Big Brain Workout using the Knowledge Café Method

Help develop and refine Constellation Program Knowledge Capture and Transfer processes

Have Fun – Network!

Key Takeaways:
Knowledge Mapping Techniques
Knowledge Frameworks
Capture Methods
Transfer Methods
Knowledge-Based Products
Roles of Security and Records Management
Organization and Planning Issues
Risk Management Integration

YOU are the star of this show!
Welcome to the NASA ESMD Knowledge Café!

The following pages outline the topics that will be at each table. Please review the menu, select a topic, and sit at the corresponding table before the formal program starts.

After the overall introduction by Maitre-d Dave Lengyel, there will be a 30 minute discussion facilitated by various Sous Chefs, your table’s host.

At the end of the 30 minutes you will be notified that you have 5 minutes to join another table for a different discussion. You will have an opportunity to visit all 8 tables.

Thank you for attending our Knowledge Café. Bon appétit!

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<thead>
<tr>
<th>#</th>
<th>Host</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Tom McInnis</td>
<td>Knowledge Demand / Pull Process</td>
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<td>2</td>
<td>Scott Motter</td>
<td>Knowledge Maps</td>
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<td>3</td>
<td>Steve Newman</td>
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<td>4</td>
<td>Vyga Kulpa</td>
<td>Planning and Organization</td>
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<td>5</td>
<td>Don Vecellio</td>
<td>Knowledge Capture</td>
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<td>6</td>
<td>Phil Mongan</td>
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<td>Dan Mulligan</td>
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<td>8</td>
<td>Dave Lengyel</td>
<td>Risk Management Integration</td>
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**Knowledge Café’s**

- Develops and evolves thinking on specific issues
- Draws out broad participation through small group conversation format
- Elicits deeper understanding of issues
- Encourages open / creative conversation
- Promotes dialogue / not debate or argument
- Values diversity of perspective
- Identifies options / possibilities / pros & cons
- Allows consensus to emerge

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Space Exploration Imperative

*Communicate and Work As Effectively as Possible, Learning From Each Other & the Past*
**Tuesday, May 4**

<table>
<thead>
<tr>
<th>Time</th>
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<th>Session</th>
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<tr>
<td>12:00</td>
<td>00:10</td>
<td>Welcome Aboard</td>
<td>John Olson</td>
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<tr>
<td>12:10</td>
<td>10:30</td>
<td>Workshop Goals / Objectives</td>
<td>David Lengyel</td>
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<td>15:15</td>
<td>Knowledge Capture / Transfer Best Practices and Lessons Learned - Panel Discussion</td>
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<td>CxP Records Retention Plan</td>
<td>Thad Henry</td>
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<td>15:30</td>
<td>Cyber Security / K-Artifact Screening Plan / Threat Brief</td>
<td>Phil Bounds</td>
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<td>16:00</td>
<td>Knowledge Capture Frameworks – Ares I-X Lessons</td>
<td>Dr. Steve Newman</td>
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<td>16:00</td>
<td>16:30</td>
<td>Knowledge Map Discussion and Wall Walk</td>
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<td>16:45</td>
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<td>16:45</td>
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<td>Facilitator / Technographer Training (Optional)</td>
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<td>18:30</td>
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**Wednesday, May 5**

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<td>10:15 BREAK</td>
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<td>Phil Bounds</td>
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<td>Organizational / Planning Issues</td>
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<td>Expert Panel Observations</td>
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<td>WORKSHOP COMPLETE</td>
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1. Consider the various processes you are familiar with to request information (e.g. RFI process). What parts of these processes could be implemented to determine the “knowledge demand” from a new set of customers?

2. Discuss the “Top-N” list of information/knowledge which is likely to be the most valuable to ourselves and our “customers” (e.g. technology, processes, materials, manufacturing techniques, etc.)

3. How should a knowledge demand / pull process be administered and/or controlled? And by whom?

4. List the ways that establishing a process to define our customer requirements will help CxP conduct knowledge capture / transfer.

   - Sous Chef to further evolve
   - Conversation to further define
Knowledge Maps

Sous Chef: Scott Motter

Yogi Berra once said, “You’ve got to be very careful if you don't know where you are going, because you might not get there.“

Knowledge Maps are nothing more than a textual and/or graphical template of where knowledge resides, and in what form, in an organization or process. Determining the type of template to use can be accomplished by asking yourself what is the most import thing we need to identify with the map—in other words, what is the goal or destination?

Do we need to understand what competencies or critical skills exist in our organization and the vulnerabilities due to retirements and downsizing? Do we need to understand the knowledge required for a new program or project? Are we building a Knowledge Map to identify content to populate an ICE wiki space or community of practice?

1. After reviewing the sample Knowledge Maps during the “Wall Walk” discuss your likes or dislikes in mapping techniques.
   – What fields are the most important and why?
   – Should subject matter experts be identified, along with the identification of critical skills?
   – What presentation methods would you use for your knowledge map?

2. Should a work process map be developed as a base for each knowledge map? Do you know what percentage of your processes are documented?

3. Should decision forums be identified on all Knowledge Maps?

4. Do you see a need for adding a critical skills overlay to the knowledge map?

5. Brainstorm how Knowledge Maps can be used most effectively to inform the knowledge capture and transfer process

6. Discuss the ways Knowledge Maps will help CxP conduct the knowledge capture / transfer process

- Sous Chef to further evolve
- Conversation to further define
1. Brainstorm potential knowledge frameworks best suited to CxP knowledge capture and transfer activities.
2. How many “bins” or categories are optimal to provide a user-friendly interface?
3. To what extent should NASA’s new FY11 agenda instruct the KCT framework(s)?
4. How many individual frameworks should be used for knowledge capture?
5. How many individual frameworks should be used for transfer?
6. Can tagging knowledge artifacts (short stories, lessons learned and vignettes) be implemented to support multiple user interfaces?
7. List the ways Knowledge Frameworks will help CxP conduct knowledge capture / transfer.

- Sous Chef to further evolve
- Conversation to further define

All frameworks are imperfect by definition – each has the power to reveal as well as conceal. Structure – embodied in the knowledge capture/transfer framework is critically important. The right framework will ensure the right information is captured and that the information is transferred in an intuitive fashion that relates to an individual’s (or an organization's) needs.

Knowledge frameworks can vary from engineering discipline, process, risk, requirements, work / organizational breakdown structure, systems engineering, to milestone orientations.
### Planning and Organization

**Discussion Threads**

1. Reflecting on past experience, what are the key elements of a knowledge capture and transfer plan?

2. Discuss ways to organize at your level for knowledge capture.

3. What are some ways to effectively integrate with records management and security personnel?

4. List some of the skills sets required for knowledge capture?

5. Discuss the top-N risks you see in organizing and planning for knowledge capture—include brief statements on how to mitigate these risks.

6. List the ways that a Knowledge Capture / Transfer Plan will help CxP complete this effort.

   - Sous Chef to further evolve
   - Conversation to further define

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**Sous Chef: Vyga Kulpa**

Welcome to Knowledge Capture Planning and Organization 101...!

This should come as no surprise to you......successful knowledge capture and transfer requires upfront planning just as any well run project.

This requires clear definition of:

1) Roles and responsibilities
2) Knowledge frameworks
3) Knowledge maps
4) Work breakdown structure
5) Integrated schedule
6) Integrated budget
7) List of deliverables

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**Table 4**
1. What are the most successful knowledge capture techniques you have seen at NASA?

2. Which of these techniques would be most useful for your organization?

3. Discuss the skill sets required for knowledge capture. Does your organization have these critical skills?

4. Discuss the manner in which the knowledge framework used will facilitate the knowledge capture activity.

5. Discuss how knowledge maps could be used to drive the knowledge capture effort.

6. List the ways that defined Knowledge Framework methods will help CxP conduct knowledge capture / transfer.

- Sous Chef to further evolve
- Conversation to further define

Knowledge capture methods range from the passive lessons learned database approach to active techniques which involve structured individual and team interviews. Approaches used by large organizations in the past (e.g. NGLT and OSP) have mechanized the process in an assembly line fashion for the capture of discrete lessons that are rolled up to overarching categories and themes. Any rigorous capture approach will be synchronized with the knowledge framework to produce a most useful product in the end.

“conversation around the theme”

Discussion Threads
Knowledge Transfer Methods

Discussion Threads

1. What are the most effective knowledge transfer techniques you have observed at NASA?
2. Which of these techniques would be most useful for your organization?
3. What do you find more useful—learning thru conversation or learning thru reading?
4. How can CxP effectively transfer knowledge to commercial crew service providers?
5. What can you do at the individual level to ensure that knowledge transfer is successful?
6. Should the Web 2.0 modalities – especially wikis, twitter, blogs, Second Life – be in the knowledge transfer mix?
7. List the ways that defined Knowledge Transfer methods will help CxP conduct knowledge capture / transfer.

- Sous Chef to further evolve
- Conversation to further define

Many people feel that knowledge capture is easy compared to knowledge transfer. While some people will reflect on best practices and lessons learned as a program stands up, they tend to be less likely to do so once “on the clock”—unless they run into a problem requiring some form of assistance. Knowledge transfer techniques can range from the codification of knowledge in programmatic documents or command media, knowledge sharing forums, peer assists, training, mentoring, checklists and so on. More than one technique is generally needed.
Sous Chef: Dan Mulligan

Knowledge capture products at NASA tend to be very report and / or powerpoint presentation-oriented. OSP and NGLT are two examples of this. In ESMD, we have endeavored to create more multi-media products such as KBRs and case studies. A variety of products could be created for CxP knowledge capture ranging from the existing ESMD integrated risk and knowledge management products to design review checklists, best practices reports, process documentation with lessons appended, training packages and so on. We are limited only by our imagination—and our budget of course!

Discussion Threads

1. Reflecting on past experience, discuss the knowledge capture products (e.g., a facilitated discussion, a document, a video, a web-based case study, a seminar) a which you have found most useful in your NASA career.

2. What format / media and delivery methods were used?

3. Discuss how the knowledge framework used will drive the content of your products.

4. What are the critical skills required to create the various forms of knowledge products? Does your organization have these skills?

5. How would you organize internally to create a portfolio of knowledge capture products?

6. List the ways that defined knowledge products will help CxP conduct knowledge capture / transfer.

- Sous Chef to further evolve
- Conversation to further define
Risk Management Integration
Discussion Threads

1. How can we enhance the integration of risk and knowledge management to inform transition activities? How do we most effectively keep risk management relevant to busy managers?

2. What are the Top-N risks to implementing an effective knowledge capture / transfer effort? How can they be mitigated?

3. Discuss current R&KM workshops, KBRs, Case Studies, P20s and ways to further develop these practices and products to enhance risk management processes.

4. List the ways that defined risk management integration will help CxP conduct knowledge capture / transfer.

- Sous Chef to further evolve
- Conversation to further define

ESMD has employed an integrated risk and knowledge management approach for the last five years. Risk management will be critically important during a potential lengthy transition period which would include extensive knowledge capture activities. If we were to draw a roadmap for ESMD Risk & Knowledge Management 2020” what things should we be thinking about improving today to make our work more relevant to successful project / program management?
Thank You

Don’t Miss the Next Event

What:  17th IRKMS Workshop on Transition Risk Planning
When:  08-10 November 2010
Where:  Wallops Flight Facility
More Info:  Contact David Lengyel for Details

Tuesday’s Dinner

Rosie’s Cantina
7540 Memorial Parkway Southwest
Huntsville, AL 35802-2265
(256) 382-3232

Sponsor Information

David M. Lengyel  (202) 358-0391
ESMD/Risk and Knowledge Management Officer
dlengyel@hq.nasa.gov
https://ice.exploration.nasa.gov/ice/site/km