Successes and Failures of KM: A Tale of Two Initiatives

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“It was the best of times, it was the worst of times...”
“IT complements any good work you’re doing. The IT won’t help unless you’ve got a good process in place” (Richard Venn, Western Sussex Hospitals NHS Foundation Trust—Mathieson [2015]).
Table 1. A PAIR examination of KM Process and Outcome

<table>
<thead>
<tr>
<th>KM Process</th>
<th>Productivity</th>
<th>Agility</th>
<th>Innovation</th>
<th>Reputation</th>
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<tbody>
<tr>
<td>KM Process</td>
<td>Productivity of a process that makes sense, predictions, evaluations, or decisions about a situation</td>
<td>Agility of a process that makes sense, predictions, evaluations, or decisions about a situation</td>
<td>Innovativeness of a process that makes sense, predictions, evaluations, or decisions about a situation</td>
<td>Reputability of a process that makes sense, predictions, evaluations, or decisions about a situation</td>
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KM Outcome

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<td>KM Outcome</td>
<td>Knowledge that aids organization’s productivity</td>
<td>Knowledge that aids organization’s agility</td>
<td>Knowledge that aids organization’s innovativeness</td>
<td>Knowledge that aids organization’s reputation</td>
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Holsapple (2015)
“The Research Core of the KM Literature”
(Wallace et al., Int. Journal of Info. Mgt., Vol. 31, 2011)

• Bibliometric analysis and a content analysis on KM literature based on 21,596 references from 2,771 source publications
• 27.8% used no identifiable research methods
• Of the remaining refereed articles:
  - 60% employed mainstream social sciences research
  - 40% used provisional methods as a substitute for more formally defined or scientifically-based research methodologies
Knowledge Management Google Searches Trend Since 2004
(Google, 2015)
Number of academic publications with “Knowledge Management” keyword (Ribiere, 2015)
Key Categories Why KM May Have Difficulties
(34 experts, 111 reasons; Ribiere, 2015)

• Culture
• Measurement/Benefits
• Strategy
• Organizational structure
• Governance and Leadership
• IT related Issues
• Lack of KM understanding / Standards
NASA Knowledge Services Strategic Framework
(Hoffman, 2015)

**PEOPLE**
- Networks, alliances, and communities of practice
- Culture of openness and sharing

**SYSTEMS**
- Accessible information, user-friendly services
- Infusion of lessons learned, mishaps, and best practices

Effectiveness
“Any NASA knowledge management approach needs to be adaptable and flexible to accommodate the varied requirements and cultural characteristics of each Center, Mission Directorate and Functional office. A Federated model was the best fit for the Agency, defining the NASA CKO as a facilitator and champion for Agency knowledge services, not to serve as an overseer and direct manager.” (Ed Hoffman, NASA CKO, 2015)
NASA Engineering Network Communities of Practice

The NEN website is only accessible from internal NASA Networks. Click Here to visit the NEN.

The Office of the Chief Engineer has launched an initiative to implement Communities of Practice centered around engineering disciplines and led by NASA Technical Fellows. A NASA Community of Practice is a distributed, peer-driven network of individuals, engaged in a specific discipline, who come together to share their collective knowledge and learn from one another.

Community members work together to identify common problems and explore solutions, and they often develop and implement best practices. Collective disciplines are identified by shared passion for a subject, a shared level of practice within a discipline, and trust and willingness to solve problems collaboratively. Collocated individuals within a discipline commonly share ideas or discuss work challenges. By extending localized interaction to an online, facilitated forum, community members benefit from exposure to a broader set of related information resources, access to a wider field of peer expertise, and expanded opportunities for knowledge sharing and collaboration. Online forums also overcome traditional boundaries of time, distance, and organizational silos.

Links

NASA Engineering Network: Communities of Practice, Technical Disciplines
NASA’s Sharing of Technical Expertise Through CoPs
(Topousis et al, 2012)

• Ask an Expert (5 CoPs using this feature)
• Need to modify an organization’s behavior to encourage cross-disciplinary knowledge sharing to avoid the silo effect
• Senior management needs to set the stage for CoPs to succeed
• 10-20% labor commitment for each community leader to architect, champion, and manage his/her community
Effective knowledge sharing depends on:

- An open leadership climate
- A capacity to learn from failure
- Good information quality
- Satisfaction with change processes
- Performance orientation
- A vision for change

“Organizational Readiness for Successful Knowledge Sharing: Challenges for Public Sector Managers,” (W. Taylor, G. Wright), (IRM Journal)
NASA 2020 Visioning

Make a Metaphor
- Our Card
- Bring back some retirees
- Disney: rotation from different areas
- Fresh eyes

Danger
- This is how it's always been done
- Better: 30-second story

Prioritizing which knowledge to go after
- Better: 30-second story
- Make KM part of culture
- More related to younger generation
- Short YouTube videos

BUDGET devoted to capturing & sharing knowledge
- If I were king...
- Don't ask for permission
- Play your cards right

Social Network Maps
- Social network maps
- Make info accessible to everyone in the org
- Of people who are leaving

Sabotage thinking
- IT in charge
- Change password everyday

3-way mentoring
- Rewards & recognition has shown to work
- Not a target card
- The novice
- The expert
- The mid-level folks

HARRISBURG UNIVERSITY
OF SCIENCE AND TECHNOLOGY
FCC—Another Story (KM Audit)

• The main advantages of a KM initiative were perceived as being: (1) standardization of existing knowledge in the form of procedures/protocols; and (2) facilitation of the re-use and consolidation of knowledge about operations.

• The main approaches used to improve knowledge assets and knowledge sharing are: cross-functional teams, communities of practice, the intranet, and documentation/newsletters.

• The main approach for improving creation and refinement of knowledge is "lessons learned analyses."
FCC—Another Story (KM Audit) (cont.)

• The key knowledge that may be lost is: knowledge of non-published considerations behind decisions (i.e., undocumented history of policy/implementation reasons for specific decisions).

• The potential inhibitors to KM are time pressures, high turnover of personnel, insufficient resources, and usual turf protection.

• There is typically little to no organizational buy-in about KM among staff and management.

• There are no formal training programs or formal efforts to support knowledge management; in some cases, KM is supported by on-the-job training and mentoring programs.
FCC—Another Story (KM Audit) (cont.)

• Typically steps have not been taken to reward and motivate people to encourage a knowledge sharing environment and knowledge retention.

• Most people regularly use or have access to the intranet and the internet, but typically don’t have, or use, more advanced technologies such as software decision support systems which aid the decision makers in their analyses.
Symptoms Suggesting Need for KM

• Frequent transitions of senior management.
• Valuable expertise has “left the organization” due to better job offers and retirements.
• Professional employees are "transient" in many areas, suggesting the need to capture valuable expertise before those employees leave.
• The training and development budget should be increased, which needs to be augmented to maintain and replenish human capital.
Recommended KM Goals

• Further increase and facilitate employee access to the information and knowledge they need to perform their jobs efficiently, effectively, and consistently.

• Further improvement with respect to the quality and “comfort level” (i.e., reliability, impartiality) of FCC decisions.

• Capture and store, to the fullest extent possible, employee knowledge that is critical to FCC’s operations and other key FCC decisions.

• Instilling a culture of information and knowledge sharing and reuse within FCC.
Cultural Considerations

• Chief Technology Officer was driving this KM strategy (although, the Managing Director saw value in KM)
• “Trust by verify” approach (attorneys, engineers, scientists)—although, many law firms have a CKO
• Need to show value and quick wins
Learn from KM Implementations (APQC)

- CoPs are a central part of a KM strategy (sponsorship, membership, roles & responsibilities, accountability and measurement, and supporting tools)
# IBM’s Global Business Solutions’ Knowledge Sharing Measures

<table>
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<th>Professional Development</th>
<th>Productivity</th>
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<td>- Increase visibility, recognition and reputation in organization</td>
<td>- Accelerate time to locate &amp; access expertise</td>
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<tr>
<td>- Foster personal connections and grow their personal networks</td>
<td>- More rapid identification of people who can positively influence business outcome</td>
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<td>- Promote continuous learning / knowledge sharing culture</td>
<td>- Increase opportunities for innovation</td>
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<td></td>
<td>- More expedient knowledge creation &amp; sharing</td>
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<td>- Reduce time to perform activities</td>
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<th>Collaboration</th>
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<td>- Increase awareness and leverage of expertise in the business as it evolves</td>
<td>- Increase amount of informal and formal cross department &amp; cross geo collaboration</td>
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<td>- Increase x-department / x-geo collaboration</td>
<td>- Visibility of formal and informal communities — information flow / collaboration &amp; health of network</td>
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<td>- Accelerate pervasive dissemination of knowledge (codified and tacit)</td>
<td>- Visibility of expertise &amp; faster reciprocal contact due to social network introductions</td>
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<td>- Optimize the use of content through social networks</td>
<td>- Increase efficiency and effectiveness of collaboration</td>
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Key CoP Success Factors
(Probst and Borzillo, 2008)

• 57 CoPs from major European and US companies
• Stick to strategic objectives
• Divide objectives into sub-topics
• Form governance committees with sponsors and CoP leaders
• Have a sponsor and a CoP leader who are “best practice control agents”
• Regularly feed the CoP with external expertise
Main Reasons for CoP Failure
(Probst and Borzillo, 2008)
• Lack of a core group
• Low level of one-to-one interaction between members
• Reluctance to learn from others
• Lack of identification with the CoP
• Practice intangibility
CoP Framework/Roadmap (APQC)

Align to Business Strategy
- Link to Strategy and Key Initiatives
- Develop Core KM Group
- Determine Funding Models to Support Business Case

Result
- CoP strategy linked to organizational goals and outcomes

Plan CoP Strategy
- Form Design Team
- Refine Business Case
- Create Knowledge Map
- Assess Culture and Readiness
- Assess and Engage IT

Result
- CoP Framework

Design and Launch
- Design K-sharing Process
- Identify Rules and Resources
- Identify IT Capability
- Create Measures and Indicators
- Design Recognition and Rewards
- Create Training and Comm. Plans
- Plan CoP Launch

Result
- Effective CoPs with foundation to support business performance and innovation

Sustain and Evolve
- Assess Alignment to Business and CoP Goals
- Promote and Sustain CoP Activity
- Assess Health and Measure Outcomes
- Realign Processes

Result
- Self-Sustaining CoPs

Enablers for Communities of Practice
- Governance
- Change Management
- Training
- Measurement
- Information Technology
- Reward and Recognition
Key Questions Before Starting a CoP
(CISCO, 2013)

• Do my community goals align with the corporate priorities?
• Is my target audience large enough to consume and generate content?
• Does my team understand the endurance necessary to run a successful community?
• Is my team resourced to work and collaborate with members?
• Do I have a strong content pipeline for at least the next 90 days to get the community going?
• Have I identified KPIs that align to my business goals?
Community Facilitation Time

Online Facilitators on Knowledge Hub

- Content (27.0%)
- Growth (17.0%)
- Strategy (10.0%)
- Technology (6.0%)
- Business Integration (3.0%)
- Events & Activities (11.0%)
- Relationships (10.0%)

6.3 hours per week on average

https://knowledgehub.local.gov.uk/group/facilitatorscommunity
Community Assessment Interview
(McDermott)

• What has the overall value of the community been to you and your team?
• Remember when the community discussed “topic x”, what specific knowledge, information, and/or data did you use?
• What was the value of that for you as an individual? Can you express that in numeric terms, such as time saved?
Community Assessment Interview
(McDermott) (cont.)

• Can you estimate the value of that knowledge to your business unit in cost savings, reduced cycle time, increased quality of decision-making or reduced risk?
• What percentage of that value came directly from the community? What are the chances you would have learned it without the community?
• How certain are you of the above estimate?
• Who else used this information?
“10 Rules of the Road”
Have a Senior Champion & Align Your KM Strategy With Your Organizational Strategies, Goals, and Objectives
Develop a Well-Designed KM Implementation Plan (People, Process, and Technology)
Develop a Formal Knowledge Retention Strategy—Start from Day One of the Employee’s Life with the Organization
Incorporate KM as Part of Human Capital Strategy, Succession Planning, Workforce Development, Strategic Planning, and/or Quality Management
Be Thoughtful in Your Approach (Knowledge Audit, Social Network Analysis, etc.)
Align Your KM Approaches to Fit Your Organizational Culture
Celebrate the Successes, Then Bring in the Bittersweet Stories
Develop KM Metrics (Especially Outcome Measures)

“Not everything that counts can be counted, and not everything that can be counted counts.”
Don’t Force-Fit Technology (People/Culture/Process Are Where The Rubber Hits the Road)
KM is Just One Part of Your “Strategic Intelligence”
Knowledge Sharing Tenets for Success

- Enhance reward and recognition system to include learning and knowledge sharing competencies
- Acquaint people with knowledge sharing and its benefits
- Share the message that with creativity comes failure and we all benefit from talking about our successes and our failures
- Integrate knowledge sharing into everyone’s job
- Educate people about what types of knowledge are valuable and how they can be used
- Make sure the technology works for people, not vice versa
A Guide to Agency-Wide Knowledge Management for State Departments of Transportation
Published: July 2016

Successes and Failures of Knowledge Management

Case studies and leading research demonstrating how to leverage knowledge within organizations to improve decision making and facilitate innovation.

Contributions include:
- Clyde W. Holcomb (University of Kentucky, USA) discusses parameters of knowledge management success.
- Ed Hoffman (MSPR Headquarters, USA) explores success and failure of e-learning in NASA through REA: Knowledge and the James Webb Space Telescope (JWST).
- Yolanda Chan (Queens University, Canada) and Nadige Laveille (Ohio University, USA) examine knowledge use and retention - the paradoxical role of IP.
- Sair-Tsz (The Hong Kong Polytechnic University) shares lessons learned from nearly two hundred cases of KM journeys by Hong Kong and Asian Entrepreneurs.
- Vincent Rhee and Francisco Caldeira (Bangkok University, Thailand) discuss why companies are still struggling to implement Knowledge Management with answers from 15 experts in the field.
- Seth Sarraw (Experient Information Science, USA) explains how organizations can build their knowledge processes for long-term sustainability.
- John S. Edwards (Aston Business School UK) shares views of researchers - perhaps still considering the poor relations in the knowledge management forums.
- Annette Wensing (University of Twente-Minnesota, Canada) offers some personal reflections on major challenges through KM successes and failures.

... and much more!

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References and Bibliography


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