A Practical Approach to Managing Knowledge...2.0

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Where we left off...

ImageThink depiction of Merck KM Strategy, created 22-Oct-2014 at NASA Knowledge 2020 Workshop
Guiding Principles

Explicit
- Easier to document and share
- Contributes to efficiency

Tacit
- Skills and experience
- Hard to articulate
- Harder to transfer
- Leads to competency

Easier to replicate

Business Value Creation
- Use
- Access
- Create
- Share
- Review
- Identify
- Collect

credit: APQC

People
Effective & Sustainable KM
Process
Content
Technology

credit: APQC
Core business processes & practices powered by knowledge

Lessons Learned

Product Knowledge

Technology, Process & Business Knowledge

Expertise Capture

Connectivity & Expertise Location

Foundation: Knowledge-Enabled Culture
(behaviors which capture, seek, share & leverage knowledge)

Knowledge knows no organizational boundaries... it is boundaryless

Products

Knowledge!

"The Work"
Core business processes & practices powered by knowledge

Explicit Knowledge

Tacit Knowledge

Merck Knowledge Ecosystem
Merck’s Journey in KM Capability

2009: Base Camp KM Maturity <1

2015: Today KM Maturity 3+

This looks so straight forward when viewed this way.
Learnings & Happenings...

- Emphasis on **Connectivity** & creating a **Boundaryless Organization**
- **Continual Improvement**
- **Challenges in Process & People**
Connectivity & Boundaryless Organization

Boundaryless = Rapid flow of our science, knowledge, processes, and people to meet critical business needs, grow and develop our people and deliver value to our patients and customers.

Boundaries we need to overcome: Geographical, Hierarchical, Functional, Cultural, Memory vs. Time

Connectivity enables us to operate as one business and integrated network

Rapidly changing business environment demands this for our survival…and it’s simply good business
MMD’s Improvement Journey

Last several years:
Focus “within 4 walls of a plant” to reduce variability and improve performance…

Localized performance is up, however…
…end-to-end flow, synchronization and responsiveness to disruption still lacking
MMD’s Improvement Journey...
...powered by **Knowledge & Connectivity**

Standardized, repeatable, robust channels for knowledge flow...

Take 5! AAR

Late Stage Development & Commercialization

...enabling connectivity, rapid problem solving, sharing of issues and best practices, higher engagement, and more
Connectivity Application: Packaging Defects

Monitor for Packaging-related Defects → Investigate and Capture defects → Share via standard work → Assess impact → Act

Sharing & Assessment Metrics

- **Response Rate** (goal 100%): 100%
- **Response Time** (goal ≤ 5d): 4 (4 ≤ 5d, 12 ≥ 5d)
- **Response Profile** (goal: n/a): 4 (n/a), 5 (potential), 7 (fixed)

CAPA Strength

- Prevent: Eliminate, Automate, Simplify
- Minimize: Detect, Mitigate, Retrain / Review

We are going to prevent
Continual Improvement: AAR

MMD Lessons Learned System - Generalized Life of a Lesson

Natural Flow of Work

- Work Processes/Procedures
- Business Practices
- People
- Institutional Knowledge

Future Focus

Expertise

Processes

Capture & Share

Lesson (s) 1 → n

AAR of Work-Event

Peer Assist

Connectivity

Products

Current Focus

AAR Selection

Capture & Share

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AAR Selection
After Action Review

From Take 5 → Take 60

Capability Building
• See One, Do One, Teach One

Creating Safety

A process, not just an event
• Practitioners not Facilitators

Focus on
• Standard Work
• Built in the flow
• Focus on Actionable Lessons
• ‘Message in a Bottle’

Phase 2: Building Lessons into Standard Work

Performing a Take 5!
Right Time:
• Immediate
• Duration
Right
• Built
• Meet
• Ask
Right
• Thoughts
• Facts
Take 5! to Ask:
1. What was supposed to happen?
2. What actually happened? (think successes and opportunities)
3. Was there a difference and why?
4. What can we learn?
5. Who needs to know about this & how do we share it with them?

Take 5! Wallet Card
Process: The Process as Foundation

Do we need these steps?

"Create"

Need to break out

And the power of KNOWLEDGE MAPPING to understand how knowledge flows
People: Key Change Execution Concepts

blending social technologies for success*

Structured Methodology (CEM)

Tap into Culture

Create an Energized Network

Behaviors are Critical

Ensuring people have the right:
- Direction
- Competence
- Opportunity
- Motivation

Link to & Leverage Organizational Norms

• KM as the backbone to enable the speed and effectiveness of knowledge transfer

People and teamwork are at the heart of Merck Production System

“Making Problems Visible and solving them once, collaboratively, at root cause…”
Provide Leadership …words from our sponsor

- **Learn**
  - Must be a role model and know what you are asking for
- **Commit**
  - Time (culture) & Effort & Visible *Upward* Advocacy
  - Resources: KM SMEs, functional experts, stewards, ...
- **Create the right environment**
  - “Top down and bottom up”
- **Set expectations**
  - Managing knowledge is “part of your job”
  - Cannot change culture without clear expectations, accountability and consequences
- **Remain Resolved!**
Thanks for your attention!
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For more details, see ISPE Pharmaceutical Engineering (Nov/Dec 2013, Vol 33 #6):
A Practical Approach to Managing Knowledge –
A Case Study of the Evolution of Knowledge Management (KM) at Merck