Defining Your Research Enterprise AI Strategy

Sonia Singh, Managing Director, Huron Consulting Group
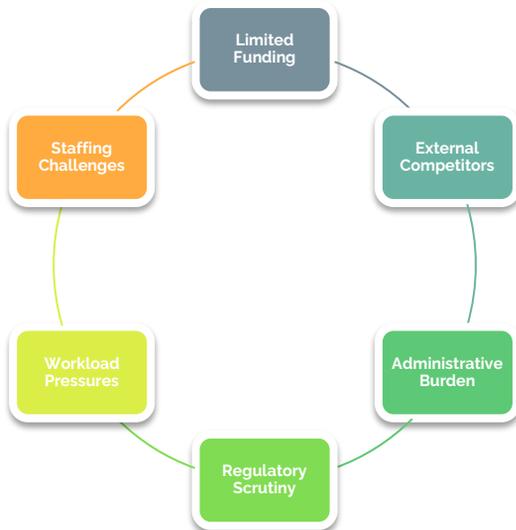Chris Steele, Senior Director, Huron Consulting Group

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Agenda

1. The What and the Why: Understanding the AI Landscape in Research

2. The Impact: Benefits of AI Governance

3. The Process and Approach: Building an AI Strategy

The What and the Why: Understanding the AI Landscape in Research

The AI Landscape in Research

As research institutions face **financial and regulatory pressures**, **workload demands**, **staffing challenges**, and **increased competition**, AI has become a transformative force to revolutionize the conduct of research, enhance the management of research portfolios, and optimize administrator workloads.

Limited Funding

Staffing Challenges

External Competitors

Workload Pressures

Administrative Burden

Regulatory Scrutiny

Institutions are at different places in their AI journeys. These stages may include:

- None or limited use/exposure to AI
- Novice users for personal or small work tasks
- Enterprise provided resources to reference for individual use
- Enterprise approach with AI integrated into institutional processes

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AI in Strategic Planning for Research

Research institutions need to adapt to learn to do 'more with less' while remaining competitive. AI can help with:

- Efficiency gains
- Compliance enhancements
- Basic administrative tasks
- And more!

To stay competitive amidst the rapid advancements in intelligent automation, it's crucial to develop a strategic AI plan. This plan should focus on:

- Governance
- Upholding security and privacy
- Identifying and prioritizing innovative ideas across the research enterprise
- Maintaining a competitive edge in your research enterprise
- Defining what ROI means for the research enterprise
- Effective implementation

AI in Research: Trends and Funding Insights

Nearly 80% of readers surveyed by the journal *Nature* have used AI tools or chatbots.[1]

27% use AI to brainstorm research ideas

Federal funding for AI related research is likely to increase.[2,3]

The NIH is investing $130M to accelerate AI use

65% of respondents in a 2024 McKinsey survey reported that their organizations regularly use Gen AI. [4]

That's a nearly 50% increase from 2023

The NSF plans to establish 7 new National Artificial Intelligence Research Institutes.[5]

NSF will invest $140M to establish the institutes

1. How Nature readers are using ChatGPT | Nature
2. NIH launches Bridge2AI program to expand the use of artificial intelligence in biomedical and behavioral research | National Institutes of Health (NIH)
3. https://www.hhs.gov/about/news/2024/05/13/hhs-announces-leap-health-special-emphasis-notice-ai-behavioral-health-focused-projects-fiscal-year-2024.html
4. The state of AI in early 2024 | McKinsey
5. NSF announces 7 new National Artificial Intelligence Research Institutes | NSF - National Science Foundation

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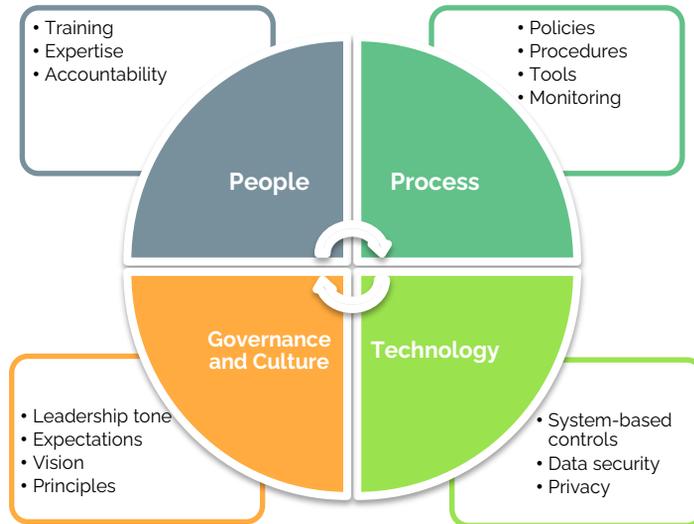# How is your organization using AI?

1. Are you using AI for research administration? If so, in what areas?

2. What governance structures are in place for AI usage?

3. Who is responsible for making decisions about the use of AI?

4. What processes are followed to determine the use of AI?

5. Is there coordination across units/functions on the use of AI?

The Impact: Benefits of AI Governance

Organizational Impact

An effective AI strategy requires organizational governance to help put processes and technology into place supported by well-trained teams and an organizational culture of continuous improvement.

- Training
- Expertise
- Accountability

People

- Policies
- Procedures
- Tools
- Monitoring

Process

Governance and Culture

- Leadership tone
- Expectations
- Vision
- Principles

Technology

- System-based controls
- Data security
- Privacy

Balancing Needs to Drive Decision Making

An organization's **culture**, **strategic priorities**, **institutional mission and values** serve as guides for AI strategic plan development. AI programs generally seek to balance data security, ethical considerations, efficiency, and compliance.

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Why You Need AI Governance

Responsibility and accountability for AI systems is needed to uphold ethical standards, comply with institutional and regulatory requirements, and establish mechanisms to promote accountability.

- **Alignment with Organizational Values:** Ensuring AI usage reflects your organizations strategic goals, core values, and ethical standards.

- **Guardrails for Safe and Ethical Use:** Mitigating risks such as data exposure, intellectual property issues, and bias by providing clear guidelines.

- **Direction Setting:** Offering clear expectations, roles and responsibilities, and a research environment conducive to innovation with AI.

Governance Responsibilities

Strategic Oversight and Policy Development

- Define and **align AI governance, vision, and goals** with institutional strategy.
- **Develop and enforce AI policies**, ensuring regulatory and ethical compliance.

Project and Risk Management

- Establish **criteria and processes for approving significant AI projects.**
- **Evaluate the impact of AI projects** on stakeholders and organizational outcomes.

Education and Stakeholder Engagement

- Promote **awareness of AI** principles and practices throughout the organization.
- **Communicate the organization's commitment to AI** to stakeholders.

Continuous Improvement

- **Monitor, evaluate, and update the AI principles and goals** to adapt to changing circumstances and emerging technologies
- **Stay informed** about the latest AI developments and best practices

The Process and Approach: Building an AI Strategy

Establishing Governance

Questions that may help guide the conversation include:

- Which groups or individuals should be responsible for key pieces of the AI lifecycle?

- How often should governance structure groups meet?

- What laws or regulations do we need to comply with?

- What is AI capable of doing for our organization?

- What are the biggest benefits of AI for our organization?

- Should training be required for all personnel or limited to certain groups?

- What degree of support should be provided to organizational units?

- How should the institution budget for infrastructure needed to support AI?

- How will we measure the impact of AI?

What does this look like in practice?

Convene a committee with diverse representation across your organization

Establish a decision-making framework

Identify guardrails and goals

Imagine
- Think about potential use cases
- Consider the feasibility of potential use cases

Assess
- Consider the value to the institution
- Evaluate technical/functional feasibility
- Assess potential risks

Prioritize
- Engage with stakeholders
- Prioritize which initiatives or tasks to implement
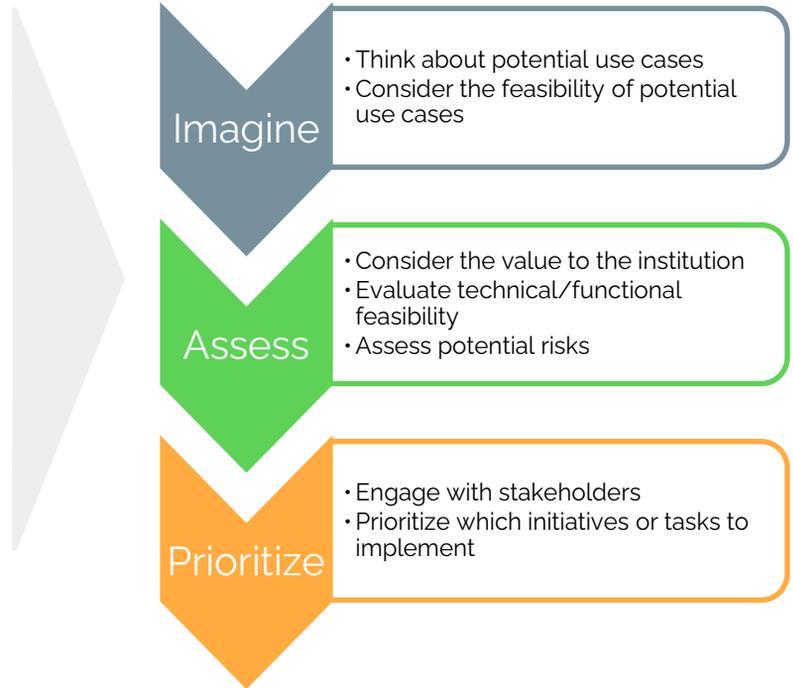
Building an AI Strategy

Now that we know the questions to ask and the people and processes involved, how do we get the ball rolling and start building an enterprise AI strategy?

Leadership Buy-In	Needs and Priorities Assessment	Stakeholder Inclusion and Communication	Process and System Updates	Training and Communication	Monitoring and Evaluation
➢Strategic plan alignment ➢AI governance leadership	➢Prioritization of AI initiatives	➢Clear communication channels ➢Faculty inclusion	➢New policy and procedure implementation ➢Data security and privacy safeguards	➢Educate and inform ➢DEI-aligned communication	➢Regularly assess ➢Apply best practices

Addressing Risks and Challenges

Compliance

- Establish and implement mechanisms for monitoring and auditing processes
- Assign clearly defined roles and responsibilities for all stakeholders involved in AI lifecycle.
- Ensure that guidelines adhere to applicable laws and regulations.
- Define accountability measures to address legal issues.

Ethics

- Engage with diverse stakeholders.
- Conduct bias audits and testing, implement bias mitigation techniques, evaluate performance across diverse groups.
- Prioritize human oversight and control.
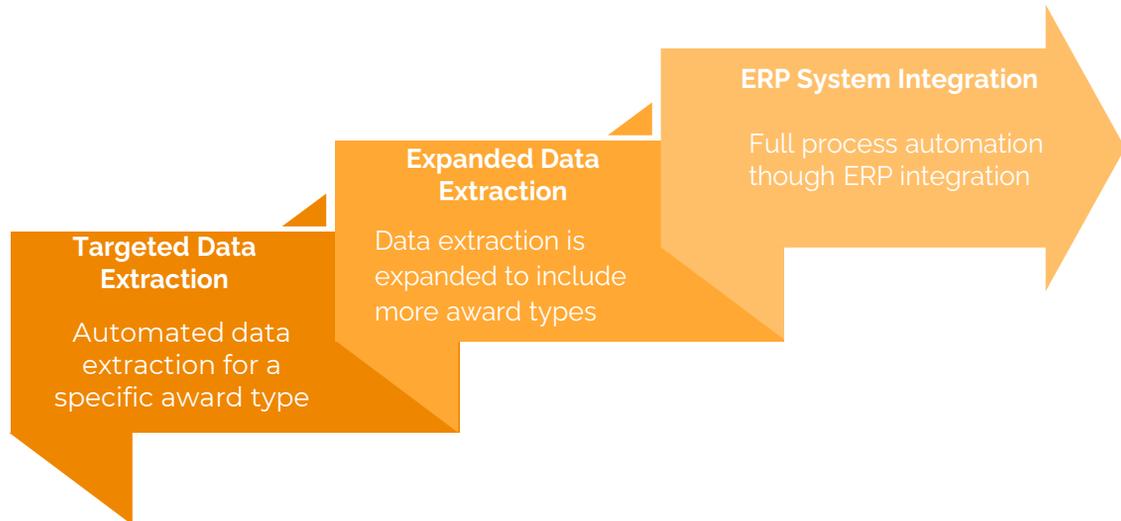- Develop systems that support, not replace, human abilities.

Data Security

- Establish strong protocols to protect sensitive information from unauthorized access, breaches, and other security threats.
- Collect only the minimum data necessary for use in AI systems.

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AI Solution Delivery: An Iterative Approach

Phased improvements over time, rather than full automation at the start, allows for incremental gains, risk mitigation, and better alignment with operational needs.

Using Gen AI for award setup as an example, an iterative approach could look like this:

ERP System Integration

Full process automation though ERP integration

Expanded Data Extraction

Data extraction is expanded to include more award types

Targeted Data Extraction

Automated data extraction for a specific award type

Use Case: Generative AI for Award Setup

Problem

- Reviewing and interpreting information is a manual and time-consuming process
- Award notice content can vary by sponsor and award type
- Manual review can be inconsistent
- Staff turnover and administrative burden

Solution

- A large language model (LLM) trained to understand award notices from a wide variety of sponsors and extract and summarize the key information

Results

- Ability to quickly access and synthesize award notices to understand budgets, award characteristics, and restrictions
- Research administrators have more time to spend reviewing complex or high-risk awards

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Use Case: Generative AI for Coverage Analysis

Problem

- Reviewing and interpreting clinical trial protocols to determine how to bill for services and procedures is a manual and time-consuming process
- Manual review can be inconsistent
- Billing must be compliant with payer requirements

Solution

- An LLM that can extract and contextualize data from multiple documents in minutes
- Facilitates 50 or more prompts in a single session to ask questions to multiple documents and extract only the relevant information

Results

- Insights are delivered in a fraction of the time it would take for manual review
- Elimination of human errors
- Increased staff capacity for higher value tasks

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Getting Started at Your Organization

Identify Key Stakeholders

- Engage leaders involved in developing policies, strategies, and guidelines for your organization's research infrastructure

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Develop Consensus

- Build a shared understanding of AI capabilities and limitations

2

Evaluate Challenges and Opportunities

- Identify where AI could make a significant impact and prioritize implementation.

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