



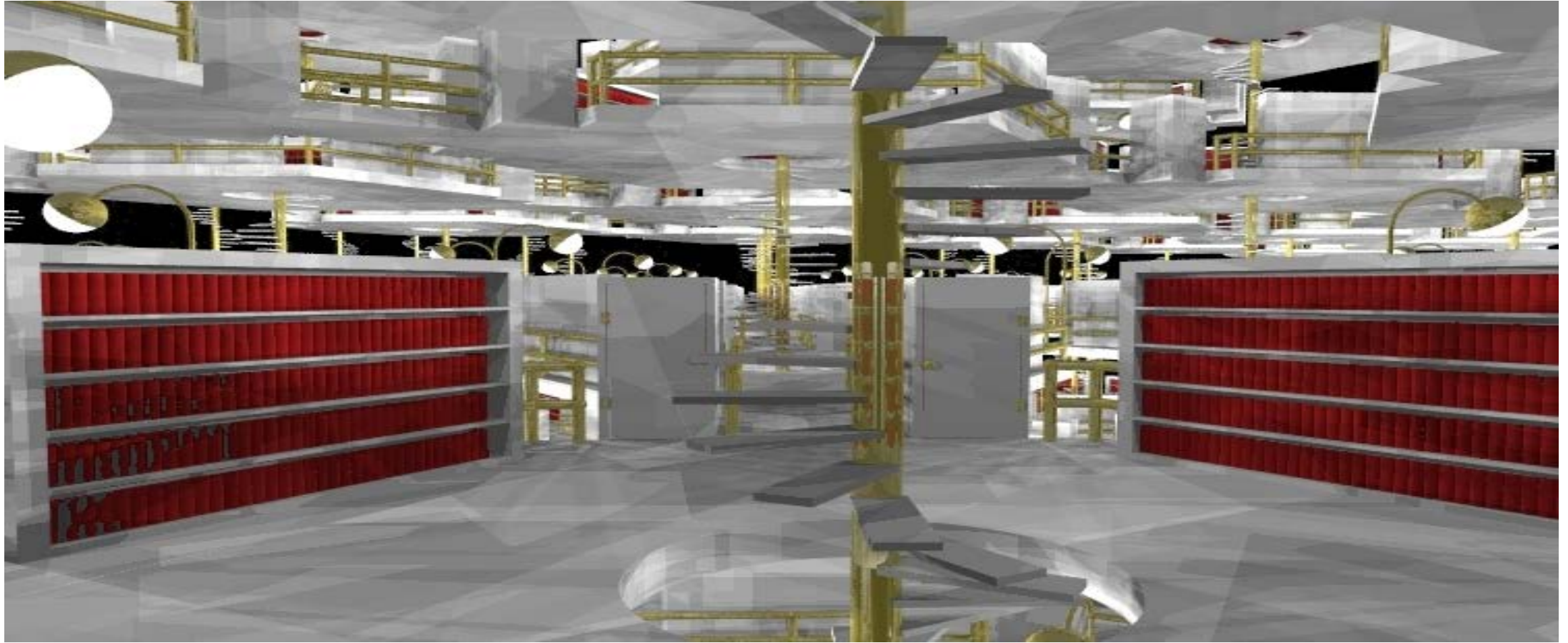
# What is Knowledge?: How Successful Organizations Create Cultures of Knowledge and Learning

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NDIA Integrated Program Management May 1, 2019

# The Library of Babel – Jorge Luis Borges





# What is Knowledge?

Intangible,  
but vital

Participative

Profoundly Social

Intermediate Goal

Experiential

Expensive, yet open

Dynamic Learning Capabilities  
that Expands & Increase

# Increases Leadership Knowledge

Measurement

How Well Did We Do?

Competitive Knowledge

What Do We Actually Do Well?

Implementing change

How Will We Execute?

Strategic Business Mission

What We Could Do Well?

Knowledge Possibilities

Learning

What We Need to do Differently?

What Relevant Knowledge We Need?

Where May We Be Vulnerable?

Knowledge losses

Based on an Ed Rogers Knowledge Map



# Critical Knowing for Organization

## IV. What Others Know?

## III. What My Org Knows?

## II. What My Team Knows?

## I. What I Know?

### Knowledge Management Activities

Benchmarking/Site Visits

Conferences

Shared forums

Networks

Conversational exchange

Knowledge sharing forums

Knowledge project handover

Social networks

Expert locators ( a way to find each other)

Standards, guidelines, policy

Case Studies

Workshops/roundtables/forums

Baton passing transfer lessons

Team assessment

Peer assist

Hackathons/crowdsourcing

Communities of practice

Training

Story-telling

Masters forum/expert exchange



# Knowledge Capabilities Organization Assessment Worksheet

## Knowledge Management Activities

## Rating (1 – 10)

## Description

Benchmarking/Site Visits  
Conferences  
Shared forums  
Networks

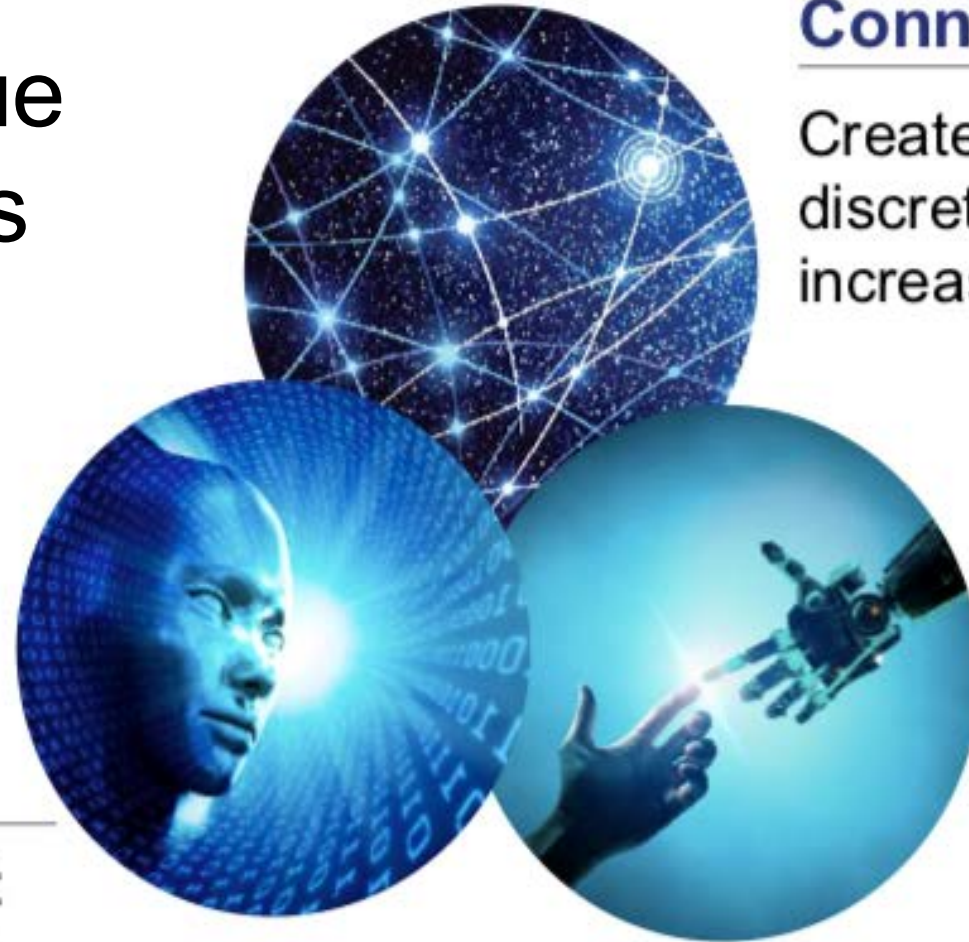
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Masters forum/expert exchange



# Production & Value Driven by Projects



## **Connectivity**

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Creates **links** between discrete network nodes, increasing **visibility**

## **Intelligence**

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Automates **event** recognition and translation for decision-making

## **Flexible automation**

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Incorporates response mechanisms, automation and remote movement

# Decisions Drive Business - Art or Science?

**“IT’S NOT  
HARD TO MAKE  
DECISIONS  
WHEN YOU KNOW  
WHAT YOUR  
VALUES ARE”**

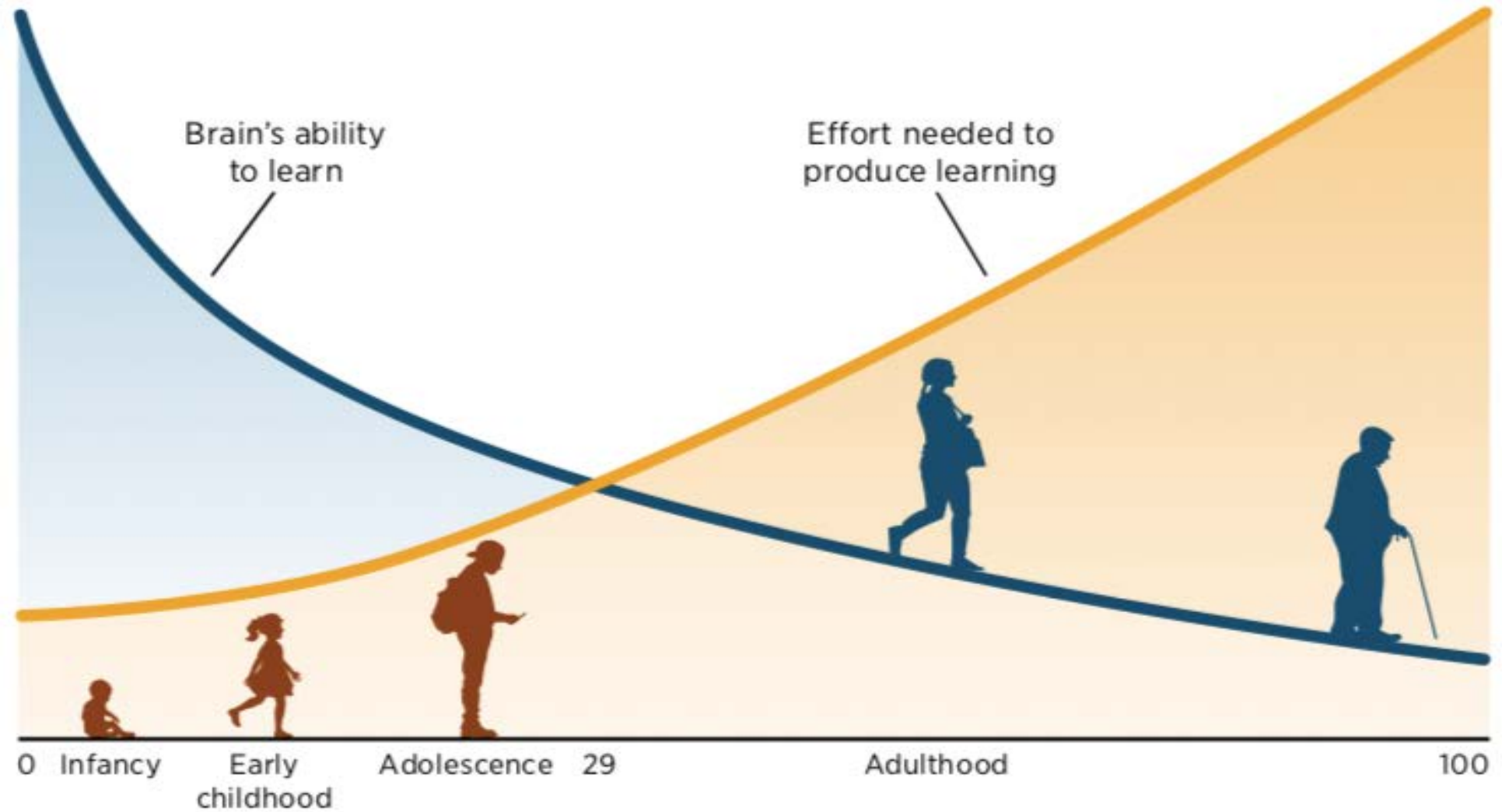
**- ROY DISNEY**

## The Virtuous cycle of Data



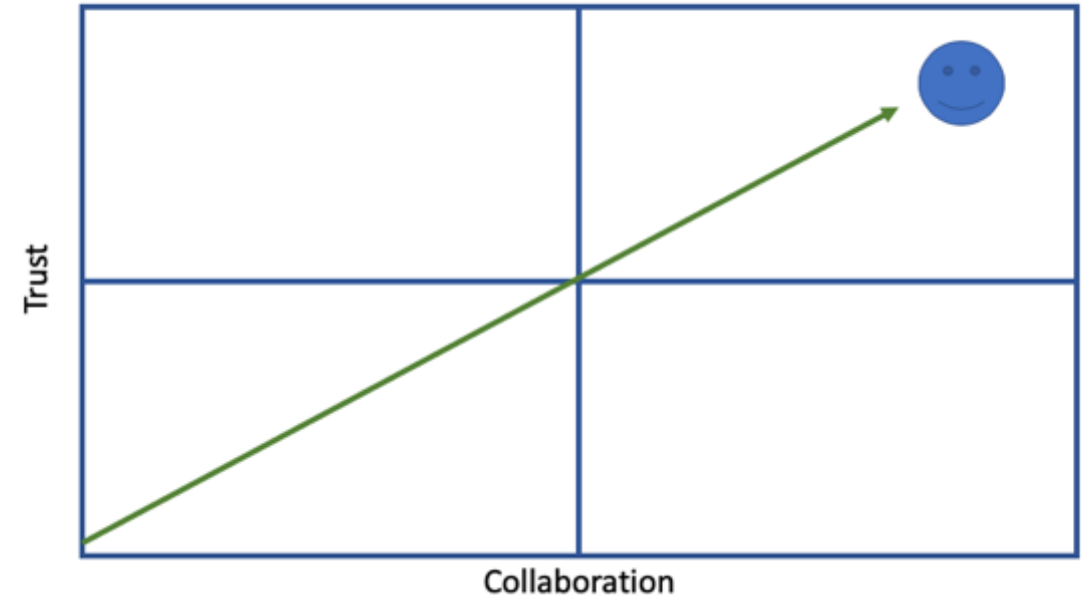
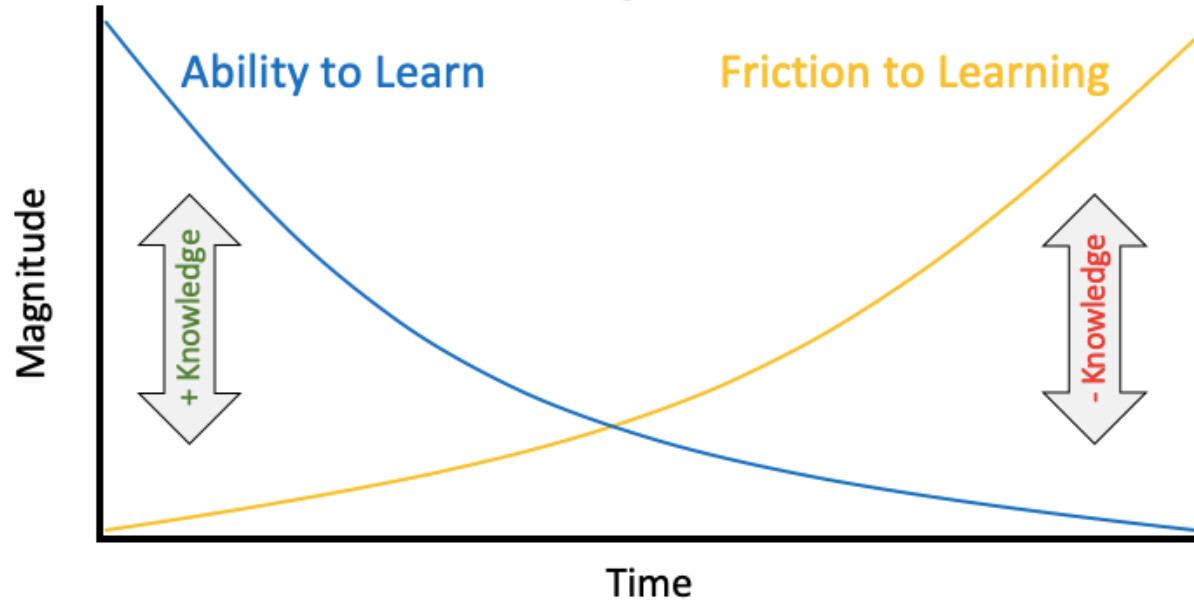
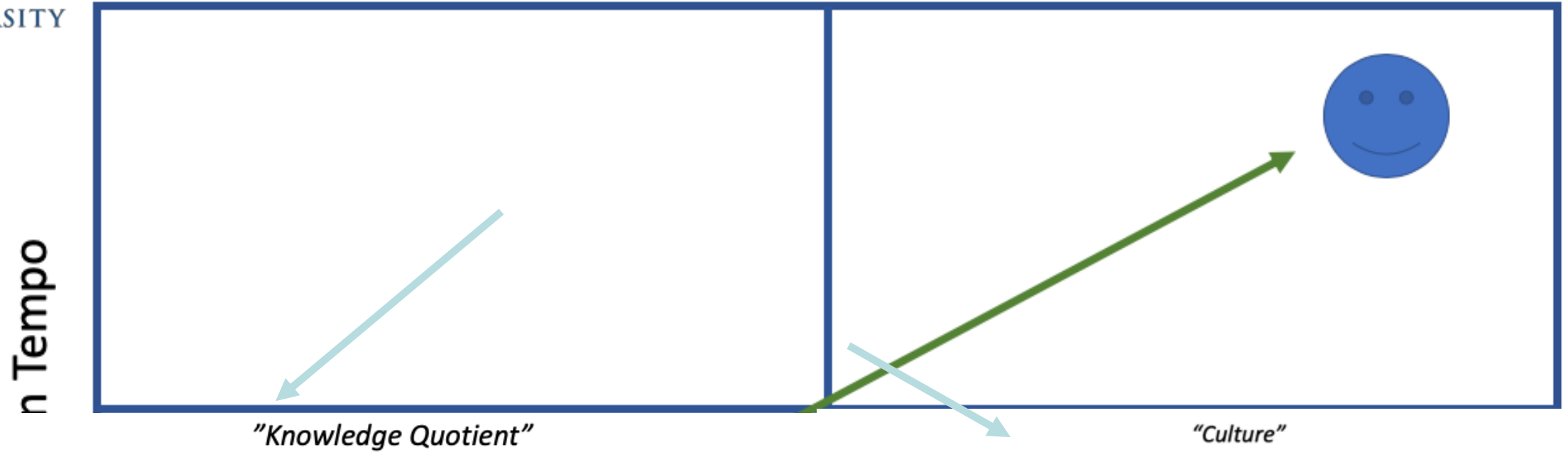


# Learning, Un-Learning, and Adapting to Decisions



Source: WDR 2019 team.

# "Leading the Future"





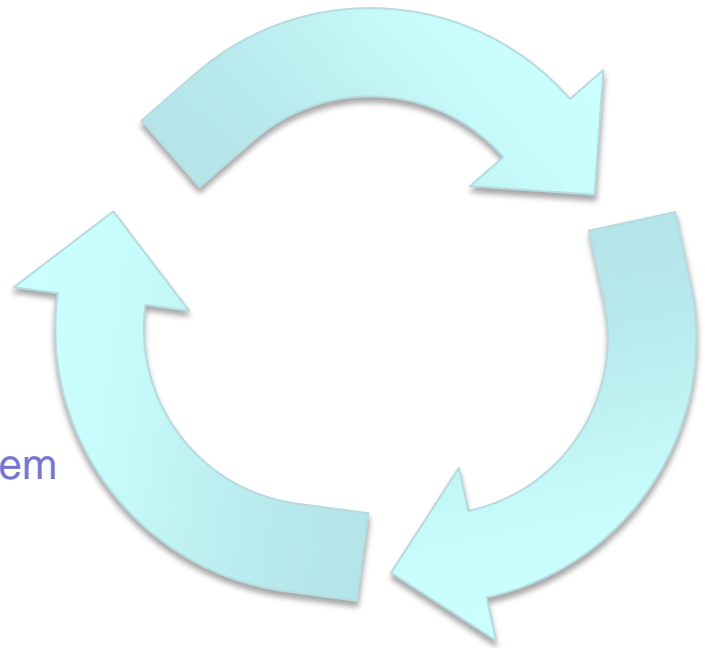
# Knowledge Factors and Phases

★ Examples

★ What you learned videos

## Knowledge Discovery

- Mature capability:  
 Case studies  
 Project Reviews  
 Lessons Learned Info. System  
 Videos  
 Pause and Learn  
 Knowledge Console  
 Knowledge-based risk records



## Knowledge Sharing

- Mature capability:  
 Internet tools and portals  
 Face-to-face events  
 Communities of practice  
 Networks  
 Distillation of Critical Knowledge

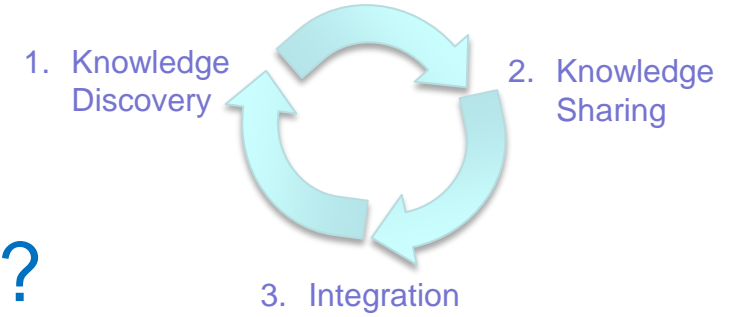
★ Yammer stories  
 Global Commissioning Group  
 Projects Portal Articles  
 Town Halls  
 Regional newsletters

## Integration

- Mature Capability:  
 Peer Network & Peer Assists  
 Workshops  
 Leadership Conversations  
 Governance

★ Project Governance Framework  
 Requirements  
 Continuous Improvement  
 Cross-functional project reviews

# 1. Knowledge Discovery

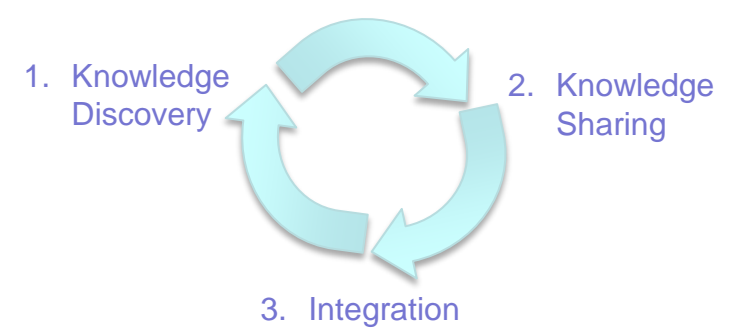


What don't we know, that we must know?

- Buy it
- Develop people
- Rewards
- Alliances and partnerships
- Create a network
- Hire a consultant
- Requisite Variety (complexity)

*Where do you go to find solutions to your hardest problems?*

## 2. Knowledge Sharing

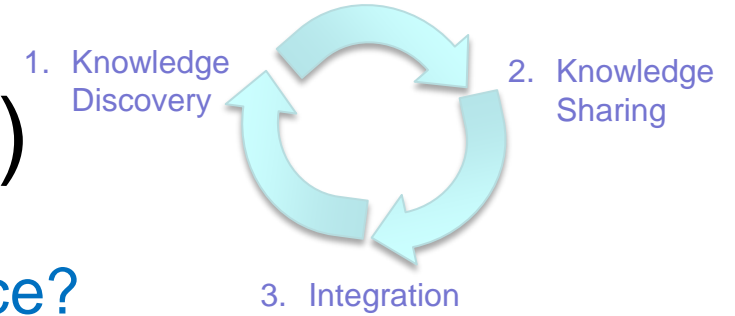


### How do you get knowledge and keep it?

- Encourage your people to talk
- Embed in practice
- Policy & standards
- Leadership talks
- Practice, day to day, culture
- Must embed in organization and structures, routines

*How do you share your wisdom?*

# 3. Knowledge Integration (most difficult)



How can we ensure consistently high project performance?

- Write a report, send it out. What happens?
- Learn from each other (Xerox, John Seely Brown)
- Stories
- Conversations
- Trust peers and other PMs
- Hard to do. Experts have a hard time describing their success.
- Problem of sharing knowledge. (Psychological safety, Edmondson)
- Governance
- Policy and standards
  - Books
  - Information Systems and Repositories

*Does your organization commit to a formal and integrated strategy for managing knowledge?*

# Practices that Grow Knowledge

- People learn in three fundamental ways:
  - People learn from their **Experience**
    - **Job Rotations**
    - **Active Reflection**
  - People learn by **Networking**
    - **Operating in Communities and Practices**
    - **Formal Sharing Events**
  - Looking up or studying **References**
    - **Documenting what works and what doesn't**
      - Develop user Manuals and organizational processes
      - Collect lessons learned
      - Build design templates
- Packaging Knowledge for Consumption
  - **Cases Studies** (and Stories and Anecdotes) celebrate context in addition to facts
  - **Concept Mapping** helps visualize and share the integrated nature of knowledge
- Measure knowledge use in meaningful ways
  - **Decide what are real indicators of knowledge application**
  - **Measure those identified behaviors**

*It is important to map practices that might be applied to the organization to these learning modes.*

# Failure of Knowledge Transfer & Lessons Learned

- **Absorptive Capacity**
  - Psychological safety
  - The capacity to use (QCs)
  - Over-loaded
  - No substitute for being here
- **Unwilling to Change** based on Unproven Data
  - Badly packaged knowledge
  - Need Stories



# Failure of Knowledge Transfer (2)

- Space
  - Cognitive space
  - Knowledge serendipity opportunities
  - Food, music, social opportunities
  - Conferences, forums, courses
  - Knowledge is not a machine, not a transaction
- Lack of Cognitive Diversity
  - Need people who think different

# Critical Knowledge - Priority

- You cannot manage all knowledge – increasing cognitive overload
- Focus on knowledge that adds strategic and business value
- Crucial to the success of the organization
- Engages executive thought and focus
- Solves the most important problems
- Selection of critical knowledge requires dialogue. It can be top-down, bottoms-up and should be visible in a fishbone or map

## The role of leadership

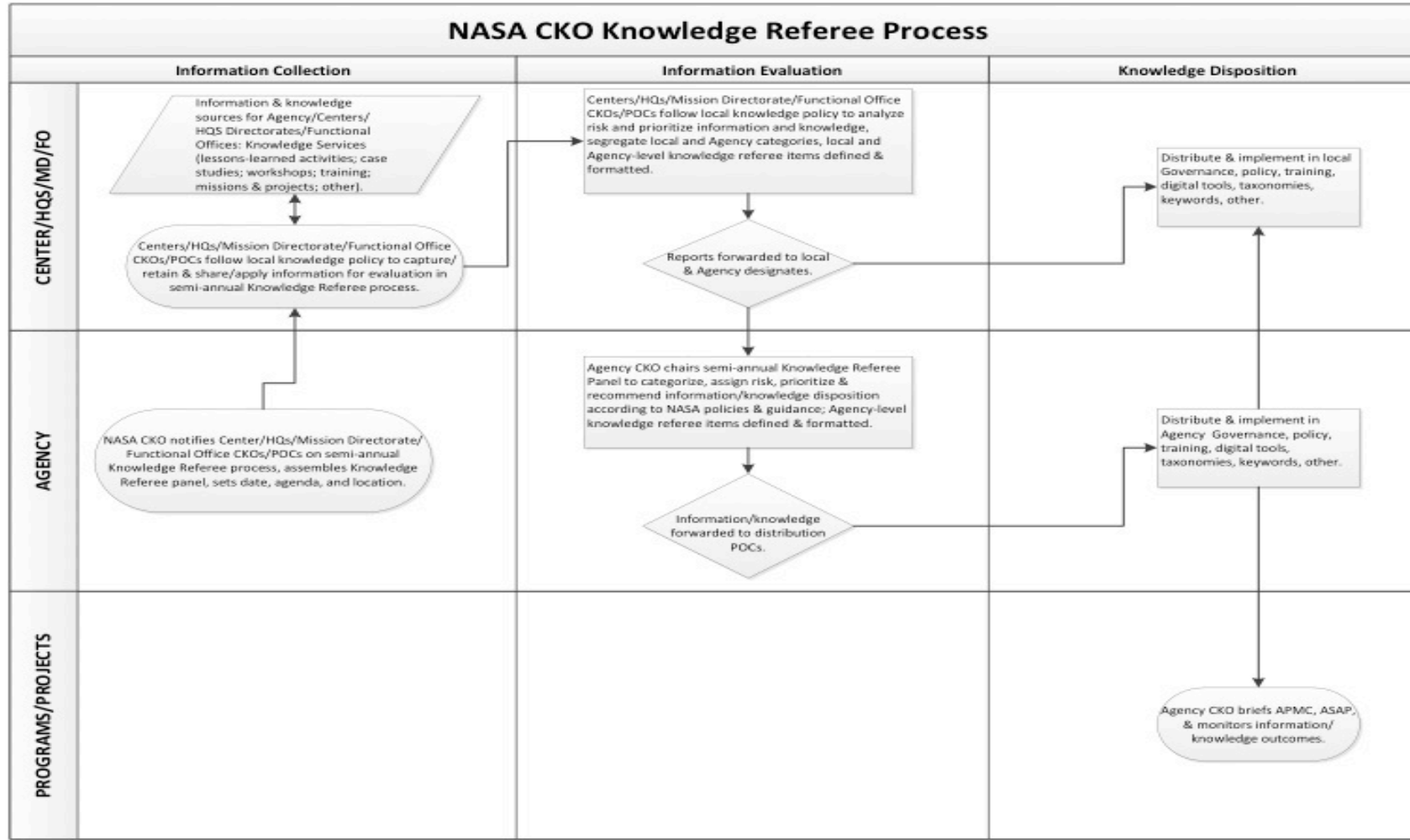
1. Define Reality
2. Mobilize Resources

Noel Tichy

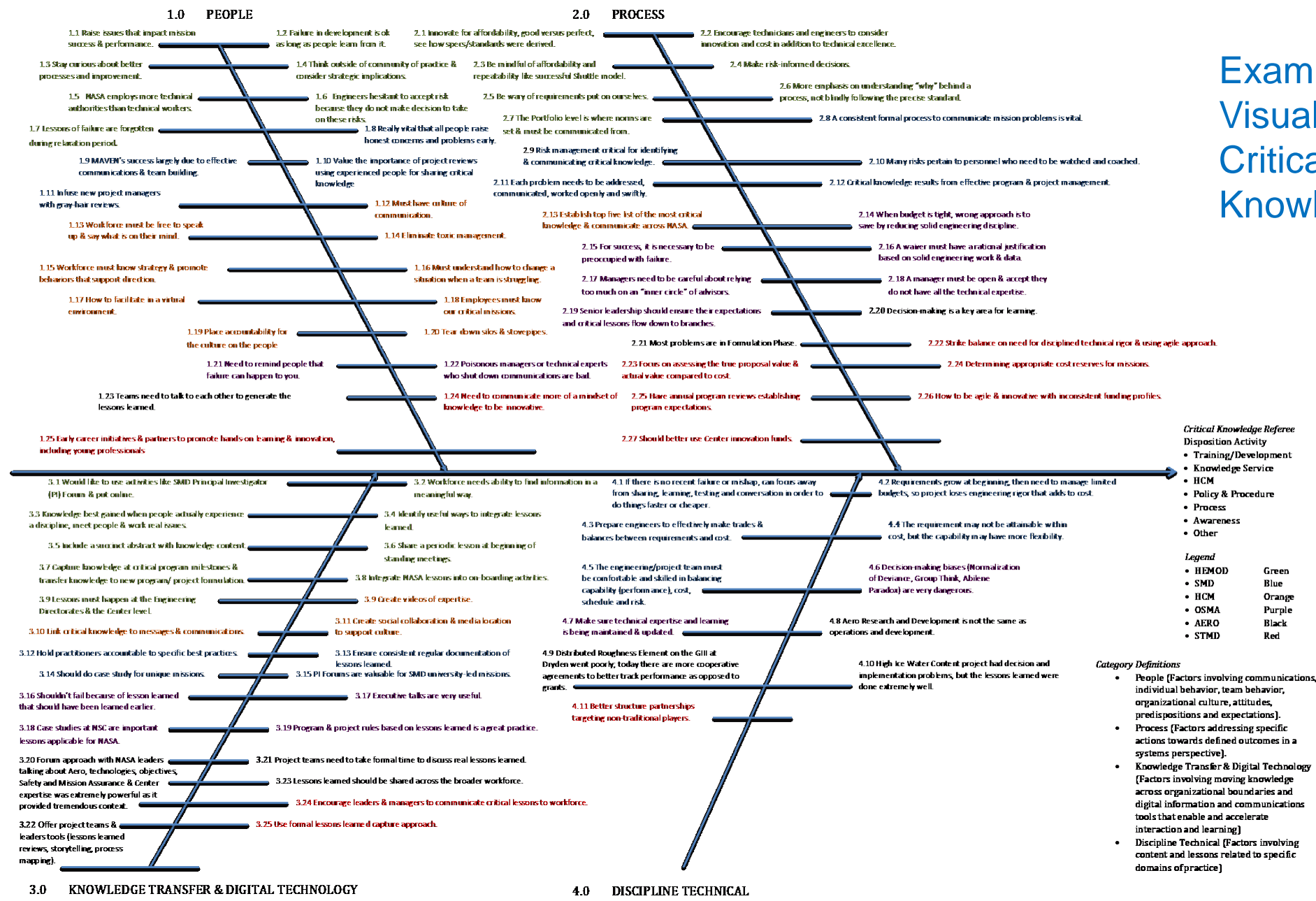
# Knowledge Referee Process

## Critical Project Knowledge

Knowledge referee concept map



# Example: Visualization of Critical Knowledge



# Generic Critical Knowledge Factors

People – factors related to how people communicate and collaborate

Process – factors about improving process and procedures

Technical – factors that address technical expertise and capability

Knowledge/Learning – factors that address systems to ensure adaptive learning and knowledge application

Critical knowledge is only critical within the context of organizational leaders and practitioners. Identification requires interviews and discussion.



# Making Sense of Organisations

“The answer is...something that preserves plausibility and coherence, something that is reasonable and **memorable**, something that embodies past experience and expectations, something that **resonates** with other people, something that can be constructed retrospectively but also can be used prospectively, something that **captures both feeling and thought**, something that allows for **embellishment** to fit current oddities, something that is fun to construct. In short, what is necessary in sense making is **a good story.**”

Karl Weick, Sensemaking in Orgs, 1995

# A Good Story...

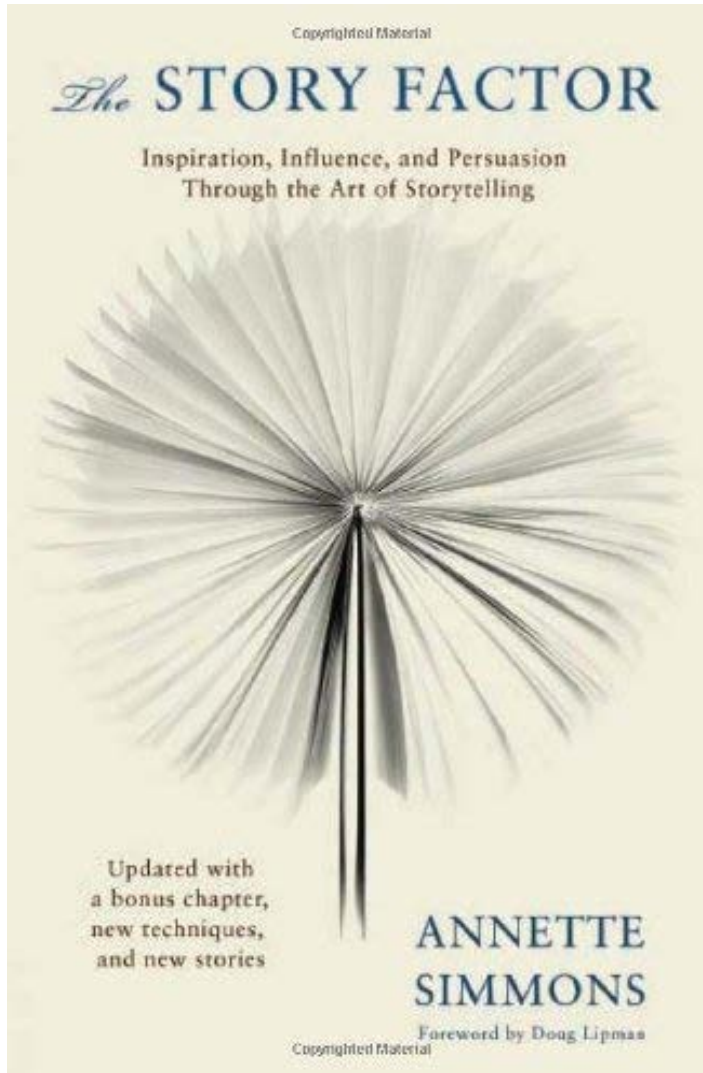
...starts with a **problem, conflict or challenge.**

...describes a **unique experience.**

...describes **concrete actions by people.**

...makes a point — arrives at some **basic truth.**

# Six Story Types You Should Be Able To Tell



- Who I Am
- Why I Am Here
- The Vision Story
- Teaching Stories
- Values in Action Stories
- I Know What You Are Thinking

Annette Simmons, *The Story Factor*



# THE PROJECT MANAGER IN THE FUTURE

Data Driven  
Decisions

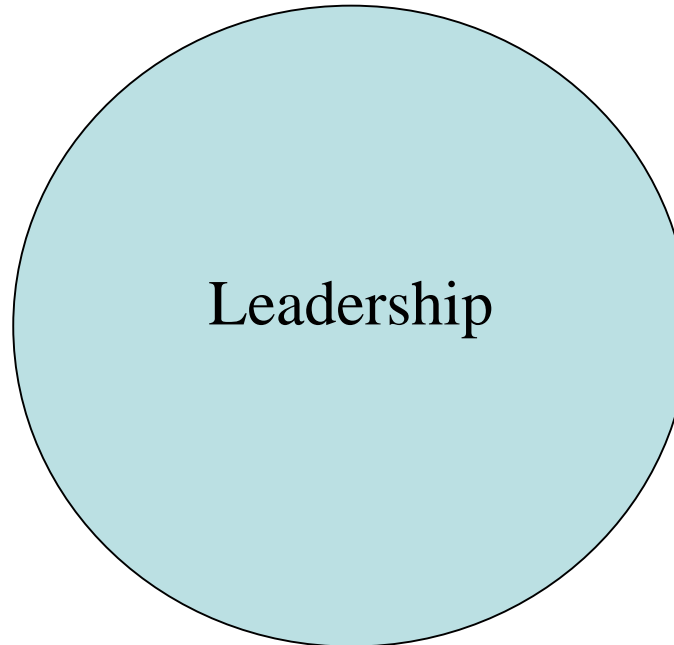
An Innovative  
Mindset

Machines for  
Human Value

Social Capital  
(Networks)

System of  
Knowledge

Stories, Signs,  
Symbols, Spaces



# Knowledge & Learning Lessons

## Case Examples



# NASA Masters with Masters



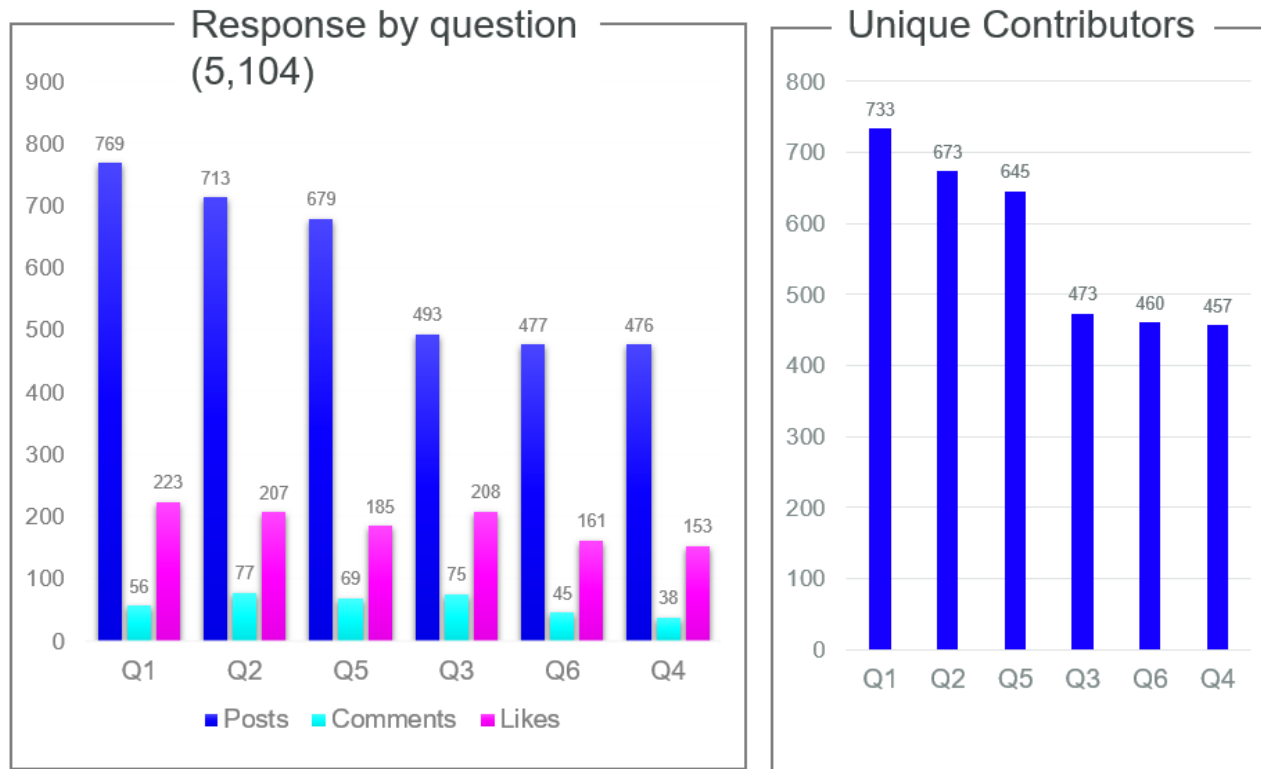
Example – leaders using storytelling about major failure

# The power of collective input

Example of knowledge  
crowdsourcing for corporate  
strategy



## Crowdsourcing overview



Everyone is part of this transformation

Pull the collective brainpower together for the benefit of our organization in a transparent, collaborative manner

Generate ideas across the organization

Identified 15k ideas across the organization in crowd sourcing workshops

# Summary: Tips on Growing Knowledge and Learning

- 1 People: Start with people and create an environment of collective intelligence, leveraging **stories** and trust
- 2 Strategy: Focus on corporate strategy and **mission**
- 3 Prioritize: Recognize your own limitations and start small. Consider knowledge and learning a **journey**
- 4 Community: Engage in learning through community exchange and dialogue to address **collaboration** and competition
- 5 Accessible: Establish systems that make critical knowledge accessible (**maps**) and innovative
- 6 Cognitive diversity: **engage** young and mature professionals



# Empowering People to Make Ideas a Reality

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# SUPPLEMENTAL MATERIAL

# Learning Practices that Grow Knowledge

## 1. Experience

- Job Rotations
  - Many organizations move people from job to job for purpose of broadening their experience base, helping them learn different perspectives and learn how different parts of the organization work.
  - Having multiple experiences, especially early in a career, can help employees appreciate the organization as a whole and perform better on cross-functional teams.
- Reflective Learning
  - People learn more from experience they reflect on and think about. Taking time to process what happened can not only make the learning stick, it can deepen the meaning and help integrate that learning into the persons cognitive structures.
  - Organizations can benefit twice as much from providing varied experiences by also providing time and means for reflection where done individually or in small groups. The form is not as important as the function: small debriefs, summary sessions, learning talks etc. any kind of opportunity to simply talk about what happened and what was learned from it.



# Learning Practices that Grow Knowledge

## 2. Networking

- Operating in Communities
  - All organizations have some type of culture and patterns of behavior. People learn how to get along with others in the organization.
  - Communities within the organization offer a place where people share some common interest along which they can build deeper relationships—often around a subject matter of importance to them.
  - Organizations can't really assign people to communities—they tend to form on their own.
  - Organizations can encourage the communities by providing simple tools to help them communicate (web spaces etc.) and by rewarding people for their behavior in starting and sustaining these communities.
- Knowledge Sharing Events
  - An easy way for organizations to demonstrate their commitment to learning is to support sharing events like seminars, workshops or even brown-bag lunches where employees are encouraged to share their expertise with others.
  - Generally people like sharing with their peers and depending on the motivations present in the organization—sharing publicly can be very rewarding.

# Learning Practices that Grow Knowledge

## 3. References

- Documenting what works and what doesn't
  - Manuals and processes
    - Most organizations write down their most important and common routines and processes. These documents can contain much hard earned knowledge. Unfortunately these manuals are often not considered important, not kept up to date or user friendly.
    - Handbooks that are full of anecdotes, stories, pictures and examples are much more likely to be used than cold rules and regulations type of documents.
- Reference material is valuable and firms need to keep it. They also need to make it attractive and accessible so people will actually use it. This means besides packaging it also making it relevant to work processes. References and lessons should be embedded in processes as much as possible.
  - A software template can be built with links to the lessons and examples of how it may have been used so that as a developer is working through it they are reminded of how and why it was set up the way it is.

# Packaging Knowledge for Consumption

- **Cases, Stories and Anecdotes**
  - Packaging lessons learned and knowledge into case studies is one of the best ways to get the learning distributed. Often the most important lessons are really complex in nature and cannot be boiled down to a few bullet points. A case study allows the context to be captured along with the story. Well done, a case study should make the readers think much harder about their own project and ultimately apply much knowledge to the solution.
  - Telling stories and anecdotes (oral examples) can be a very compelling way to share knowledge. In fact it is the way much knowledge is shared—like vacation experiences. A few stories with friends is much better than inviting your friends over to give a lecture and slide show about your vacation.
- **Concept Mapping as a sharing tool**
  - Concept maps reveal the integrated nature of knowledge by showing linkages between concepts.
  - Maps are excellent for avoiding linear thinking, especially important in design phases when many ideas need to be considered and the team needs to avoid premature closure on a solution.
  - Maps are also an excellent way of documenting context. By not being linear many contextual factors can be included in the map. During conversation only those topics of interest can be discussed jumping around in a fashion that follows the inquirer's line of thinking not necessarily the teacher's line of reasoning.

# Meaningful Measures

- The most valuable and important knowledge sharing is **intangible**
  - Many KM programs falter by simply measuring the wrong or irrelevant things
- **First**, decide what kind of behaviors are clear indicators of good knowledge sharing actions
- **Second**, measure those behaviors in relation to the program
- **Third**, verify over the long term the validity of the association between the chosen behaviors and knowledge sharing and application
  
- For example: A technical design group may decide that a desired activity is the frequency and attendance at in-house seminars. Then measure the seminar satisfaction and attendance. Over the long term look for indications that as seminar attendance increases productivity or output is also rising
- Avoid simplistic measures that might skew immediate behavior but have little effect on real knowledge sharing: For example small token rewards for sharing ideas or improvement suggestions. These type of schemes have a quick response and then apathy sets in as the ideas get stale and the reward seems trivial.

# Personal Plan for Knowledge

- Knowledge Sharing Behavior
  - Build Trust
  - Communicate, don't just 'share'
  - Pay attention to feedback
  - Share stories
- Knowledge Market Roles
  - Understand the role you are playing
  - Build Connections and networks
  - Know the relevant knowledge domains
  - Would you cooperate with yourself?
- Knowledge Communities
  - Formal subject matter communities
  - Informal communities
  - Communities beyond the organization
  - Staying active in communities



Project Management Institute