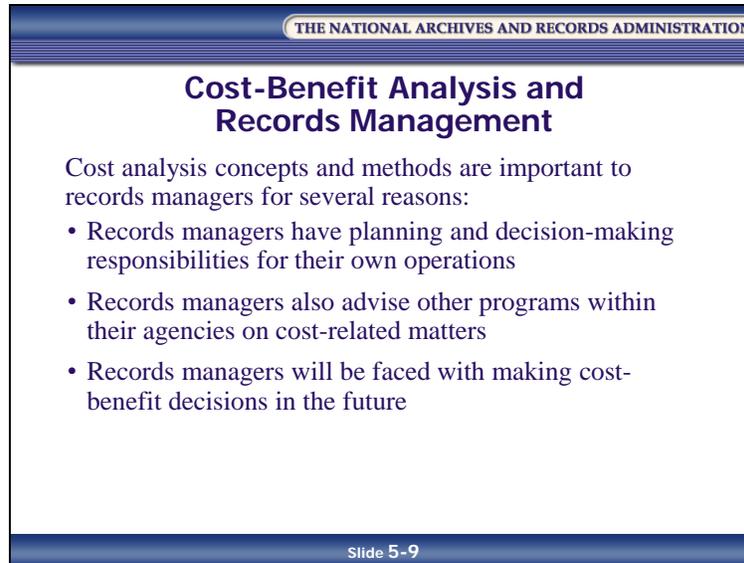
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## CBA and Records Management

Slide 5-9



**THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION**

### Cost-Benefit Analysis and Records Management

Cost analysis concepts and methods are important to records managers for several reasons:

- Records managers have planning and decision-making responsibilities for their own operations
- Records managers also advise other programs within their agencies on cost-related matters
- Records managers will be faced with making cost-benefit decisions in the future

Slide 5-9

CBA concepts and methods are important to records managers for several reasons:

- AROs have planning and decision-making responsibilities for their own operations. They must prepare and adhere to budgets; project future requirements for personnel, technology, and other resources; and evaluate alternate methods and costs of achieving specific projects.
- Records managers also advise other programs within their agencies on cost-related matters. CBA can be useful to perform the following:
  - Accurate estimations of the cost of records management projects, such as the conversion of electronic document imaging systems for active records, or the conversion of inactive records to PDF
  - Comparisons of the costs of alternative records management methods and knowledgeable recommendations about particular courses of action
  - Evaluations of the cost information presented in vendor proposals
  - Communication of cost concepts clearly and effectively to departmental and upper management

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CBA is definitely part of the job description of a modern ARO.

- AROs will be faced with making cost-benefit decisions in the future, and CBA helps address future needs
  - For example, NARA's records center operations are a fee-for-service program and compete with commercial records storage companies for storage of Federal records
  - AROs will use CBA to determine whether or not to stay with NARA, use commercial storage, or establish their own storage areas (which must meet Federal records storage facility requirements). In the future, agency records management systems will gravitate toward IT departments as electronic records storage overtakes traditional paper storage needs.

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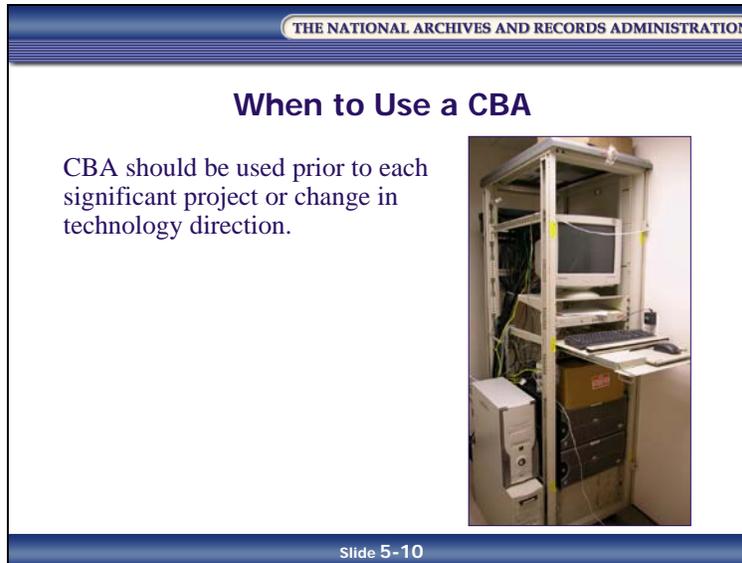
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## When to Use a CBA

Slide 5-10



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### When to Use a CBA

CBA should be used prior to each significant project or change in technology direction.



Slide 5-10

A CBA should be conducted prior to undertaking a significant project or change in technology direction. It illustrates the cost-benefit relationship of one or more choices or directions an agency may take, thereby enabling decision-makers to make an informed decision.

Big-ticket equipment purchases, such as new computers, microfilm equipment, printers, and production scanners are the most obvious targets of a records manager's CBA.

Some records management scenarios in which CBA can be useful include:

- Outsourcing records management
- Bringing records management services in-house
- Changing records management service or supply vendors
- Using commercial or Federal Records Centers
- Selecting a records management application, electronic recordkeeping system, or electronic document management system
- Upgrading existing hardware or software

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- Modifying workflow processes affected by (and affecting) records
- Implementing new records management procedures
- Determining document imaging solutions
- Remodeling facilities or constructing new ones to house records
- Administratively relocating records management functions
- Using temporary services for records management

NARA has specific guidelines for conducting a CBA related to an ERK or ERM; the guidelines are located at [www.archives.gov/records-mgmt/policy/costs-and-benefits-erm-erk.html](http://www.archives.gov/records-mgmt/policy/costs-and-benefits-erm-erk.html) (also in your **Reference 01**—Knowledge Area 5 References).

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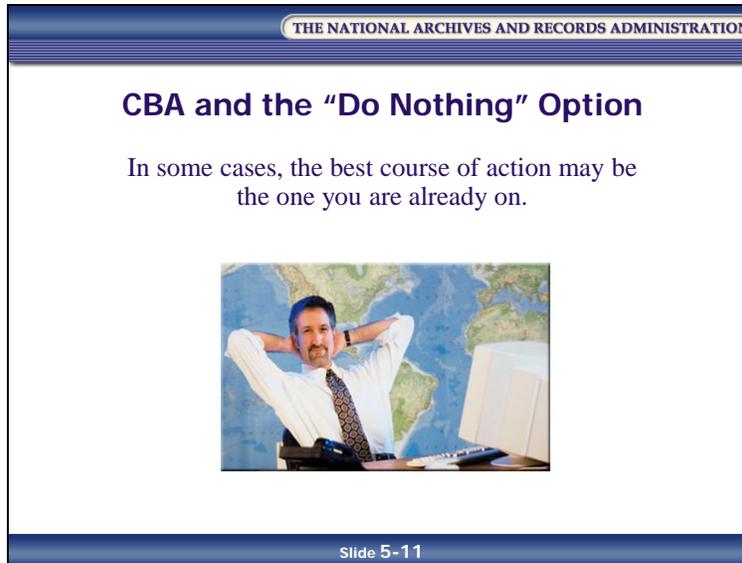
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## CBA and the “Do Nothing” Option

Slide 5-11



CBA should always consider the “do nothing” option. In some cases, CBA will suggest that the best course is the one you are already on—that is, to do nothing differently.

Every project should be evaluated against the baseline of the present situation. If the project is not an improvement over what you have now, do not do it.

If your CBA reveals the “do nothing” option to be the best course of action, then you should create a memo for the record stating “No further action required,” and explaining why you chose to do nothing.

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## Lesson Summary

In this lesson, you learned that:

- CBA is a specialized methodology that helps agencies make good decisions when choosing among projects, or choosing the best strategy for achieving a particular goal
- CBA relies on identifying all the costs and benefits of a particular project and converting them into a common, quantifiable measure, usually dollars, so the total costs and the total benefits can be compared
- **Cost** is the total money, time, and resources associated with a purchase or activity
- **Benefit** is a payment or entitlement or, more generally, something of value or usefulness
- **Net benefit** is the result when the sum of the benefits is great enough to exceed or offset the costs
- The Clinger-Cohen Act is the regulatory framework for CBA
- CBA is important to you for several reasons, including these:
  - CBA helps to ensure that your resources are effectively allocated by supporting better decision-making
  - CBA can be used to look at other ongoing projects or services of the agency, not just for new projects
  - CBA is a good way to measure how effective a policy or system has been
  - CBA can be used to find ways in which your agency's program could be improved
  - Knowing CBA can enhance your position within your agency
- CBA supports management decisions by providing justification as to why the decisions were made

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- Cost analysis concepts and methods are important to records managers for several reasons:
  - Records managers have planning and decision-making responsibilities for their own operations
  - Records managers advise other programs on cost-related matters
  - Records managers will be faced with making cost-benefit decisions in the future
- A CBA should be conducted prior to each significant project or change in technology direction in order to assess whether the new direction shows a clear improvement
- Big-ticket equipment purchases, such as new computers, microfilm equipment, readers, printers, and fax machines, are the most obvious targets of a records manager’s CBA
- Every CBA should consider the “do nothing” option

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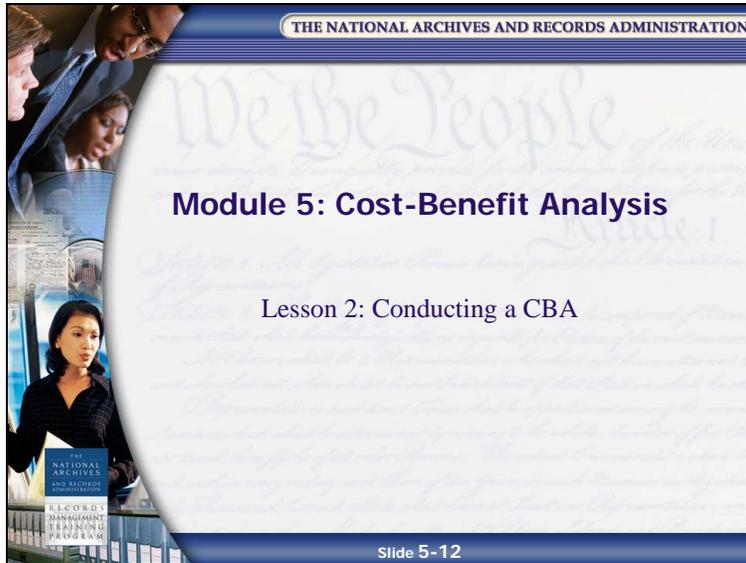
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# Lesson 2: Conducting a CBA

Slide 5-12



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## A Step-by-Step Process

Slide 5-13

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### A Step-by-Step Process

For the purposes of this training, the CBA process is broken down into nine basic steps.

Every CBA is different, depending on the agency policies and procedures, the formality of the CBA, the size of the project, etc.

Slide 5-13

For the purposes of this training, the CBA process is broken down into nine steps. The steps provided here are the basic steps needed to perform a CBA. But every CBA is different. Ultimately, the CBA process depends on several factors, including agency policies and procedures, the formality of the CBA, the size of the project, etc.

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## Step 1: Determine/Define Objectives

Slide 5-14

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 1: Determine/Define Objectives

State the goals and objectives of the project. Key items to be addressed are:

- Problem definition
- Background
- Project objectives

Slide 5-14

State the goals and objectives of the project, including a statement of the policy rationale or business case for undertaking the evaluation of alternative systems/processes.

The key items to be addressed are:

- **Problem definition**—The problem perceived by management must be clearly defined
- **Background**—Pertinent issues such as staffing, system history, user satisfaction, etc. should be addressed
- **Project objectives**—The desired outcomes from the new system must be stated clearly. The objectives should be stated in terms of supporting your agency’s mission.

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## Step 2: Document Current Process

Slide 5-15

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 2: Document Current Process

The baseline for any CBA is the current process.  
Documentation should cover:

- Customer services
- System capabilities
- System architecture
- System costs

Slide 5-15

The baseline for any CBA is the current process. Because understanding the current process provides the basis for decisions regarding new alternatives, a CBA must thoroughly document the current process to ensure that everyone involved in the CBA preparation and review understands that process.

Documentation should cover:

- **Customer services**—Who interfaces with the system? How do they interface with the system? What are the inputs and outputs? Can you put a value on downtime?
- **System capabilities**—What can the existing system do? How well does it do it? Try to quantify this information as much as possible.
- **System architecture**—The system architecture includes the hardware specifications, software specifications, communication links, and physical facilities required for systems operations
- **System costs**—System costs include costs for areas such as support services, supplies, personnel, etc. The cost of the current system provides the baseline for the CBA and must include all elements.

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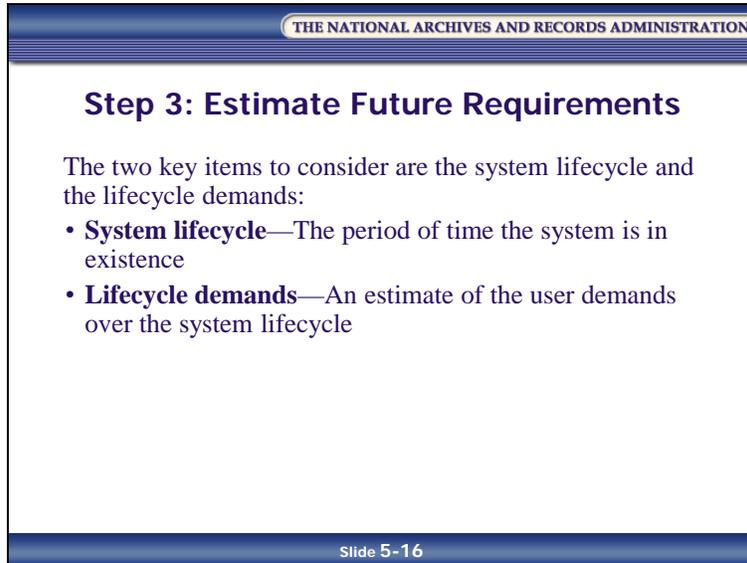
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### Step 3: Estimate Future Requirements

Slide 5-16



The first step is to determine how far into the future to plan. Future customer and system requirements determine the system capabilities and architecture and ultimately affect system costs and benefits. Thus, it is very important to estimate the future requirements accurately. The two key items to consider are the system lifecycle and the lifecycle demands:

- **System lifecycle**—The period of time the system is in existence. Lifecycle activities include:
  - Analysis
  - Design
  - Development
  - Implementation
  - Operation
  - Maintenance
  - Termination

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- **Lifecycle demands**—An estimate of the user demands over the system lifecycle. Two common methods for measuring these demands are:
  - **Look to preceding years**—Determine what your demands were for several preceding years, calculate the change in demand from year to year, average this change, and use the average to make the predictions. For example, if you have averaged an increase in demand of 10 percent per year over the last five years, assume that this trend will continue, and that demand will increase by 10 percent every year over the lifecycle of the study.
  - **Survey your customers**—The survey method can identify major changes in customer requirements, and may identify previously unforeseen problems for which there is an IT solution

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## Step 4: Choose Alternatives

Slide 5-17

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 4: Choose Alternatives

Present at least three options for resolving your current issues and reaching your desired outcomes.

Slide 5-17

A CBA must normally present at least three options for resolving your current issues and reaching your desired outcomes. One alternative that should always be included in the CBA is to continue with no change (i.e., the “do nothing” option).

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## Step 5: Collect Cost Data

Slide 5-18

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 5: Collect Cost Data

Six sources of data are:

1. Historical organizational experience
2. Current system costs
3. Market research
4. Publications and online tools
5. Analyst judgment
6. Special studies

Slide 5-18

Cost data must be researched and collected for estimating the cost and benefits of each project alternative. Six sources of data are:

- **Historical organizational experience**—Historical contract data for an organization can be used to estimate the future purchase price of hardware, software, and services
- **Current system costs**—The cost of your current computer system can be used to price similar alternatives
- **Market research**—Contact several sources to provide cost estimates for computer hardware, software, networks, user support, outsourcing, etc. Quotes from multiple sources (if possible) will provide an average figure that should be a realistic price.
- **Publications and online tools**—Trade journals, industry publications and online tools are good sources of cost data
- **Analyst judgment**—Data may not always be available to provide an adequate cost estimate. In that situation, the best alternative is to use the judgment and experience of CBA team members to estimate costs. To provide a check against the team’s estimates, discuss them with other IT professionals, both in government and in industry.
- **Special studies**—Special studies are sometimes done to collect cost data for large IT projects

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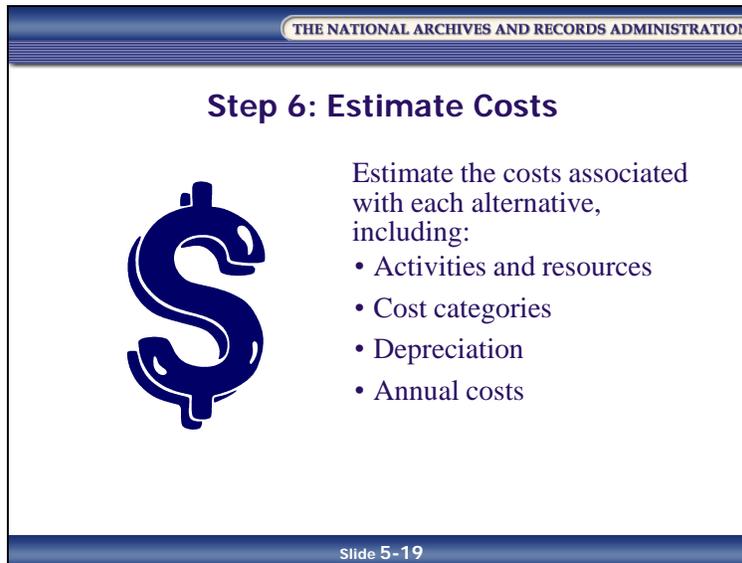
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## Step 6: Estimate Costs

Slide 5-19



THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 6: Estimate Costs



Estimate the costs associated with each alternative, including:

- Activities and resources
- Cost categories
- Depreciation
- Annual costs

Slide 5-19

Use the cost data collected in Step 5 to estimate the costs associated with each alternative. All costs for the full system lifecycle must be included. The following cost factors must be addressed:

1. **Activities and resources**—Identify and estimate the costs associated with initiation, design, development, operation, and maintenance of an IT system
2. **Cost categories**
  - Direct and indirect costs
    - **Direct costs** are costs that can easily be traced to a product, service, or activity. Labor and materials are direct costs. In an FRC facility, the archives technicians who pull files for agencies, and FRCP boxes used to store the files, are direct costs.
    - **Indirect costs** are overhead costs. These include the janitorial and security labor costs and managers' salaries for administering a program.

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- Variable and fixed costs
  - **Variable costs** increase or decrease in proportion to an activity. For example, the more documents a records center has to file, the greater the cost for labor and materials.
  - **Fixed costs** generally remain constant, regardless of activity levels. Examples are costs for filing equipment and software.
- Controllable and uncontrollable costs
  - **Controllable costs** include resource, material, direct, and indirect costs for which you can directly control the volume and quantity. For example, if the cost of scanning records is too high, management can scale back the project, thus controlling the cost.
  - **Uncontrollable costs** are not within your power to manage. For example, a power failure occurs, resulting in costs from the loss of productivity, employee downtime, etc. You cannot control these costs associated with the power failure.
- Total and unit costs
  - **Total costs** are the sum of various costs associated with a particular activity—for example, the sum of the costs to convert a collection of paper files to digitized images, or to perform reference service on records in a records center
  - **Unit costs** are the costs to make or perform a single unit of a product or service. An example would be the costs to film or image one document, or the cost to refile or retrieve one folder in a records center box.
- Standard and actual costs
  - **Standard costs** are measures of how much a particular product or service should cost. Standard costs are generally estimates of future costs and are applicable mostly to direct labor and materials. For instance, if you were going to hire temporary labor to retire records, you would need to look at how much it costs—the person’s wages plus benefits and how many boxes that person can prepare in one hour’s time.
  - **Actual costs** are what the product or service really costs. Actual costs are used to compare to the standard costs.

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- Startup and ongoing costs
    - **Startup costs** are initial cash outlays for a project, such as buying imaging equipment for a digitization project. They precede any earnings or cost savings from the actual project. Other potential startup costs include conversion costs, hardware and software purchases, and training costs.
    - **Ongoing costs** are incurred on a periodic basis. These would include upkeep on the equipment, the film stock that has to be purchased every month, etc. Other potential ongoing costs include equipment/hardware costs, software costs, storage costs, and ongoing training costs.
  - Personnel costs
    - **Personnel costs** are the salaries, benefits, and time of the people associated with the competing alternatives in a CBA. These people include the personnel required to implement the solution, the personnel needed to maintain the solution, and the personnel who will be using/interacting with the solution.
3. **Depreciation**—An allowance made for a loss in value of property
4. **Annual costs**—All cost elements must be identified and estimated for each year of the system lifecycle

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## Step 7: Estimate Benefits

Slide 5-20

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 7: Estimate Benefits

Steps for analyzing benefits:

1. Define the benefits
2. Identify the benefits
3. Establish measurement criteria
4. Classify benefits
5. Estimate tangible benefits
6. Quantify intangible benefits

Slide 5-20

After estimating the costs, you need to balance those cost considerations with an analysis of the benefits. Benefits are the services, capabilities, and qualities of each alternative system and can be viewed as the return on an investment.

Everyone involved in the analysis should agree on which benefits should be included, and should agree on a common definition for each benefit. These definitions should be documented as part of the analysis process.

Benefits from existing, as well as proposed, systems should be examined. These should include both tangible benefits (benefits capable of being appraised at an actual or approximate value) and intangible benefits (benefits that cannot be assigned a dollar value). Steps for analyzing benefits:

1. Define the benefits.
2. Identify the benefits.
3. Establish measurement criteria.
4. Classify benefits.
5. Estimate tangible benefits.
6. Quantify intangible benefits.

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## Step 8: Document Assumptions

Slide 5-21

THE NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Step 8: Document Assumptions

Because a CBA relies on many assumptions, it is important to document all of them and, if possible, justify them on the basis of prior experience or actual data.



Slide 5-21

List all assumptions, definitions, etc., used to arrive at estimates of benefits and costs.

Because a CBA relies on many assumptions, it is important to document all of them and, if possible, justify them on the basis of prior experience or actual data. For example, you may assume that PC hardware and software are upgraded every three years in your agency. You can also project how much personnel costs will be based on past raises, changes in benefits, etc.

This can also be an opportunity to explain why some alternatives were not included in the analysis. Some alternatives are eliminated in the early stages of a CBA because of a conclusion that they are not feasible. If that conclusion is based on an assumption, the assumption must be explained clearly and justified.

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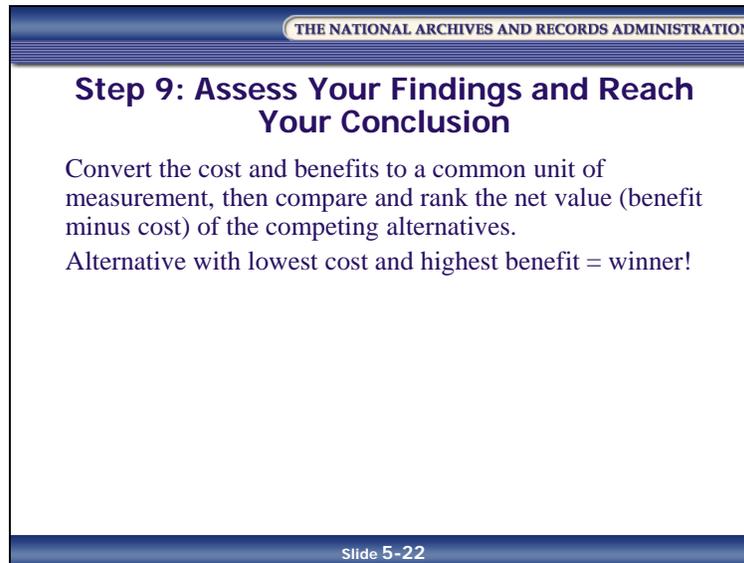
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## Step 9: Assess Your Findings and Reach Your Conclusion

Slide 5-22



**Step 9: Assess Your Findings and Reach Your Conclusion**

Convert the cost and benefits to a common unit of measurement, then compare and rank the net value (benefit minus cost) of the competing alternatives.

Alternative with lowest cost and highest benefit = winner!

Convert the cost and benefits to a common unit of measurement (such as dollars), and then assess your findings by comparing and ranking the net value (benefit minus cost) of the competing alternatives, including the “do nothing” option. The alternative with the lowest cost that provides the highest benefit is the winner.

Sometimes none of the available options will give you a positive net benefit. In such cases, you may have to choose the least disadvantageous option. In other words, in some cases, there may be no good solutions, only less bad solutions.

To provide more areas of comparison, you may also want to perform a risk analysis along with the CBA.

Once you have reached a conclusion, document your findings and state your recommendations.

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## Lesson Summary

In this lesson, you learned that a CBA can be broken down into nine steps:

- **Step 1: Determine/Define Objectives**—State the goals/objectives of the project. Key items to be addressed are:
  - Problem definition
  - Background
  - Project objectives
- **Step 2: Document Current Process**—The baseline for any CBA is the current process. Documentation should cover:
  - Customer services
  - System capabilities
  - System architecture
  - System costs
- **Step 3: Estimate Future Requirements**—Determine how far into the future to plan. Determine future customer/system requirements. Two key items to consider are:
  - System lifecycle
  - Lifecycle demands
- **Step 4: Choose Alternatives**—A CBA must normally present at least three alternatives, one of which should be the “do nothing” option
- **Step 5: Collect Cost Data**—Cost data must be collected for estimating the cost and benefits of each project alternative. Six sources of data are:
  - Historical organizational experience
  - Current system costs
  - Market research
  - Publications and online resources
  - Analyst judgment
  - Special studies

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- **Step 6: Estimate Costs**—Using the cost data collected in Step 5, estimate the costs associated with each alternative. The following factors must be addressed:
  - Activities and resources
  - Cost categories
  - Depreciation
  - Annual costs
- **Step 7: Estimate Benefits**—Analyze the benefits by:
  - Defining the benefits
  - Identifying the benefits
  - Establishing measurement criteria
  - Classifying benefits
  - Estimating tangible benefits
  - Quantifying intangible benefits
- **Step 8: Document Assumptions**—Because a CBA relies on many assumptions, it is important to document all of them and, if possible, justify them on the basis of prior experience or actual data
- **Step 9: Assess Your Findings and Reach Your Conclusion**—Convert the cost and benefits to a common unit of measurement (such as dollars), and then assess your findings by comparing and ranking the net value (benefit minus cost) of the competing alternatives, including the “do nothing” option. The alternative with the lowest cost that provides the highest benefit is the winner.

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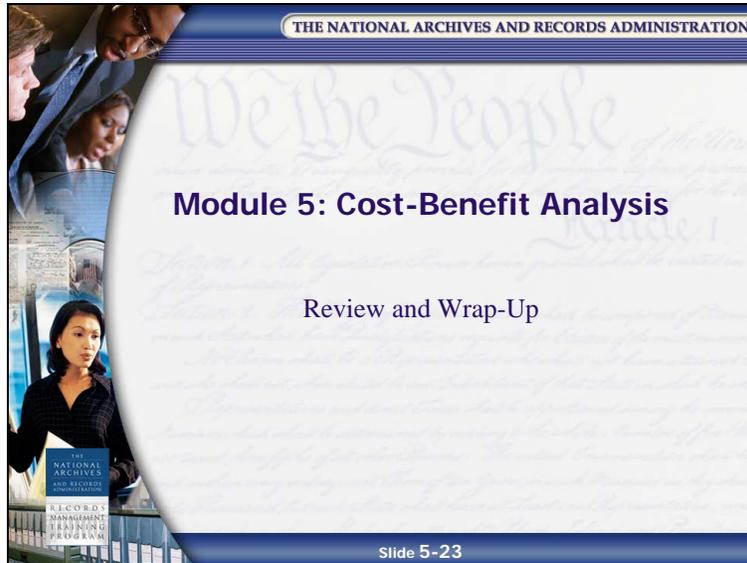
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# Module 5 Review and Wrap-Up

Slide 5-23



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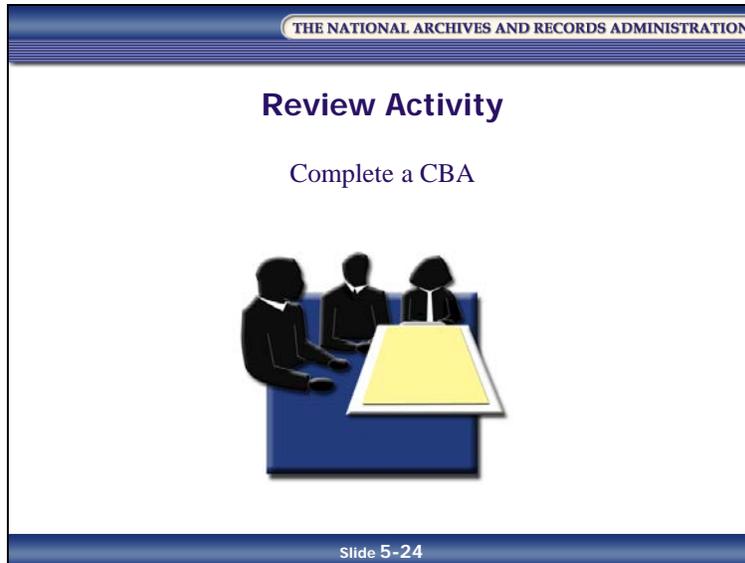
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## Review Activity: Complete a CBA

Slide 5-24



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## CBA Worksheet

### The Scenario:

You are the Agency Records Officer for the Bureau of Public Recreation (BPR), Environmental Division, Customer Service Branch. The branch is responsible for providing copies of published environmental reports upon request to the public and to Federal agencies.

Agency management is considering an electronic document imaging system for storage and retrieval of customer files (orders). The total cost of the system is \$600,000.

The branch office creates order, payment, and shipment information, and management is interested in replacing the paper filing system. The paper files are arranged by customer agency name and subdivided by order number. Documents (which may consist of one or more pages stapled together) consist of purchase orders, invoices, government bills of lading, and correspondence. The ordering information is summarized in a database. Summary information is not always helpful in answering customer questions about orders—sometimes the files need to be checked to respond to customer questions.

Documents are stored in 65 four-drawer vertical file cabinets that take up 520 square feet of office space.

Purchase order documents are inserted into customer case files. Some 22,500 orders are generated per year, with an estimated file growth of 225,000 pages per year. The retention on the files is six (6) years from cutoff. Documents are frequently referenced in the first three (3) years from the file cutoff. Order files are kept in this department for the first three years.

To free up cabinets, older records are annually retired to a Federal Records Center (FRC) facility for the final three years of retention at \$3.44 per box.

Nine full-time GS-7s staff this department, creating and maintaining the files, pulling and refiling, etc. Periodically, new cabinets are purchased to accommodate the annual growth.

It is anticipated that the new imaging system would have a five-year lifecycle. Customer documents would be migrated to optical disk media and stored off-site as activity decreases.



Workspace:

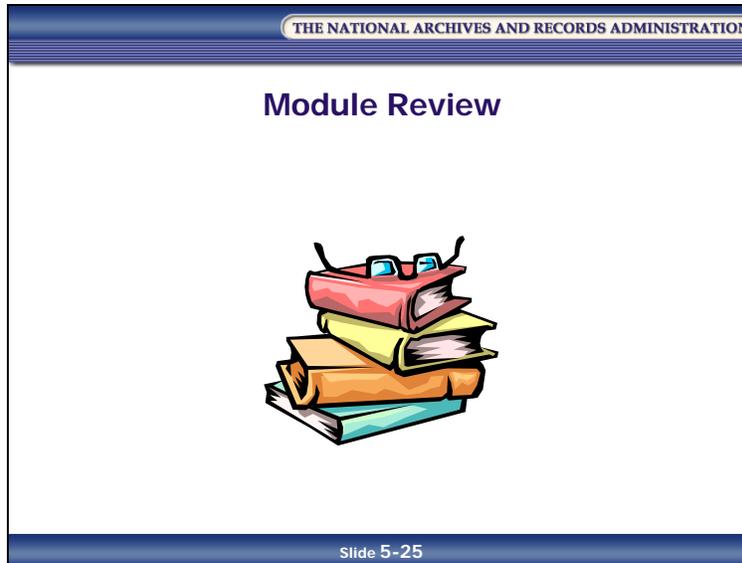
*Table 5-5: Review Activity Workspace*

STEP	FINDINGS
<b>Step 1: Determine/ Define Objectives</b>	
<b>Step 2: Document Current Process</b>	
<b>Step 3: Estimate Future Requirements</b>	
<b>Step 4: Choose Alternatives</b>	
<b>Step 5: Collect Cost Data</b>	

STEP	FINDINGS
<b>Step 6: Estimate Costs</b>	
<b>Step 7: Estimate Benefits</b>	
<b>Step 8: Document Assumptions</b>	
<b>Step 9: Assess Your Findings and Reach Your Conclusion</b>	

## Module Review

Slide 5-25



In Module 5, you learned:

- That CBA is a specialized methodology that helps agencies make good decisions when choosing among projects, or choosing the best strategy for achieving a particular goal
- That CBA relies on identifying all the costs and benefits of a particular project and converting them into a common, quantifiable measure, usually dollars, so the total costs and the total benefits can be compared
- The definitions of cost, benefit, and net benefit
- Why CBA should be important to you
- That CBA supports management decisions
- Why cost analysis concepts and methods are important to records managers
- When a CBA should be conducted
- That every CBA should consider the “do nothing” option

### NOTES

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- That CBA can be broken down into nine steps:
  - Step 1: Determine/Define Objectives
  - Step 2: Document Current Process
  - Step 3: Estimate Future Requirements
  - Step 4: Choose Alternatives
  - Step 5: Collect Cost Data
  - Step 6: Estimate Costs
  - Step 7: Estimate Benefits
  - Step 8: Document Assumptions
  - Step 9: Assess Your Findings and Reach Your Conclusion

**NOTES**

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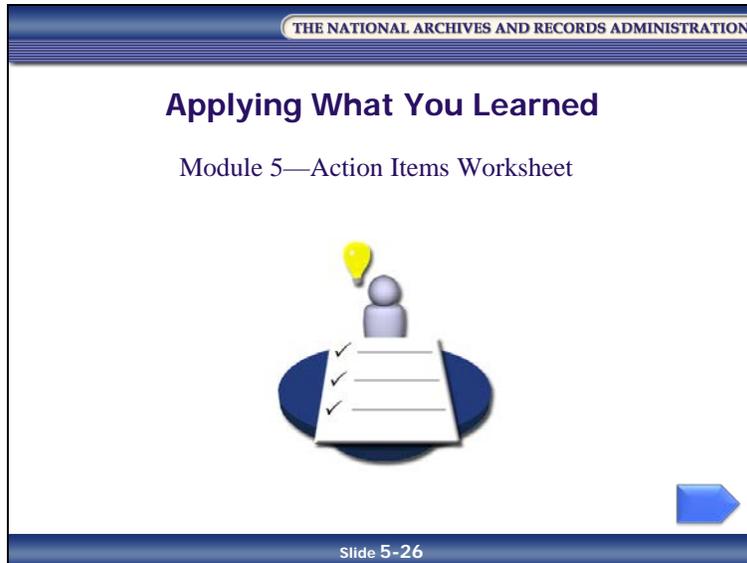
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## Applying What You Learned

Slide 5-26



Reflect upon what you've learned in Module 5 and how you will apply it to your job.

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**Module 5—Action Items Worksheet**

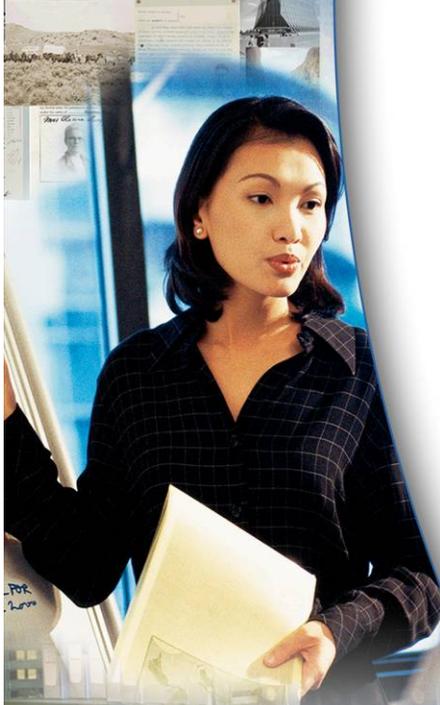
*Table 5-6: Module 5—Action Items Worksheet*

<p><b>What did I learn about cost-benefit analysis that will help me at my job?</b></p> <p>List at least one thing you learned about cost-benefit analysis that is relevant to your records management roles and responsibilities.</p>
<p><b>How will I apply what I learned about cost-benefit analysis to my job?</b></p> <p>List at least one thing you learned about cost-benefit analysis that you will apply to your job, and explain how you will apply it.</p>
<p><b>What “aha!” moments did I have during this module?</b></p> <p>List any “aha” moments you experienced during this module.  (“Cost-benefit analysis can help me identify the course of action that will provide the greatest value for my money. Aha!”)</p>

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Participant Guide  
January 2017

# Knowledge Area 5: Asset and Risk Management Course Wrap-Up



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### NOTES

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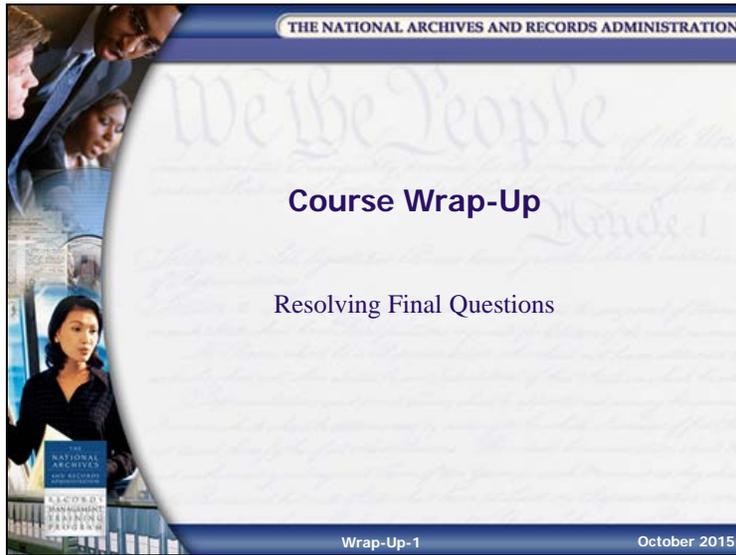
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# Final Questions

## Resolving Final Questions

Slide Wrap-Up-1



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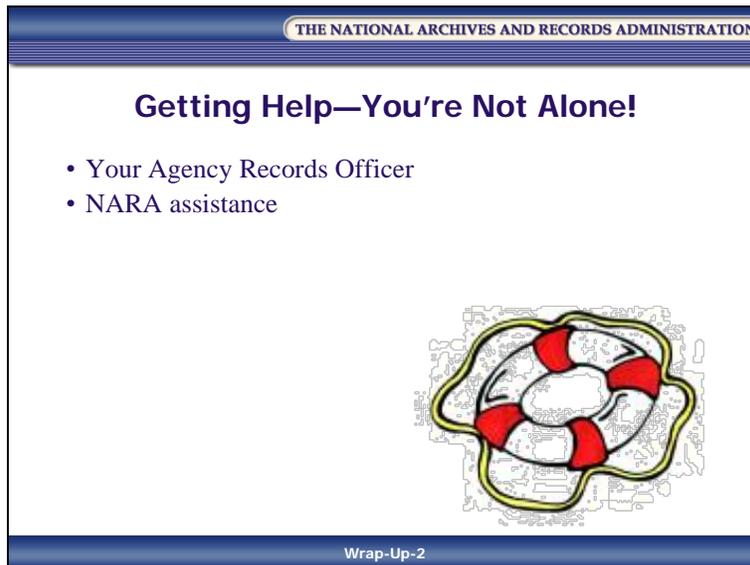
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# Where to Go for Help

## Help Resources

Slide Wrap-Up-2



Help is available.

- Your ARO should be your first source for records management inquiries
- NARA's Contact Information for Federal Agency Appraisal and Scheduling Teams posted on the NARA website at <http://www.archives.gov/records-mgmt/appraisal>
- NARA's Records Control Schedule Repository (RCS) located at <http://www.archives.gov/records-mgmt/rcs>
- NARA's Records Management Training Program website at <http://www.archives.gov/records-mgmt/training>
- NARA's Bulletins are located at <http://www.archives.gov/records-mgmt/bulletins>
- NARA's Frequently Asked Questions (FAQs) on records management are located at <http://www.archives.gov/records-mgmt/faqs>

### NOTES

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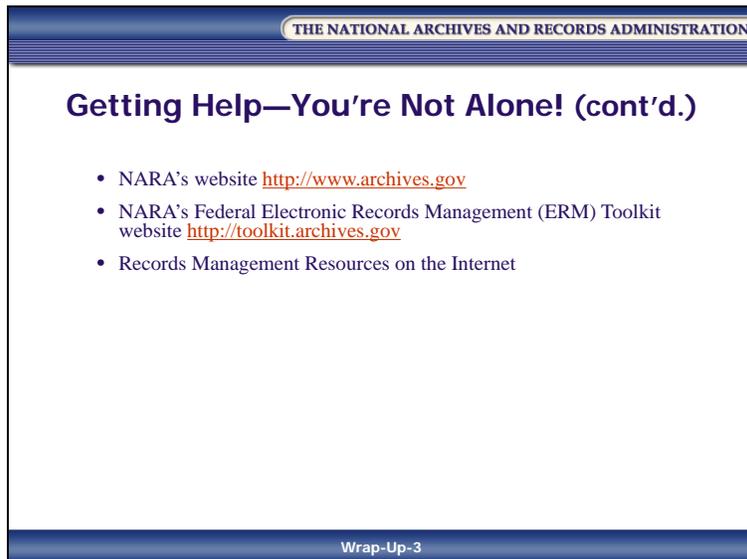
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Slide Wrap-Up-3



- NARA's Federal Electronic Records Management (ERM) Toolkit website: <http://toolkit.archives.gov>
- **Reference 02**—Records Management Resources on the Internet
- **Reference 05**—Risk Management Information Sources and Guidance

**NOTES**

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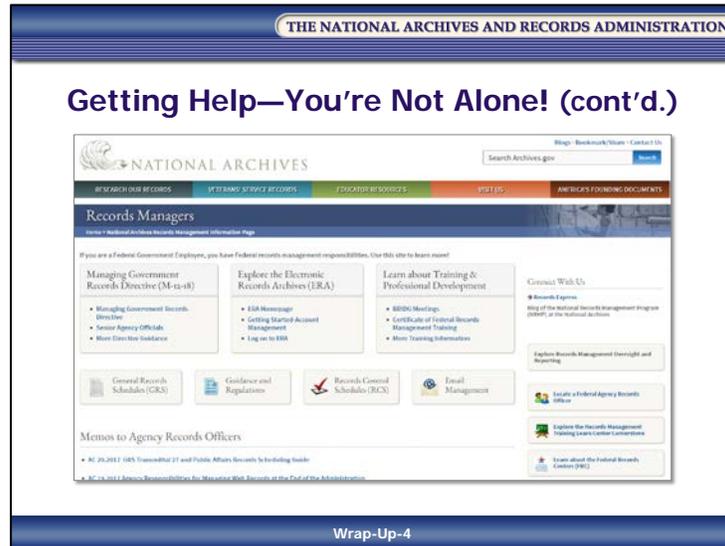
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Slide Wrap-Up-4



- Publications
  - The publications and posters may be downloaded via NARA’s webpages and they can be reproduced as needed. Refer to NARA’s website for publications and posters at <http://www.archives.gov/publications/records-mgmt.html>

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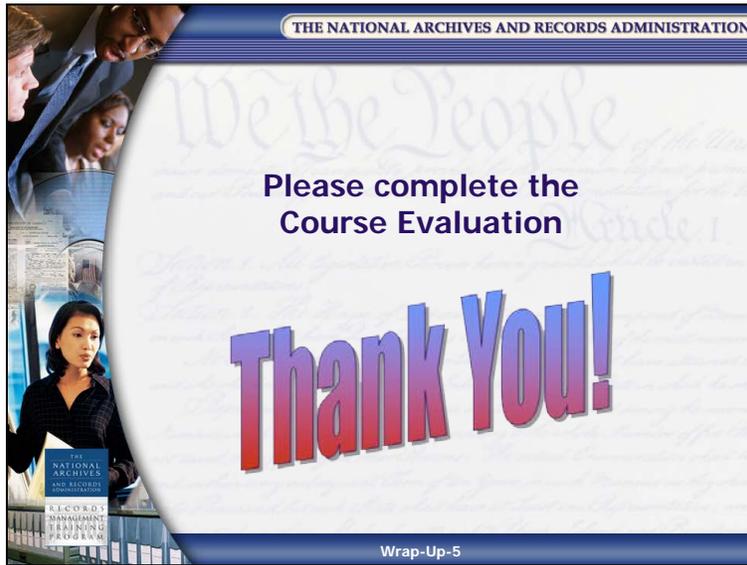
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# Course Evaluation

## Course Evaluation

Slide Wrap-Up-5



Thank you for supporting NARA’s Records Management Program. We value your opinion of our training course. Please take a few minutes to complete the course evaluation once it is available at NARA’s Learning Center: <https://nara.csod.com>. Availability should be no later than 24 hours after the course’s conclusion. Participants must complete and submit their course evaluation in NARA’s Learning Center before they can receive their course certificate.

### NOTES

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