



# Managing Knowledge People

DOI BLM & USDA FWS KM Conference

Dr. Edward W. Rogers

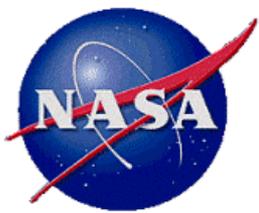
July 28, 2004



# Challenges for Managing Knowledge People

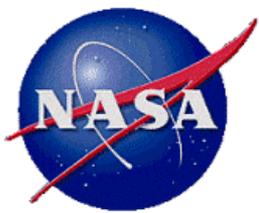


- Knowledge is a Hosted Resource
  - Knowledge is Attached to Humans
  - Human Attachment Makes it Valuable
- IT Driven Solutions Cause as Much Damage as they Help: Especially Early
  - Separating the Host from the Knowledge
    - Corporate Learning at the Expense of Individual
    - Devalues the individual, devalues the knowledge



# What is a Lesson Learned?

- Depends how you ask the question
  - What did we learn from Afghanistan?
  - What did we learn from refueling?
  - What did we learn about dust?
- Technological
- Tactical
- Operational
- Strategic



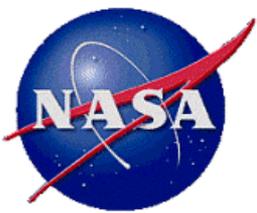
# Why Do People Want to Learn

- To learn a skill or fact: Training
  - To solve a problem: Knowledge Query
  - To satisfy curiosity: Knowledge Browser
  - To make connections: Inventor
- 
- Where do the big insights come from?
    - Inventions: New Knowledge Creation
  - Why do people want to work at NASA?
    - Opportunity to make knowledge connections



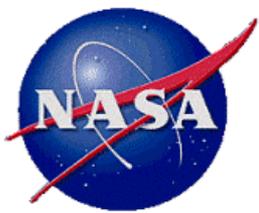
# Knowledge Value

	Tacit	Explicit
Content Rich	Embedded Know-how	Best Practices & Procedures
Valid & Authoritative	Deep Exp Wisdom	Directives & Policy Guides



# Conceptual Learning

- Conceptual Learning Theory has taught us that people learn by association
- People engage in active learning when they experience an Expectation Failure
  - Something doesn't go according to plan
  - Patterns are violated: Loss of contact
  - Out of touch with reality: On the Train



# Knowledge Bits: Association

---

- Bird
- Bird Brain
- Bird Brain Research
- Bird Brain Research Fraud
- Bird Brain Research Fraud Investigated

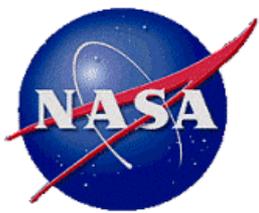


# The KM Challenge

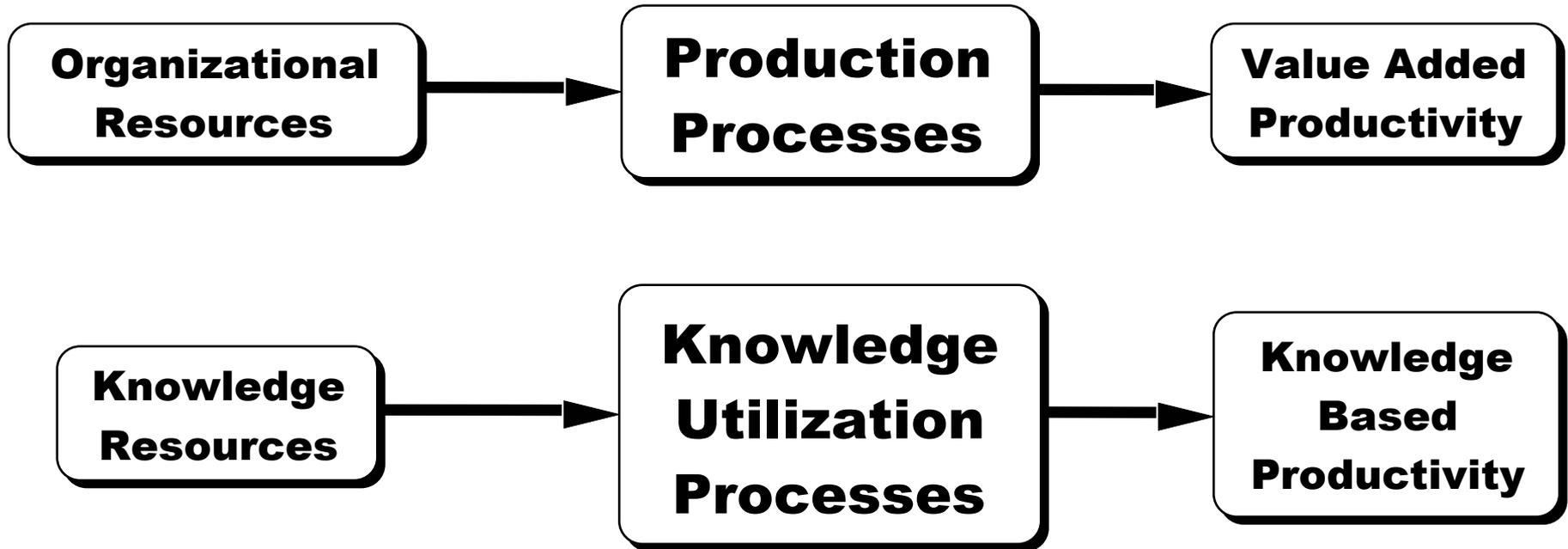
NASA is constantly challenged  
to capture and integrate our lessons learned  
**to effectively manage the risk**  
involved in space exploration

“The Administration will adopt information technology systems to capture some of the knowledge and skills of retiring employees. Knowledge management systems are just one part of an effective strategy that will help generate, capture and disseminate knowledge and information that is relevant to the organization’s mission.”

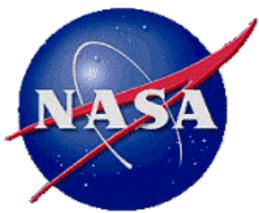
The President’s Management Agenda



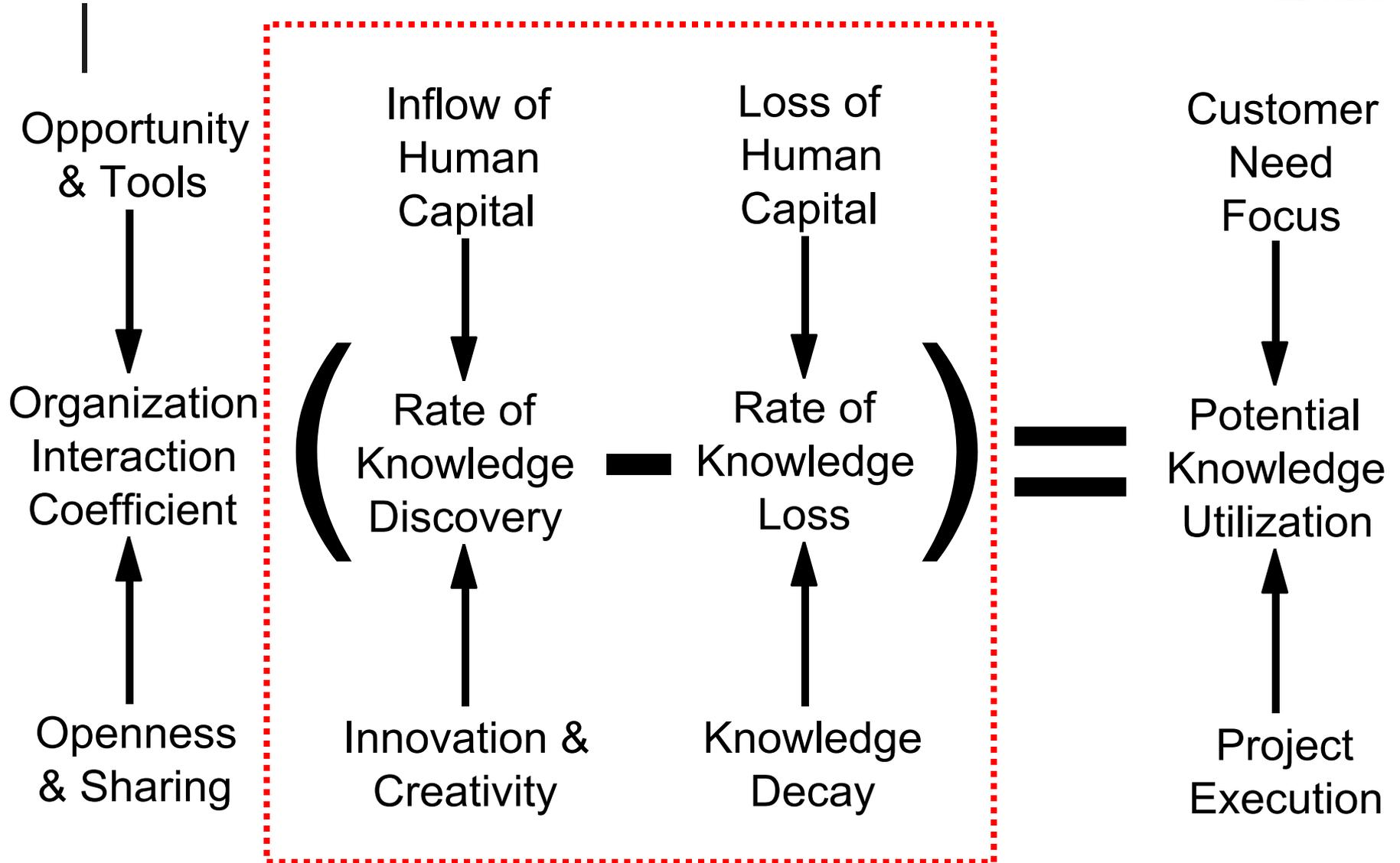
# Knowledge Based Organization



Grant, Liebeskind, Appleyard, Bierly & Chakrabarti (SMJ, 1996)

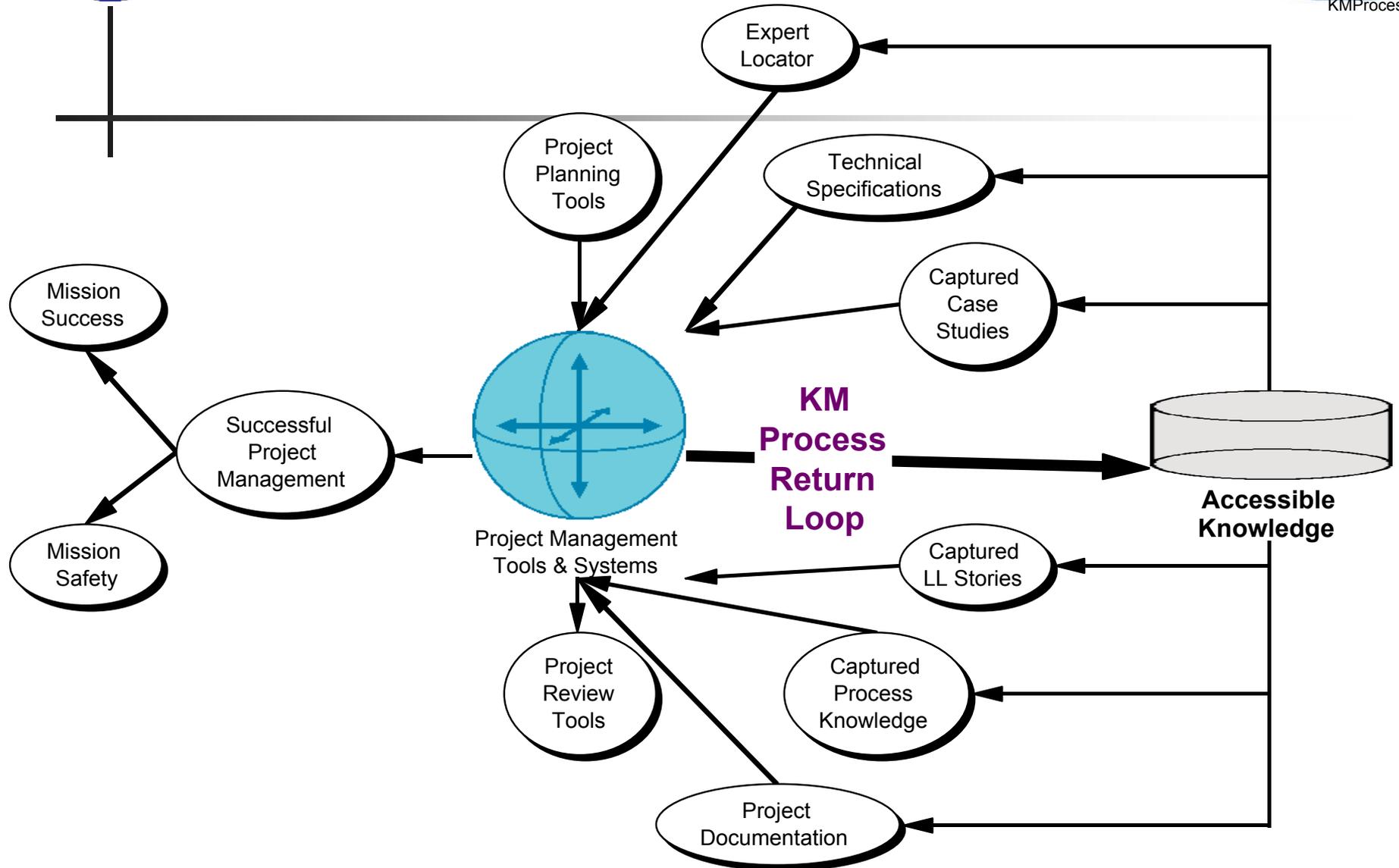


# The Knowledge Function





# KM Knowledge Return Loop





# What is Knowledge Management?



Knowledge Management is simply doing things to apply knowledge in better ways than might happen without any management effort: In other words increasing **KNOWLEDGE UTILIZATION.**



# Perceptions of Knowledge

- People as an input variable
- Perceptions filled with noise

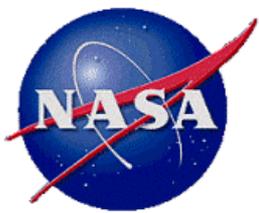
Personal Knowledge Strategies are Determined by Organizational Members' Implicit Theory of Knowledge Utilization.



# Open-Sharing Environment

---

- What creates an open sharing environment?
  - What shows people what to share?
  - What equips people how to share?
  - What motivates people why to share?



# Organizational Depth Perception



**If people have a good grasp of what the organization is all about they will be more likely to openly share and communicate with each other.**

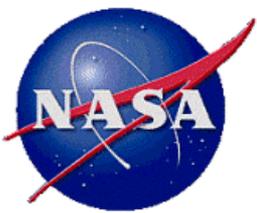
**I can see how what I know matters to others.**



# Communication Satisfaction

**If people are satisfied with the communication systems and processes in place they will be more likely to openly share and communicate with each other.**

I am hearing the whole story, and if I take the time to speak something happens.



# Employment Game Score

---

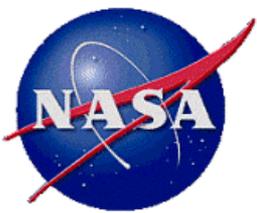
**If people perceive the organizational employment game to be winnable they will be more likely to openly share and communicate with each other.**

**If I work hard, I will be rewarded & recognized.**



# What is KM Success?

- Increase in Knowledge Utilization
  - More Efficient Discovery Processes
  - Faster Discovery Processes
- Increase in Mission Safety & Assurance
  - Better Identification & Mitigation of Risks
  - Rapid Incorporation of New Knowledge
- Increase in GSFC Core Competencies
  - Leverages Expert Knowledge More Effectively
  - Builds New Expertise More Rapidly



# GSFC KM Architecture



## Strategic Goals

Generate, communicate, & share knowledge internally and externally

Ensure a vital workforce and promote human capital.

## KM Goals

Generate and share knowledge to stimulate innovation and achieve mission success

Improve productivity, by embedding KM processes into daily work activities

Increase collaboration for expanding partnerships and generating new work

Increase a sense of community to retain and fully engage all of the workforce.

## KM Architecture

Systematically record critical knowledge

Create a unified knowledge network to find knowledge.

Build & nurture a knowledge sharing culture

## KM Components

1. Building Center Document Management and Archiving Process
2. Connecting Center Knowledge Bases with Search and Index Capability
3. Establishing partners at Universities to build at the leading edge of tools and processes
4. Building Forums to Share Knowledge on-line, real time and across projects
5. Equipping project personnel with KM skills and tools



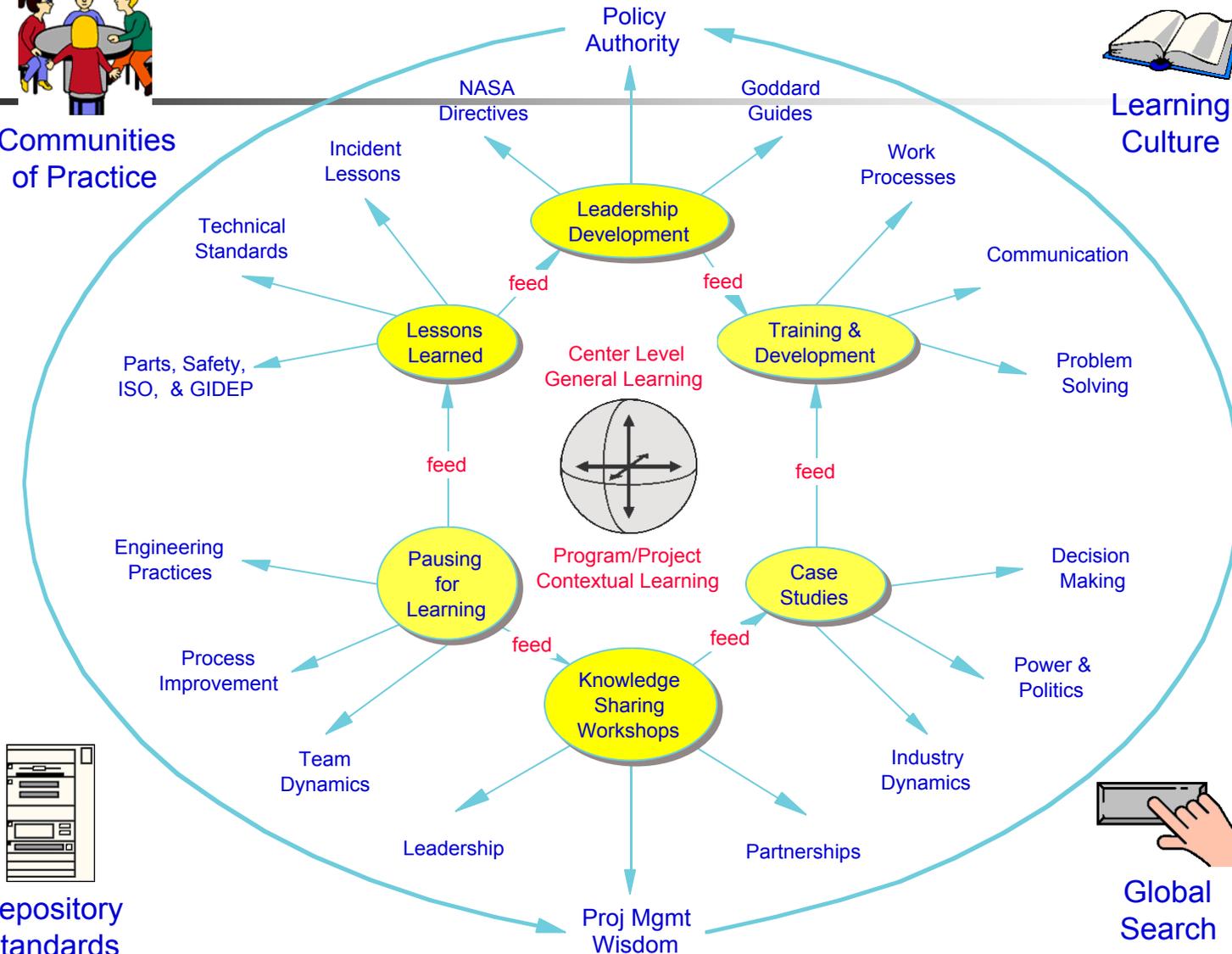
# The Goddard Open Learning Design



Communities of Practice



Learning Culture





# GSFC KM Activities

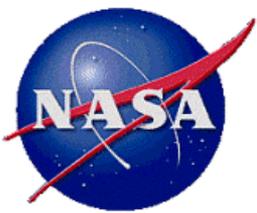
- Pausing for Learning
  - In the Project Teams
  - Their own learning and growth
- Knowledge Sharing Workshops
  - No Recording, No Slides, Just TALK
  - Models Sharing Behavior
- Case Stories and Case Studies
  - Management Sharing Stories (walking talk)
  - Studies to Engage Emerging Leaders



# KM Support Activities

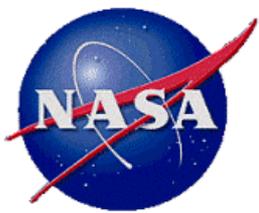
---

- Building Standards for Repositories
- Developing the Global Search
- Building a Learning Culture
- Encouraging Communities of Practice



# Communities of Practice

- Originally a “Description” of how people actually solved workplace problems
  - They functioned like a community
  - Shared ideas for mutual benefit
  - Used informal communication channels



# Learning Theory & CoP

- Expectation Failure
  - Pattern Association
  - Perception: (train insanity)
- Passengers in compartment instantly become friends – smiling at each other
  - Common problem makes them a community for a moment
  - Smile helps bring them back to reality
- Imagine a group of psychiatrists?



# Lessons on Forming Communities of Practice



- Dead Ends with KM
  - Automating Human Thinking
  - Force Formulation of CoP
    - Assigning People to Families?
    - Creating Artificial Reasons to Care
- Naturally Occurring
  - Project teams, Dept. Professional
  - Tools can help overcome barriers



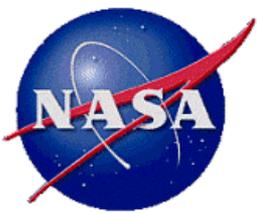
# Helping CoP

- Tools
  - Help people come together
    - Not the reason, but make it easier
  - Help maintain viability and function
    - Facilitate getting their problems solved
  - Help sustain membership growth
    - Marketing to non-members



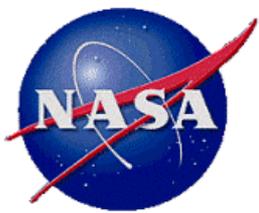
# What Makes a CoP?

- Common Problem to Solve
- Communication Channels
- Counter Culture (Unofficial Lines)
  - A Place to Experiment with Work Arounds
  - Where the Rules Don't Apply
- Cross Organizational Boundaries
  - Physical, Political and Social



# CoP's Already Exist

- How can you help them?
  - Recognition
  - Tools
  - Resources (difficult to deliver to a group)
- How can you encourage them where they may be lacking (areas, boundaries)
- Should you promote, sanction, graduate them to official structure or status?



# Types of Orgs for CoPs

- Decentralized Distributed Orgs
  - Not aware of others with same problems
  - How to communicate with others (distant)
- Centralized Hierarchical Orgs
  - Out of touch with customers
  - Too narrowly focused on functional role
- Matrixed Orgs
  - Project team is default CoP
  - How to go 'off line' to work? Always on line



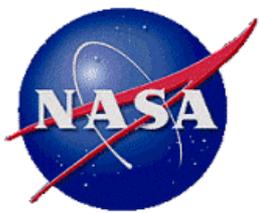
# Examples of CoPs

- Copier Repair Persons
  - Unexpected problems, not in manual, relearning simple fixes
  - Call someone, share notes, tips under pressure
- Medical Doctors
  - Unexpected events in surgery they can't talk about
  - Need S.O. to talk to in order to learn how to avoid them
- Airplane Pilots
  - Face events they need to learn from
  - Reporting System based on Non Attribution if reported immediately (both win)
- Universities allow faculty to attend conferences
  - Publish more papers with outside faculty
  - Creates lots of safe learning space



# Create Safe Learning Space

- Tight Orgs have no learning space
- Loose Orgs have no motivation to learn
- People will find a way to create safe learning space with or without you
  - How connected to your goals
    - Entirely outside of your organization
    - Across internal boundaries
    - Across external boundaries



# Your Goal with CoPs

- Align with Org Goals (problem alignment)
  - Equip with Resources and Tools
  - Allow time for it (use and development)
  - Create Safe Learning Space (protect it)
- 
- Managing Knowledge People is about helping them learn and apply their knowledge.
  - CoPs can help do that if done with a light touch