Curation and Preservation Services: Adapting Frameworks and Tools to Enable Sustainable Programs

Dr. Nancy Y McGovern, ACA@UBC Symposium, Feb 2013

Topics

- Community Landscape
- TRAC examples
  - TRAC review framework
  - SafeArchive
  - DIPIR

Community Landscape

Digital Preservation

\+ Data **Curation**

Digital Curation

Digital Curation Centre definition, circa 2004

Community Context

Curation and Preservation are ongoing not new issues to manage

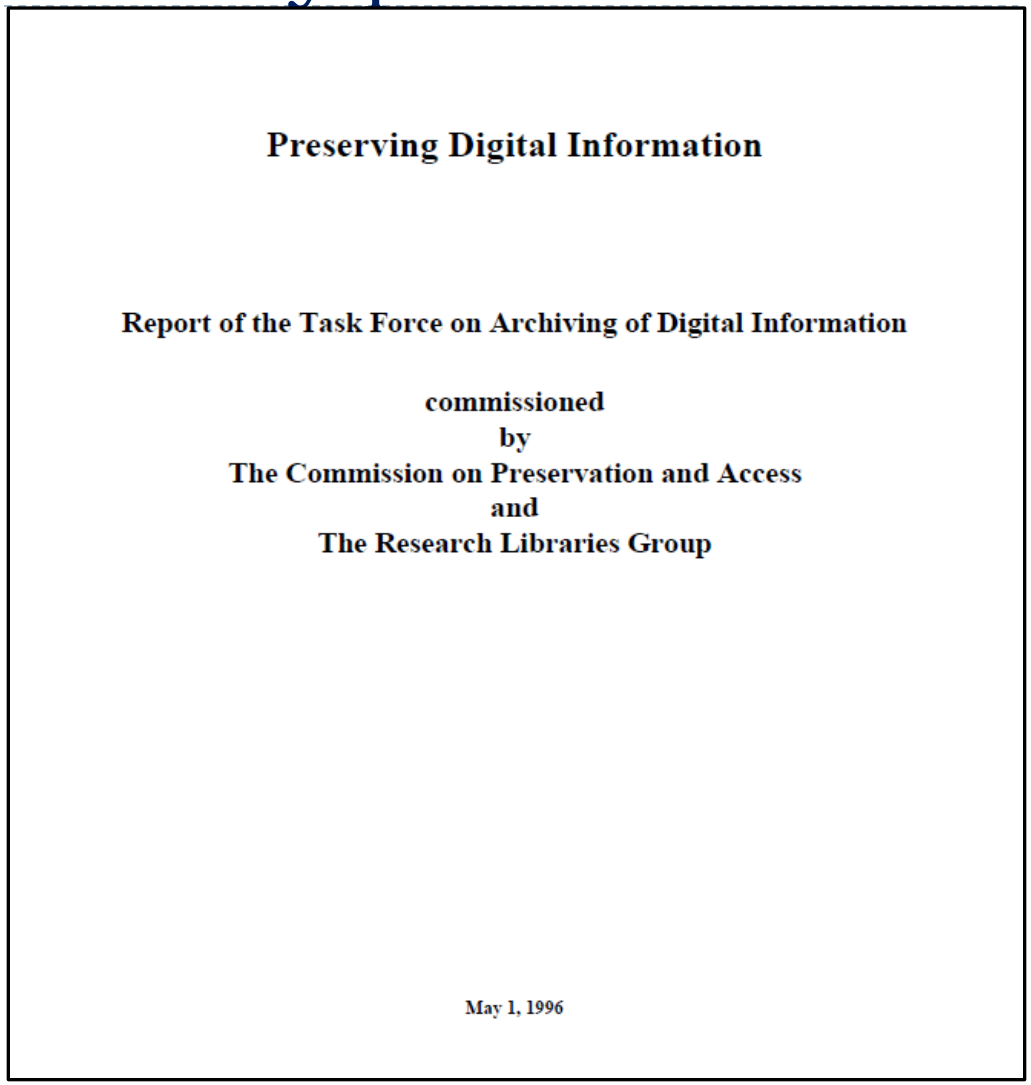
- **1960s**: national archives, data archives
- **1970s**: increasing interest and concern
- **1980s**: digitization developments
- **1990s**: library, museum, Web collections
- **2000s**: digital art, geospatial, e-science…
- **2010s**: research data, analog archives…

variations by nation, domain, size, complexity…

Roots of community practice …

Preserving Digital Information (PDI), 1996

Commission on Preservation and Access & RLG



Preserving Digital Information

Report of the Task Force on Archiving of Digital Information

commissioned
by
The Commission on Preservation and Access
and
The Research Libraries Group

May 1, 1996

Standards and Practice

- **TDR**: Trusted Digital Repositories, 2002
- **OAIS**: Open Archival Information System Reference Model (ISO 14721), 2003 with 2009 pending
- **PAIMAS**: Producer Archive Interface Method Abstract Standard (ISO 20652), 2006 plus update
- NISO Building Good Digital Collections, v3.0 2007
- **PREMIS**: Preservation Metadata Implementation Strategies, 2005 plus updates
- **BRTF**: Blue Ribbon Task Force on Sustainable Preservation and Access, 2010
- **TRAC**: Trustworthy Repositories Audit and Certification, 2007 and ISO 16363: 2012

Trusted Digital Repositories

Characteristics of a TDR:

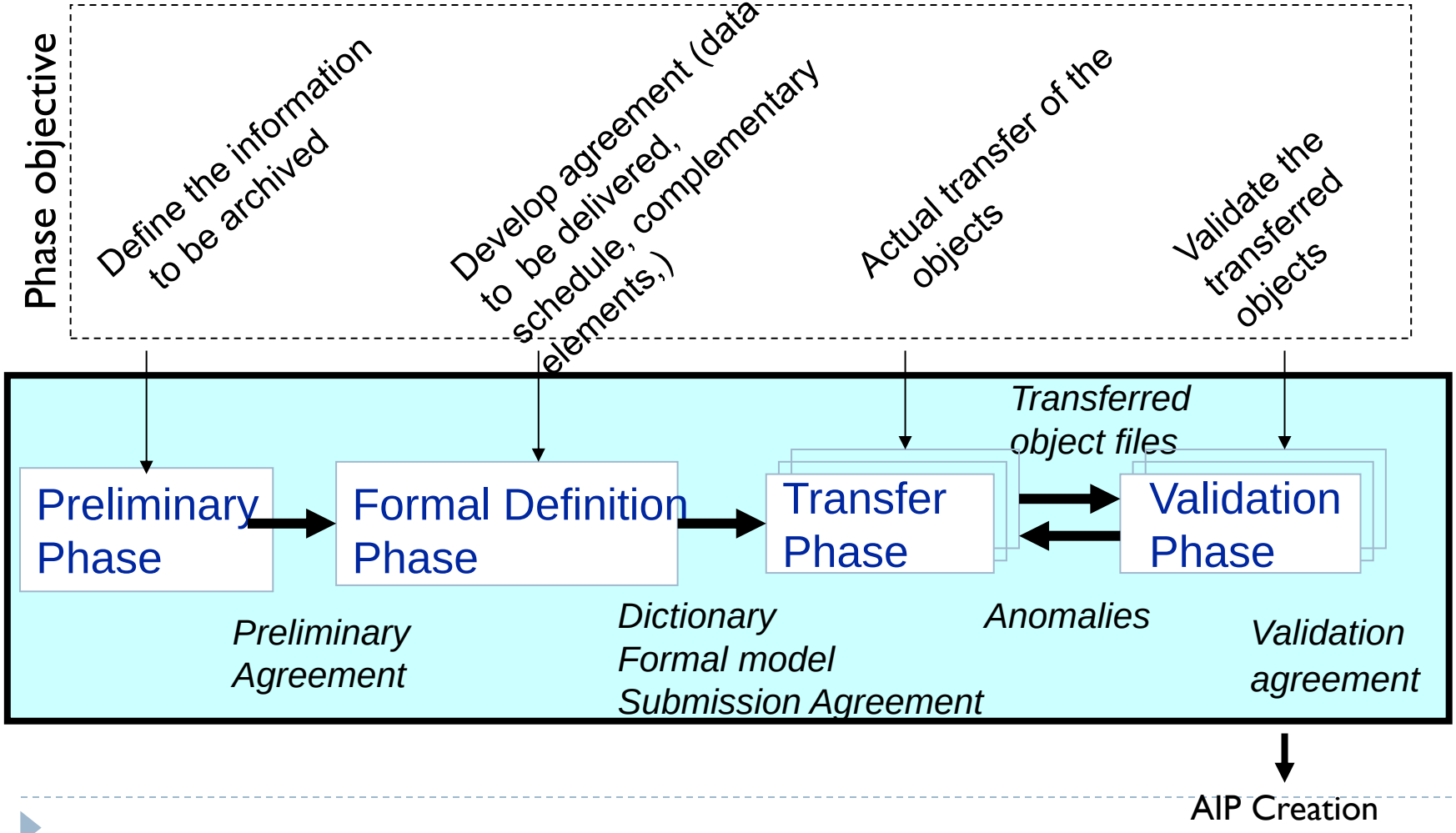
- OAIS Compliance
- Administrative Responsibility
- Organizational Viability
- Financial Sustainability
- Technological and Procedural Suitability
- System Security
- Procedural Accountability

Core OAIS Requirements

- Negotiate for and accept appropriate information from Producers
- Obtain sufficient control of information for Long-term Preservation
- Determine Designated Community
- Ensure information is Independently Understandable to the Designated Community
- Follow documented policies/procedures for preservation against reasonable contingencies
- Make information available to Designated Community … with evidence for Authenticity

Producer Archive Interface Method Abstract Standard (PAIMAS)

OAIS family of standards, approved 2005



TRAC

Audit and Certification of Trustworthy Digital Repositories (ISO 16363:2012)

Builds on:

Trustworthy Repositories Audit & Certification (TRAC): Criteria and Checklist, 2007

Ten Principles

1. Commits to continuing maintenance of digital objects for identified community/communities.
2. Demonstrates organizational fitness (including financial, staffing structure, and processes) to fulfil its commitment.
3. Acquires and maintains requisite contractual and legal rights and fulfils responsibilities.
4. Has an effective and efficient policy framework.
5. Acquires and ingests digital objects based upon stated criteria that correspond to its commitments and capabilities.
6. Maintains/ensures the integrity, authenticity and usability of digital objects it holds over time.
7. Creates and maintains requisite metadata about actions taken on digital objects during preservation as well as the relevant production, access support, and usage process contexts before preservation.
8. Fulfils requisite dissemination requirements.
9. Has a strategic program for preservation planning and action.
10. Has technical infrastructure adequate to continuing maintenance and security of its digital objects. [6]

Sustainable Access

Effective and sustainable DP programs address:

- Value – understand and stress content value
- Roles – identify stakeholders and involve them
- Incentives – identify "carrots" for preserving

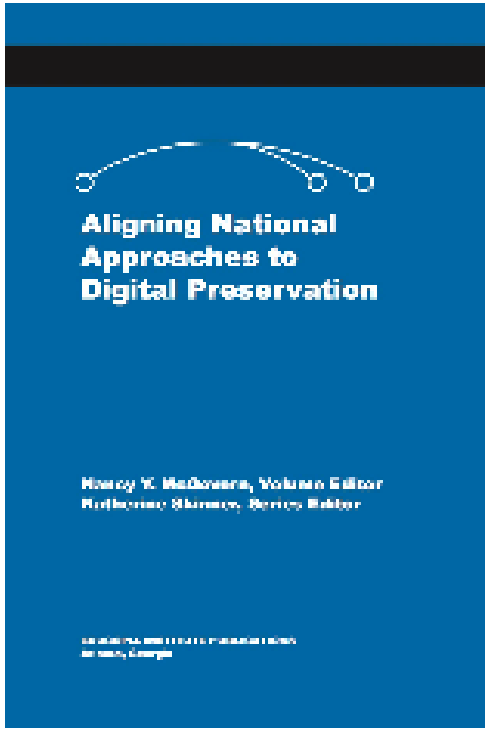
Identify and address costs across life cycle

See: Blue Ribbon Task Force Report on Sustainable Preservation and Access Report

ANADP

Aligning National Approaches to Digital Preservation

- Envisioning an International Community of Practice
- National examples (Estonia, USA, Sweden)
- Alignment aspects:
  - Legal
  - Organizational
  - Standards
  - Technical
  - Resources
  - Education
- Alignment Opportunities (with Cliff Lynch)



ANADP released August 2012
http://www.educopia.org/publications

TRAC Examples

Role of Audit

Benefits of audit (self-assessment):

- Uses checklist for self-assessment
- Includes gap analysis
- Produces development plan
- Provides evidence for stakeholders
- Enables transparency for DP program

Examples of TRAC Review Results

- Formalize policies
- Define roles and responsibilities
- Consider succession planning
- Designate funding
- Rationalize metadata
- Address preservation rights
- Prioritize technical developments

Role of Policies

Benefits of policy development:

- Specifies institutional commitment
- Developing policy builds DP team
- Demonstrates compliance – meet requirements
- Manages expectations – message to stakeholders
- Identifies issues and challenges
- Raises awareness
- Defines roles and responsibilities

Policy Continuum

Organizational

High-level organizational policies

reflect the intentions of the organization

Lower-level organizational policies

document the decisions of the organization

Individual policy statements

regulate the actions of the organization

Encoded policy statements

translate organization's policies into actions

Technological

Trusted Repositories Audit and Certification

This page provides a place for an organization to document its evidence for meeting the requirements of and Certification (TRAC) checklist. A TRAC review is a method to demonstrate good practice and cont designated communities. Responsibilities for TRAC compliance are distributed throughout the organizatic certain responsibilities for each requirement.

Responsibilities: Each entity is assigned a role for each requirement using the RACI responsibility assig participation by various organizational roles in completing tasks for a project. RACI is especially useful in requiring distributed responsibilities. See the Responsibilities for TRAC page for more information on RA committees that have roles in TRAC conformance.

Requirements: Each TRAC requirement has its own page. Sub- and Sub-sub requirements are referred page. Current compliance with TRAC requirements is assessed on a rating system from 0 to 4 (see exam

0=non-compliant
1=slightly compliant
2=half compliant
3=mostly compliant
4=fully compliant

Requirement Status

3.1 Governance and Organizational Viability

	Compliance Rating	Status
3.1.1 Mission Statement	**Slightly Compliant**	Reviewed
3.1.2 Preservation Strategic Plan	**Half Compliant**	Not done
3.1.3 Collection Policy	**Non-Compliant**	Drafted

3.2 Organizational Structure and Staffing

	Compliance Rating	Status
3.2.1 Identified Required Competencies and Appointed Staff	**Non-Compliant**	Not done

TRAC Home Responsibilities Login

Home

3.1 Governance and Organizational Viability

3.1.2 Preservation Strategic Plan

The repository shall have a Preservation Strategic Plan that defines the approach the repository will take in the long-term support of its mission.

For more information

3.1.2.1 The repository shall have an appropriate succession plan, contingency plans, and/or escrow arrangements in place in case the repository ceases to operate or the governing or funding institution substantially changes its scope.
3.1.2.2 The repository shall monitor its organizational environment to determine when to execute its succession plan, contingency plans, and/or escrow arrangements.

Supporting Text

This is necessary in order to help the repository make administrative decisions, shape policies, and allocate resources in order to successfully preserve its holdings.

Examples of Ways the Repository Can Demonstrate It Is Meeting This Requirement

Preservation Strategic Plan; meeting minutes; documentation of administrative decisions which have been made.

Discussion

The strategic plan should be based on the organization's established mission, and on its defined values, vision and goals. Strategic plans typically cover a particular finite time period, normally in the 3-5 year range.

Evidence Examples

This would be examples of possible evidence.

Evidence Provided

Here we list the evidence provided.

Compliance Rating	Status
Half Compliant	**Not done**

TRAC Home Responsibilities Login

Home

3.1.2.1 The repository shall have an appropriate succession plan, contingency plans, and/or escrow arrangements in place in case the repository ceases to operate or the governing or funding institution substantially changes its scope.

Supporting Text

This is necessary in order to preserve the information content entrusted to the repository by handing it on to another custodian in the case that the repository ceases to operate.

Examples of Ways the Repository Can Demonstrate It Is Meeting This Requirement

Written and credible succession and contingency plan(s); explicit and specific statement documenting the intent to ensure continuity of the repository, and the steps taken and to be taken to ensure continuity; escrow of critical code, software, and metadata sufficient to enable reconstitution of the repository and its content in the event of repository failure; escrow and/or reserve funds set aside for contingencies; explicit agreements with successor organizations documenting the measures to be taken to ensure the complete and formal transfer of responsibility for the repository's digital content and related assets, and granting the requisite rights necessary to ensure continuity of the content and repository services.

Discussion

A repository's failure threatens the long-term sustainability of a repository's information content. It is not sufficient for the repository to have an informal plan or policy regarding where its data goes should a failure occur. A formal plan with identified procedures needs to be in place.

Responsibilities

Stakeholder groups are assigned responsibilities using RACI. The RACI Matrix describes participation by various organizational roles in completing tasks for a project. RACI is especially useful in clarifying roles in projects and processes requiring distributed responsibilities.

Definitions of the RACI Categories:

- **Responsible:** person or group who performs an activity or does the work
- **Accountable:** person or group who is ultimately accountable and has Yes/No/Veto
- **Support:** person or group that assists in completing task
- **Consulted:** person or group that needs to feedback and contribute to the activity
- **Informed:** person or group that needs to know of the decision or action

Note for clarification: Resources are allocated to *Responsible* who gets input from *Consulted,* assistance from *Support,* and guidance from *Accountable*. For more about RACI, see the following resources:

- RACI model | RACI chart | RACI method
- Wikipedia, Responsibility Assignment Matrix
- Accountability: Great Info On The RASCI / RACI Matrix
- How to Do RACI Charting and Analysis

The list below consists of the stakeholder groups that have a role to play in TRAC compliance. TRAC roles and responsibilities are enumerated.

- Senior Management
- Coordination Group
- Operations Group
- Information Technology
- Administration: Finance or HR
- Acquisitions
- Preservation
- Dissemination
- Rights Management
- External Advisory Group

TRAC Home Responsibilities Login

Home

Senior Management

This page consists of a RACI chart to assist in assigning and tracking the responsibilities in regards to TRAC compliance. See the Responsibilities for TRAC for an outline of roles included in the following RACI chart. For additional guidance, please also see the Suggestions for Performing Assigned Roles page.

Responsible

3.1.2 Preservation Strategic Plan
3.1.3 Collection Policy

Accountable

3.1.1 Mission Statement
3.2.1 Identified Required Competencies and Appointed Staff

Support

Consulted

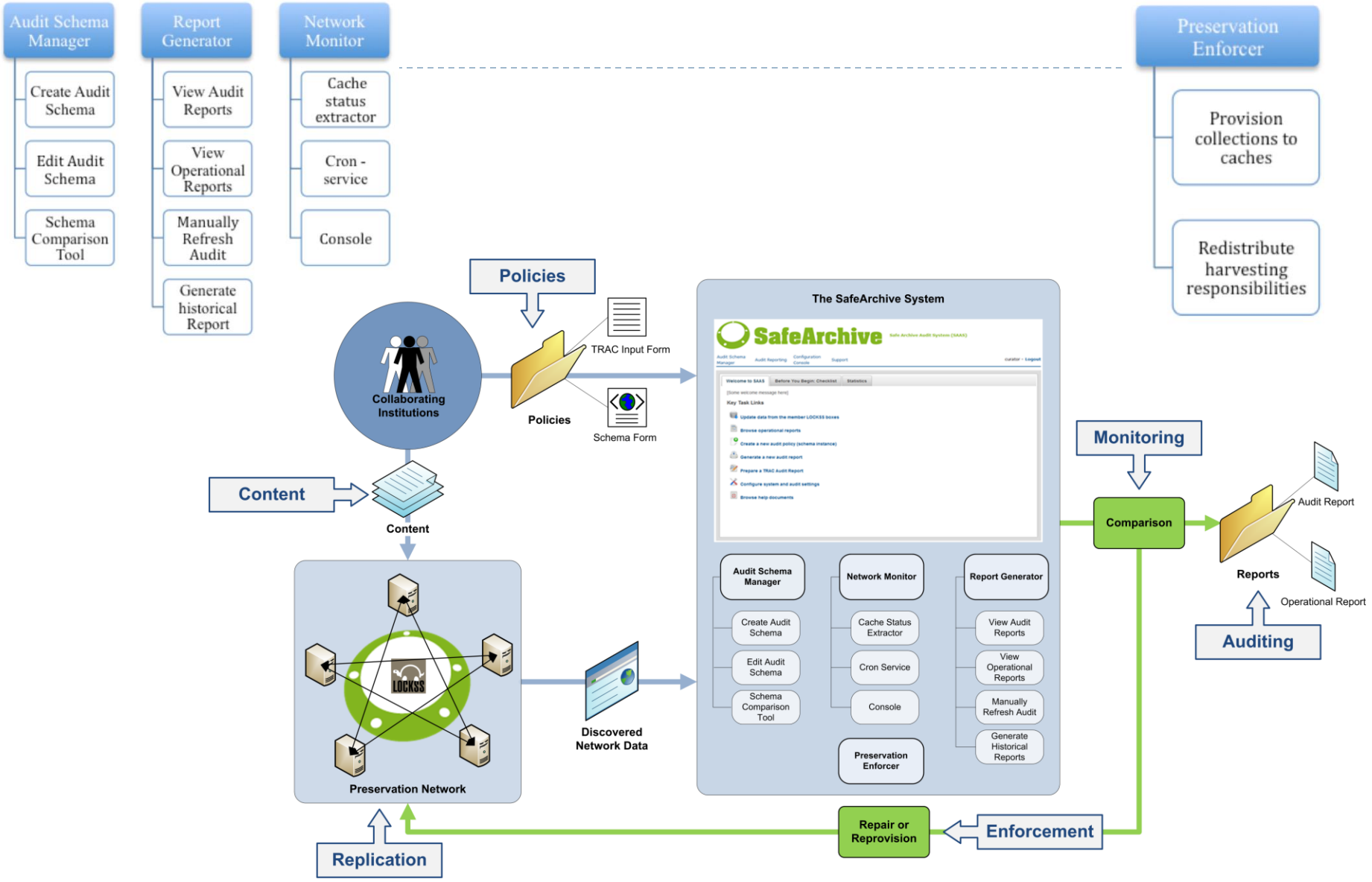
Informed

If you have trouble accessing this page and need to request an alternate format, please contact Nance McGovern.

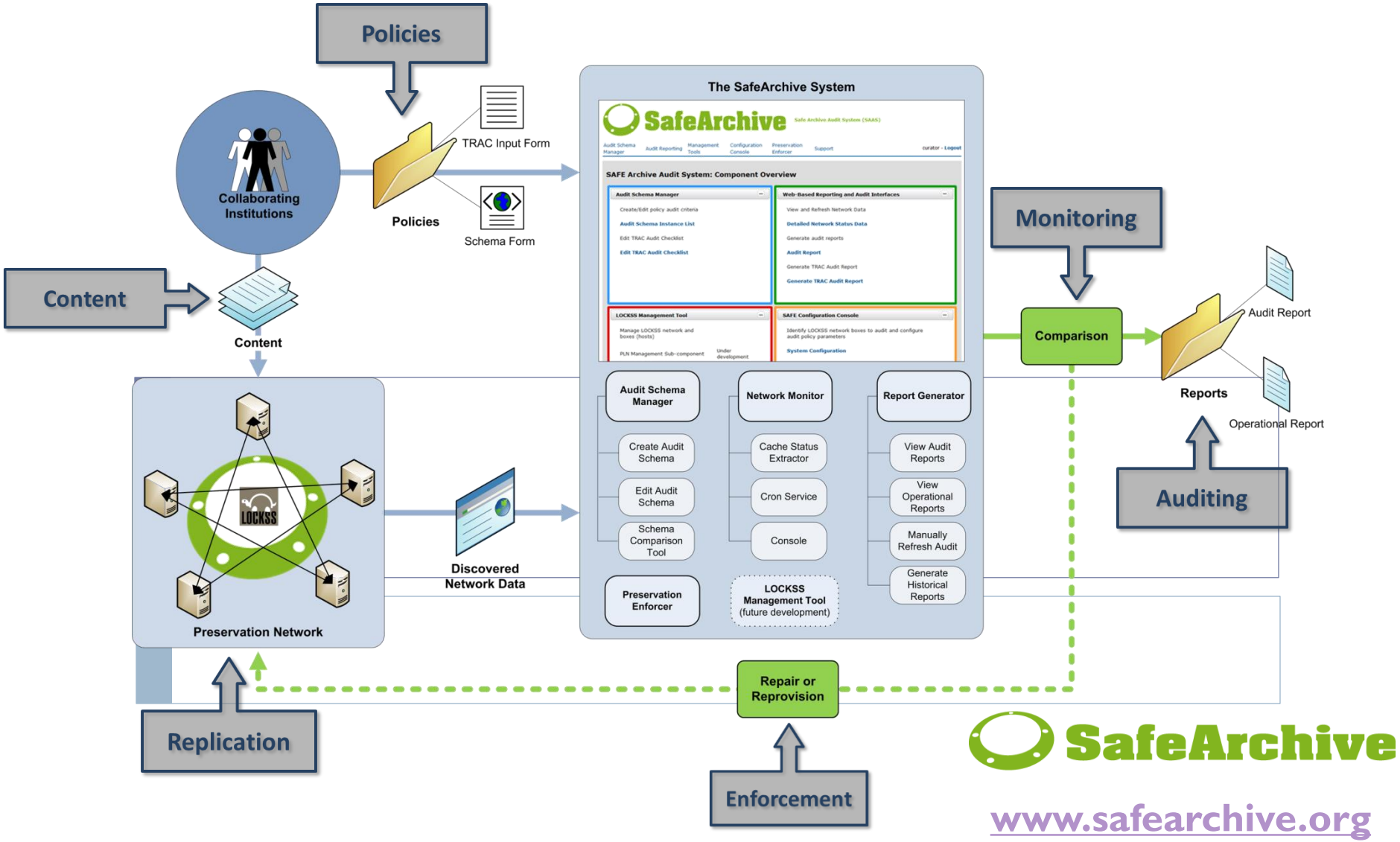
SafeArchive in Action

safearchive.org

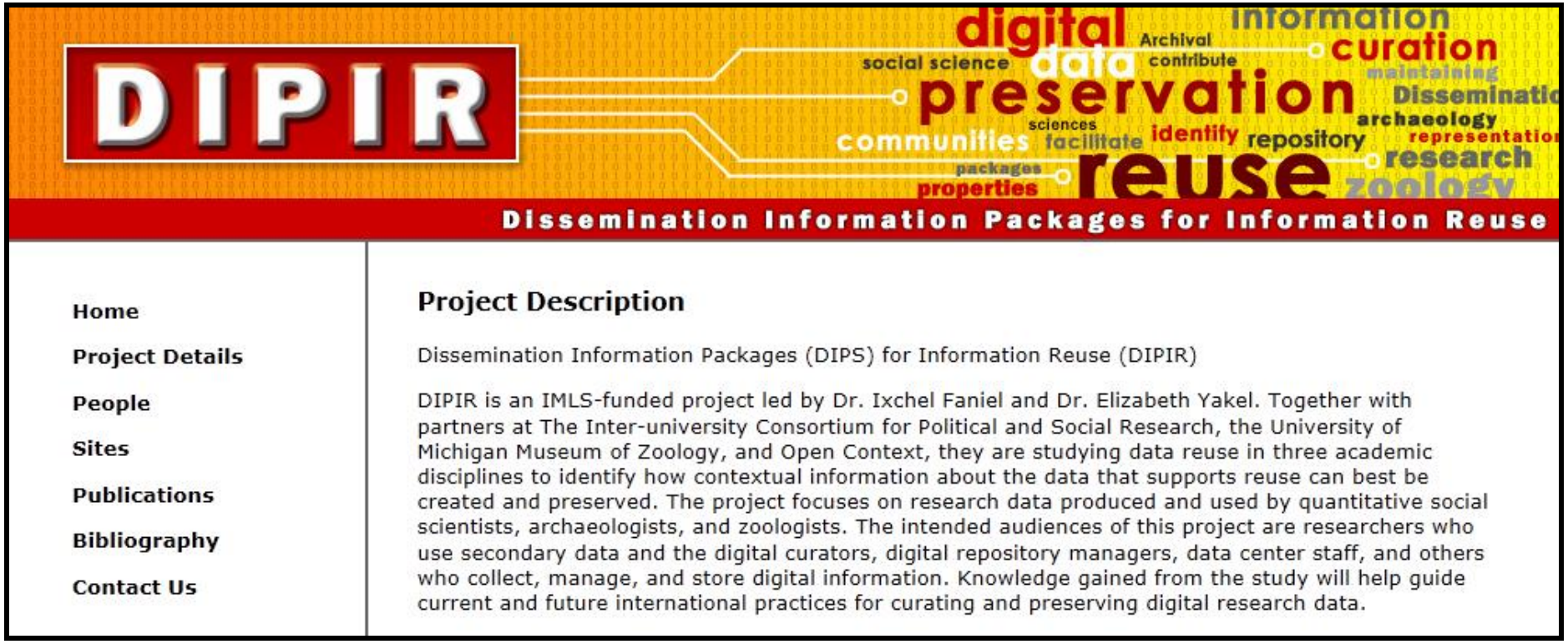
SafeArchive Components



Implementation



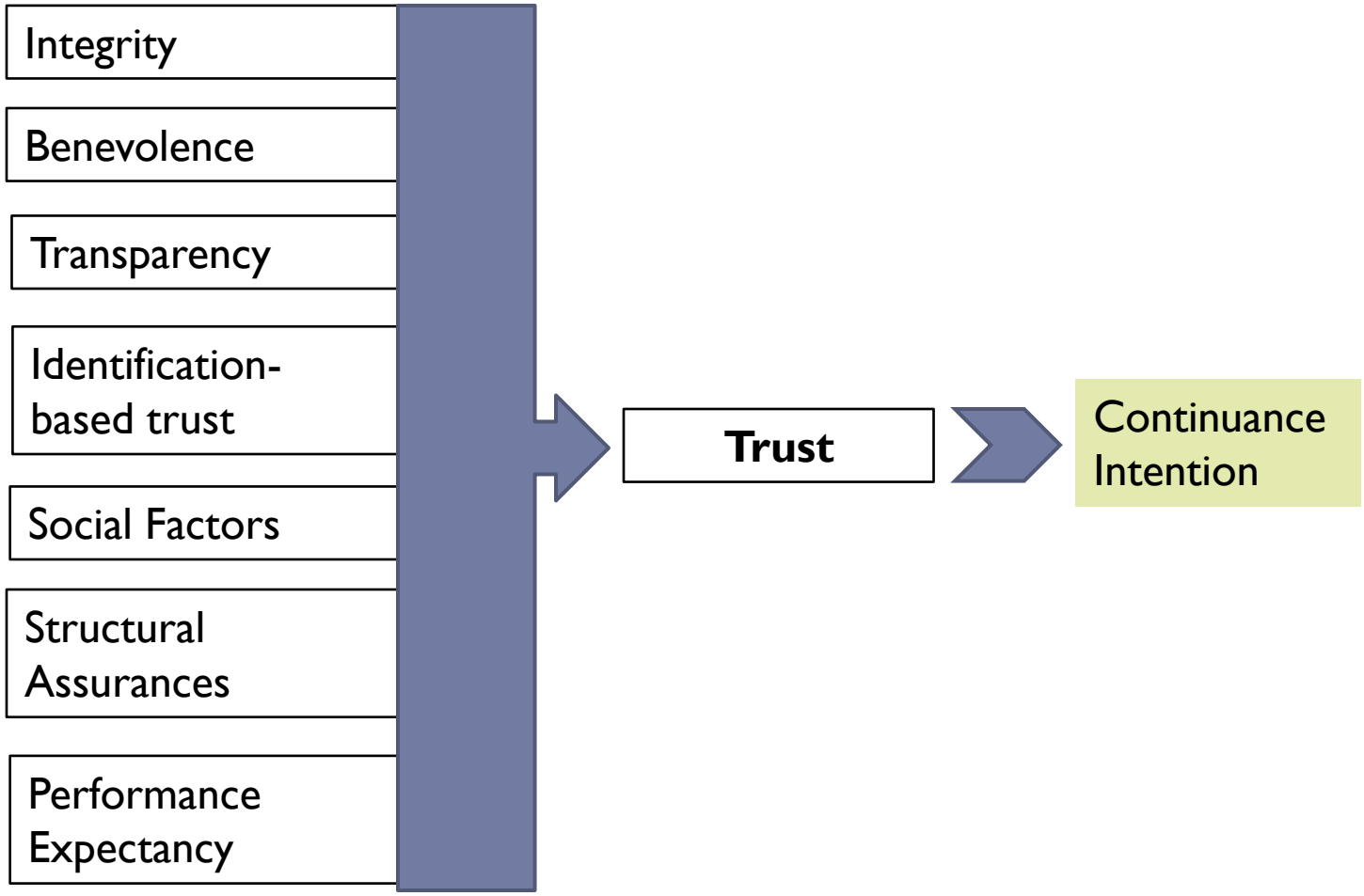
dipir.org


DIPIR
digital
Archival
information
curation
social science
data
contribute
maintaining
preservation
Disseminatio
archaeology
sciences
communities
facilitate
identify
repository
representatio
research
packages
properties
reuse
zoology
Dissemination Information Packages for Information Reuse
Home
Project Details
People
Sites
Publications
Bibliography
Contact Us
Project Description
Dissemination Information Packages (DIPS) for Information Reuse (DIPIR)
DIPIR is an IMLS-funded project led by Dr. Ixchel Faniel and Dr. Elizabeth Yakel. Together with partners at The Inter-university Consortium for Political and Social Research, the University of Michigan Museum of Zoology, and Open Context, they are studying data reuse in three academic disciplines to identify how contextual information about the data that supports reuse can best be created and preserved. The project focuses on research data produced and used by quantitative social scientists, archaeologists, and zoologists. The intended audiences of this project are researchers who use secondary data and the digital curators, digital repository managers, data center staff, and others who collect, manage, and store digital information. Knowledge gained from the study will help guide current and future international practices for curating and preserving digital research data.

DIPIR

- Reverse engineered TRAC to develop social science domain survey instrument
  - In what ways might consumers be aware of TRAC?
  - To what extent might it matter?
  - How might their awareness affect (re)use?
- Use of terms across domains:
  - Data, metadata, use, re-use…

Repository Trust Concepts



DIPIR: How often interviewees mentioned Trust Factors

Concepts	Archaeologists (22)	Quantitative Social Scientists (44)	All (66)
Stakeholder Trust in the Organization			
Benevolence	0	1	1
Identification	1	1	2
Integrity	1	1	2
Transparency	**5**	**5**	10
Social Factors			
Colleagues	1	**7**	8
Structural Assurance			
Guarantees: Preservation/Sustainability	**9**	1	10
Institutional reputation	4	**23**	27
Third Party Endorsement	0	1	1

Sustainable Programs

- Enabled by standards-based frameworks
- Demonstrate good practice
- Document decisions and resulting actions
- Devise cost-effective strategies
- Maintain relevant skills
- Monitor changing technological landscape
- Respond to evolving requirements
- Contribute to community efforts