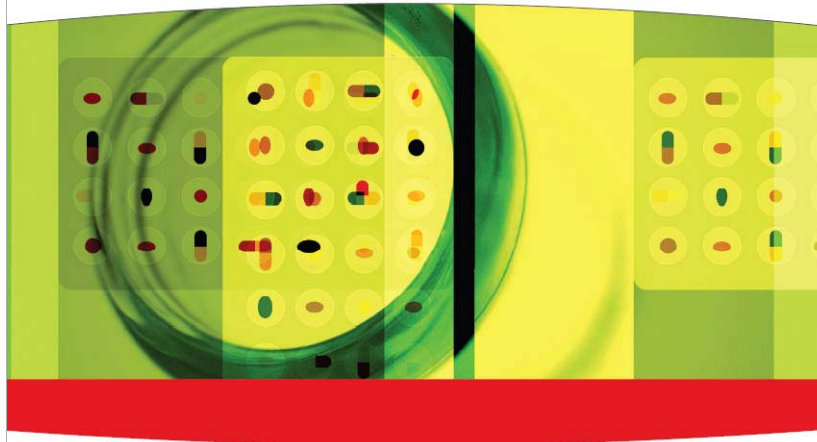


MAY 4, 2005
ST. LOUIS

SUSTAINING KM IN THE DRUG INDUSTRY: SIX PILLARS TO SUCCESS

A ONE-DAY WORKSHOP



LEARN HOW TO TUNE-UP YOUR KM PROGRAM:

- Maintain business focus with senior management.
- Build knowledge sharing into the work environment.
- Streamline processes to achieve desired outcomes.
- Capture and deliver high-value content.
- Maximize technology leverage.
- Report key performance indicators to stakeholders.



Reid G. Smith, Ph.D.



- | | |
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Welcome and overview

- Background
- Introductions

The "New Thinking" workshop series aims to establish a knowledge network to discover, develop and share breakthrough ideas that enable pharmaceutical and biotechnology companies to achieve the next level of performance and accelerate the transformation of the drug industry.

Pair up at the tables and spend 5 minutes to meet your neighbor. At the end of this time, introduce your neighbor to the group. Include your neighbor's name, job title, and one interesting piece of information that won't be found on a resume.

Pharmaceuticals and Biotechnology

- **\$550 billion industry with unprecedented challenges in innovation, productivity, time-to-market and capital efficiency**
 - **Declining R&D and In-Licensing Productivity**
 - R&D expenditure increasing ... INDs and approvals flat
 - ... Substantial R&D outsourcing ... Deal options growing scarce
 - **Increasing Investment per Approved Drug**
 - ~\$1.7B ... Cost of clinical trials increasing
 - **Increasing Attrition in Clinical Trials**
 - Success rate: ~11% (~24% for biologics and in-licensed compounds)
 - Failure rate: ~50% per phase
 - **Declining Likelihood of Commercial Success**
 - 10% of drugs generate >50% of profits ... Increased pricing pressure
 - **Negative Public Image**
 - Safety issues, lawsuits, pricing debate, investor concerns, FDA issues

From Old to New Thinking: An Industry Transformation

Pharmaceuticals and biotechnology is a \$550 billion industry (IMS Health 2005 estimate) with unprecedented challenges in innovation, new product development, productivity, patent expirations, increasing R&D costs, branding and advertising, capital efficiency, and speed to market. The industry stands at a precipice. Several key factors are causing the industry to re-evaluate its way of thinking, including: economic issues, lack of technical or regulatory successes, increasingly complex drug targets, significant interdependencies among programs, increased importance of in-licensing compared to internal development, market segmentation driven by personalized medicine, and a business environment in which companies are increasingly virtual.

Due to these factors, a rapid and fundamental transformation is underway from vertical integration to networked ecosystems — **a shift from old to new thinking**.

Selected Sources

- Frank J. Cohen. Macro trends in pharmaceutical innovation. *Nature Reviews | Drug Discovery* Vol. 4, January 2005, pp. 78-84.
- Jim Gilbert, Preston Henske and Ashish Singh (Bain). Rebuilding Big Pharma's Business Model. *In Vivo*. Vol. 21, No. 10. November, 2003.
- Ismail Kola and John Landis. Can the pharmaceutical industry reduce attrition rates? *Nature Reviews | Drug Discovery* Vol. 3, August 2004, pp. 711-715.
- Challenge and Opportunity on the Critical Path to New Medical Products. FDA. U.S. Department of Health and Human Services, Food and Drug Administration, March 2004.
- H. Grabowski, J. Vernon, and J. DiMasi, "Returns on Research and Development for 1990s New Drug Introductions," *Pharmacoeconomics* 20 (2002)
- Lawrence J. Lesko and Janet Woodcock (FDA). Translation of pharmacogenomics and pharmacogenetics: a regulatory perspective. *Nature Reviews | Drug Discovery* Vol. 4, September 2004, pp. 763-769. Principal axes of failure: safety, efficacy and industrialization.
- Stephen S. Hall, The Drug Lords. Review of books by Marcia Angell and Jerry Avorn, *New York Times*, November 14, 2004.
- An overdose of bad news. *The Economist*, March 17, 2005.

Knowledge Management Experience

... widespread in Pharmaceuticals and Biotechnology

- Abbott*
- Abgenix
- Altana
- Amersham*
- Amgen*
- AstraZeneca*
- Bayer*
- Biogen
- Boehringer Ingelheim*
- Bristol-Myers Squibb*
- Eli Lilly*
- Genentech
- Genzyme
- Gilead
- GlaxoSmithKline*
- Intrabiotics
- Johnson & Johnson*
- Merck*
- Millennium*
- Novartis*
- Novo Nordisk
- Otsuka*
- Pfizer*
- Roche*
- Sanofi-Aventis*
- Schering-Plough
- Serono*
- Solvay*
- Syngenta
- TAP*
- Wyeth
- ...

* – either an APQC member (present or past) or has attended APQC KM conferences

Knowledge Management Definition

Systematic approaches to help information and knowledge emerge and flow

- to the right people
- at the right time
- in the right context
- in the right amount
- at the right cost

so they can act more efficiently and effectively.

Knowledge is information in action.

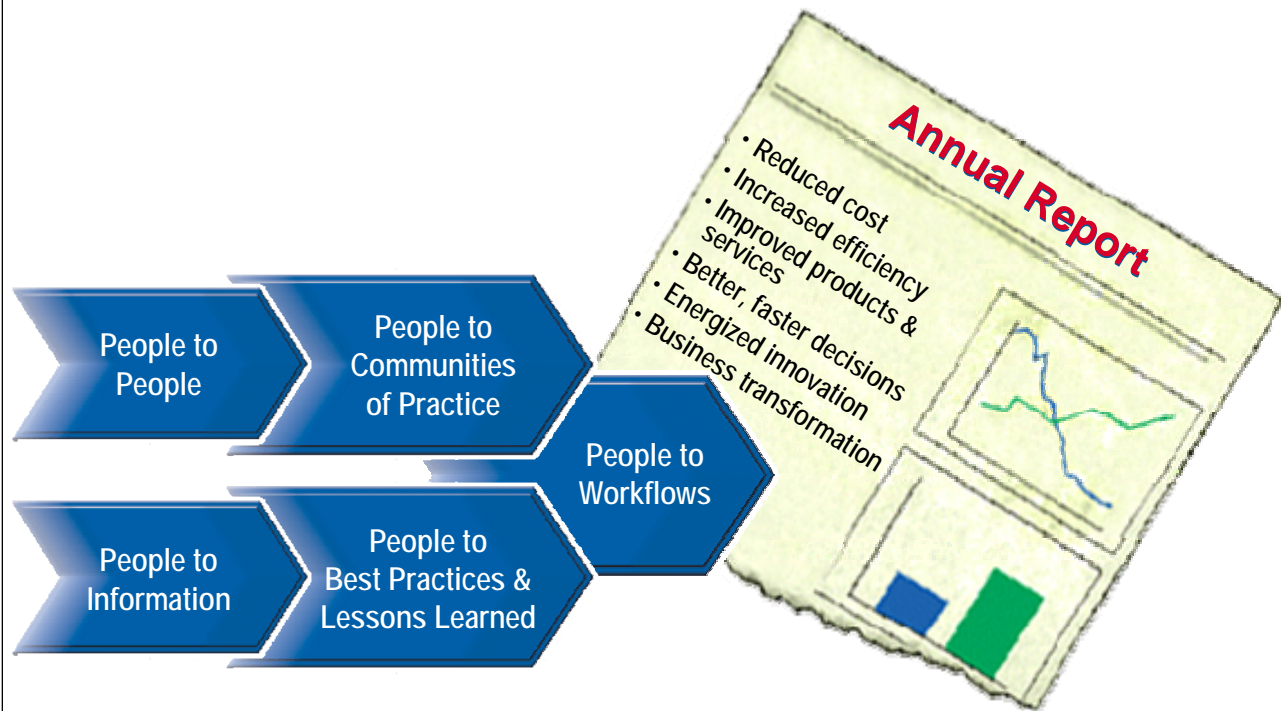
Via knowledge management, we aim to improve personal and organizational capability.

Success demands the creation of a new work environment where knowledge and experience can easily be shared – enabling individuals to benefit from and apply the collective knowledge of the organization.

This means putting in place effective processes, technology, and organizational incentives.

The biggest challenge is to nurture a knowledge-sharing culture – one in which people share their knowledge and learn from others as a matter of course – they see it as the right thing to do – “the way we work around here.”

Knowledge Connections



Knowledge Management must be focused on achieving business results. They could be drawn from an annual report or a performance scorecard. To realize business benefits from your knowledge management program, five robust knowledge connections are required.

People to People. Ensure that people who need knowledge can find people who have it and can contact them easily.

People to Information. Maximize the return from existing information assets.

People to Communities of Practice. The Community of Practice (CoP) is a fundamental knowledge management building block.

People to Best Practices and Lessons Learned. Put in place standard processes for knowledge seeking, sharing and validation and make them a part of the "work environment."

People to Workflows. Embed the knowledge connections in your business processes.

If you build robust knowledge connections, you remove the clutter from people's jobs. You maximize their ability to contribute productively and create value. You give them the confidence of knowing that they are riding on top of the best knowledge and experience held by the overall organization.

For details, see: <http://www.rgsmithassociates.com/Connections.htm>

Discussion

- What are the current KM goals in your organization?
 - Target workflows / business processes
 - Key knowledge connections

Form groups of 2-3 (whomever you can easily reach). Exchange views with the people next to you, then let's hear from some of you.

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Interactive review of KM fundamentals and how they relate to the challenges facing the drug industry.

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Presentation and facilitated discussion about the best practices of KM programs that have proved to be sustainable.

10:15 – 10:30**Networking break****10:30 – 12:00****Sustainability: Part II****12:00 – 13:00****Networking lunch****13:00 – 14:45****KM Program Health Check and Tune-Up: Part I**

Working group session that includes an interactive assessment of today's KM programs in the drug industry. Participants will discuss which practices they should start, continue, cease, and change.

14:45 – 15:00**Networking break****15:00 – 16:00****KM Program Health Check and Tune-Up: Part II****16:00 – 16:30****After Action Review**

Wrap-up with lessons learned, questions and next steps

Sustained KM Programs

- **Ford**
 - Value Proposition: **Operational excellence, more affordable business structure**
 - Results: **\$1 billion total impact since 1995, \$100 million in 2002**
- **IBM**
 - Value Proposition: **Revenue growth, industry leadership**
 - Results: **400% increase in service revenue, ~\$100 million impact**
- **Caterpillar**
 - Value Proposition: **Improve productivity, reduce wasted time, connect with dealers**
 - Results: **200% ROI for internal focus KM, 700% ROI for customer & dealer facing KM**
- **Schlumberger**
 - Value Proposition: **Operational efficiency, improved service delivery**
 - Results: **>\$200 million/yr new revenue & cost savings, queries resolved 20 times faster**
- **BP**
 - Value Proposition: **Innovate & execute faster & smarter than competitors**
 - Results: **\$260 million/yr savings**

Most KM programs die after a while, or become embedded (that can be success) or suffer a mid-life crisis. For example, see

Jerry Ash. Running on empty? Maintaining momentum as KM matures. *Inside Knowledge*, Volume 8 Issue 5, 17 Feb 2005.

Ford: \$1.6 billion projected value; BPR – Best Practice Replication. Started in the late '80s. Driven by a recession. Business opportunity: Quality, cost, safety

IBM: Our commitment is to be world-class at managing knowledge in our business. Driven by a crisis.

Caterpillar: World's leading manufacturer of construction and mining equipment, diesel and natural gas engines and industrial gas turbines. KM group is in 'Caterpillar University', which reports to the VP of Human Services. External Focus example: Dealer Service Training. Internal Focus example: bolted joints and fasteners. Estimated five year benefits: \$75M. Cost: ~\$600K/yr.

Business opportunity: Knowledge loss due to business reorganization and retirement.

Schlumberger: InTouch program. Changed the organization and the way service is delivered to customers.

BP: One of the longest-standing KM programs. Driven from the top by Lord Browne.

FORD BEST PRACTICE REPLICATION PROCESS

1. COLLECT PROVEN PRACTICES



Locations Submit Proven Practices
- Focal Point enters as Draft



Apply Selection Criteria
-Community Gate Keeper
& Subject Matter Experts



Select Gems for Replication
Flag "Priorities"
- Community Gatekeeper

2. COMMUNICATE THE PRACTICES



System Communicates Gems to
Appropriate
Focal Points via E-mail & Web



Local Team Reviews Gems
to determine if replicable



Local Management decides
if yes, when; if no, why not
"Copy with Pride"

3. MANAGE THE PROCESS



Focal Points feedback intent
via Web -Disposition of the Practice



Summary Reports Avail to Everyone –
Review by GateKeepers & Management



RECOGNIZE RESULTS!!
Display Placards for
Practices Initiated &
Replicated

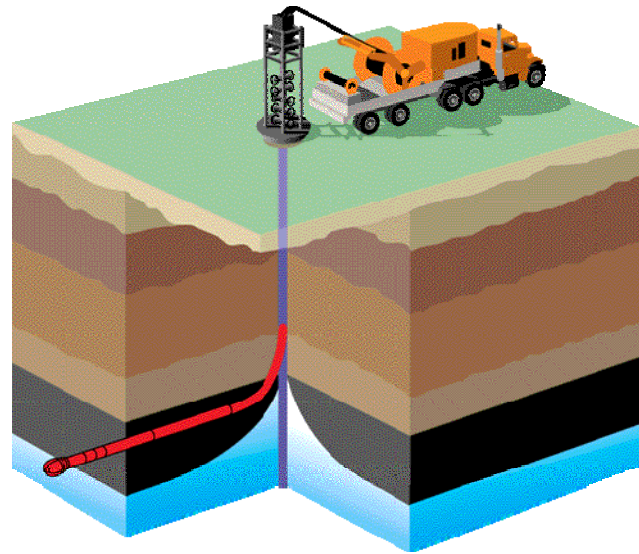
Ford: Best practice replication process, CoPs.

1. Determine business objectives and strategy and how the KM initiative will help to achieve those goals



IBM: CoPs, Knowledge Managers, Workflow enablement

- **I help myself**
 - Direct access to validated knowledge and information
 - PC, Web, ...
- **I need help now!!!**
 - Via knowledge service desks (staffed by InTouch Engineers)
 - Web, Phone, E-mail
 - Backed up by experts in the field and in R&D centers
- **I help others**
 - Sharing experience and know-how with others
 - Validation builds trust



Top to bottom management support.

~200 full-time InTouch Engineers – part of the 'high potential' career path

River Diagram

West Bank....

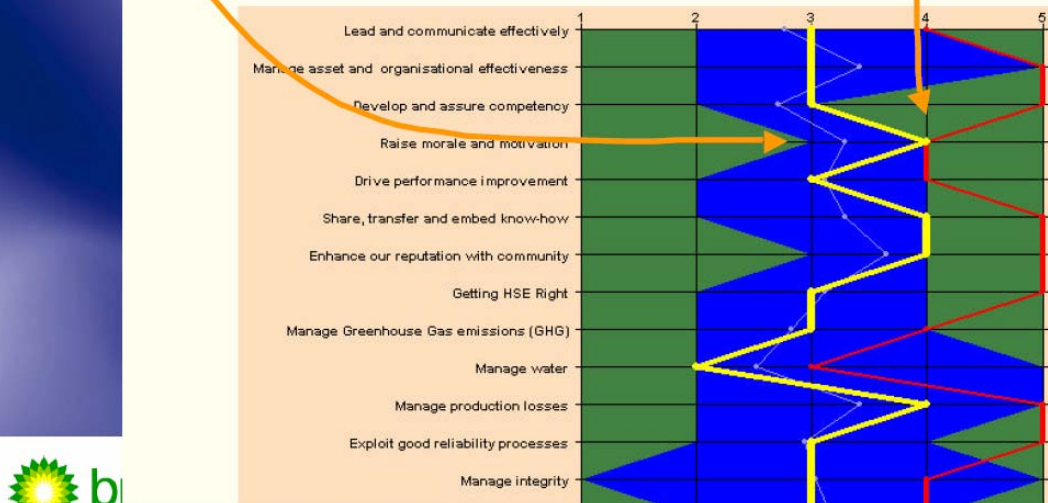
"No one inside is performing below this level"

Operations Excellence

East Bank....

"No one inside is performing above this level"...Look outside for help??

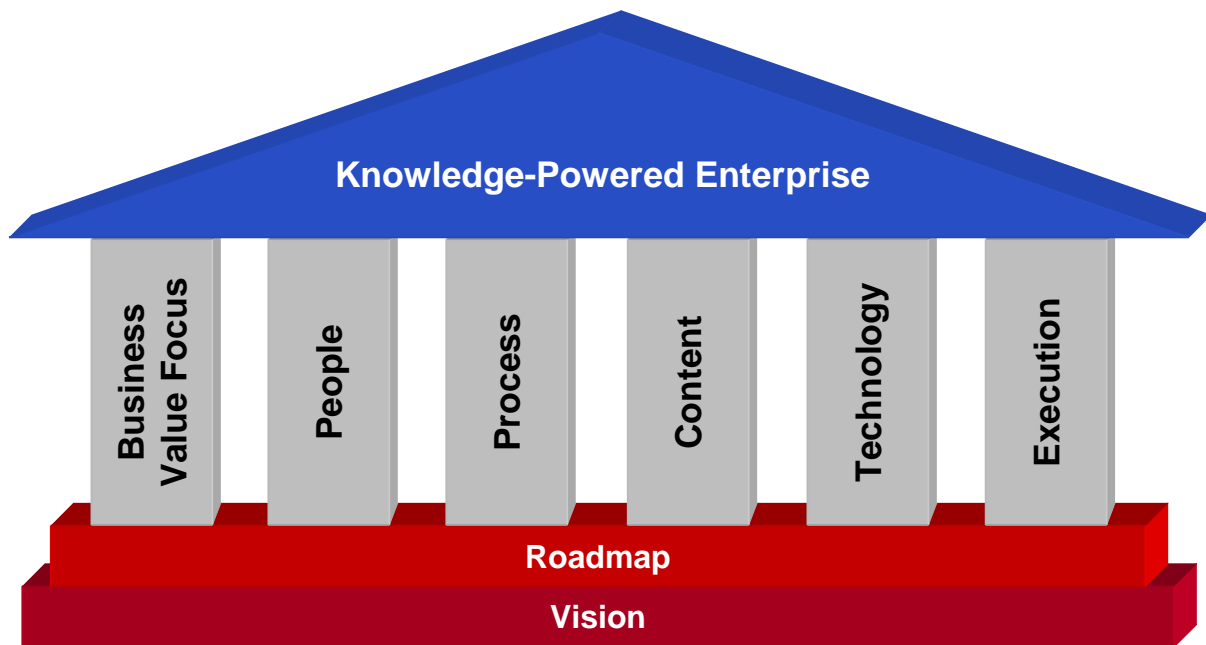
Decatur, during 01 June 2000 - 31 May 2001



Networks (CoPs): Delivery Networks, Enabling Networks. Delivery Networks have a business sponsor / mentor.

Learning Processes: before / during / after

Pillars of KM Sustainability



A vision and strategic roadmap form a useful foundation for a long-term KM program. The vision defines the overall business case. It helps stakeholders understand why the organization is working on KM and what new personal and organizational capabilities can be expected as a result. The roadmap lays out in general terms the order in which new capabilities will be developed and the rough timing.

Six strong pillars are essential to support the Knowledge-Powered Enterprise.

Business Value Focus

- Address a compelling business need, opportunity, or core corporate value. This is essential for gaining management support and for maintaining momentum across the organization. Managers and individual contributors must see the value of supporting a KM program.

People

- You are seeking to change the work environment of your people to one in which knowledge sharing is the norm. Success dictates alignment with day-to-day work and career development plus continuing investment in marketing and training.

Process

- Put in place clear processes so that stakeholders understand how they are expected to share and reuse information and knowledge and how they can get help.

Content

- Content must be relevant, high-quality and trusted, subject to an ongoing maintenance process (e.g., retiring out-of-date content), and easy to find.

Technology

- Technology is the essential enabler. Your KM program is not likely to be sustainable without technology that delivers the functionality needed by stakeholders.

Execution

- At the end of the day, your KM program must produce results. Attention to value creation and measurement are a must for continuing stakeholder support.

Discussion

1. To be called “sustained,” a program, methodology, or approach must become part of “the way we work around here” – expected behavior
2. Few programs are sustainable in any organization

Examples of sustained programs:

- Worldwide consolidated financial results by the 5th day of each month
- Everyone receives an annual performance appraisal, following a standard methodology

Spend a few minutes and summarize programs in your company that have been sustained. What do they suggest about what it takes to be sustainable?

Form groups of 2-3 (whomever you can easily reach). Exchange views with the people next to you, then let's hear from some of you.

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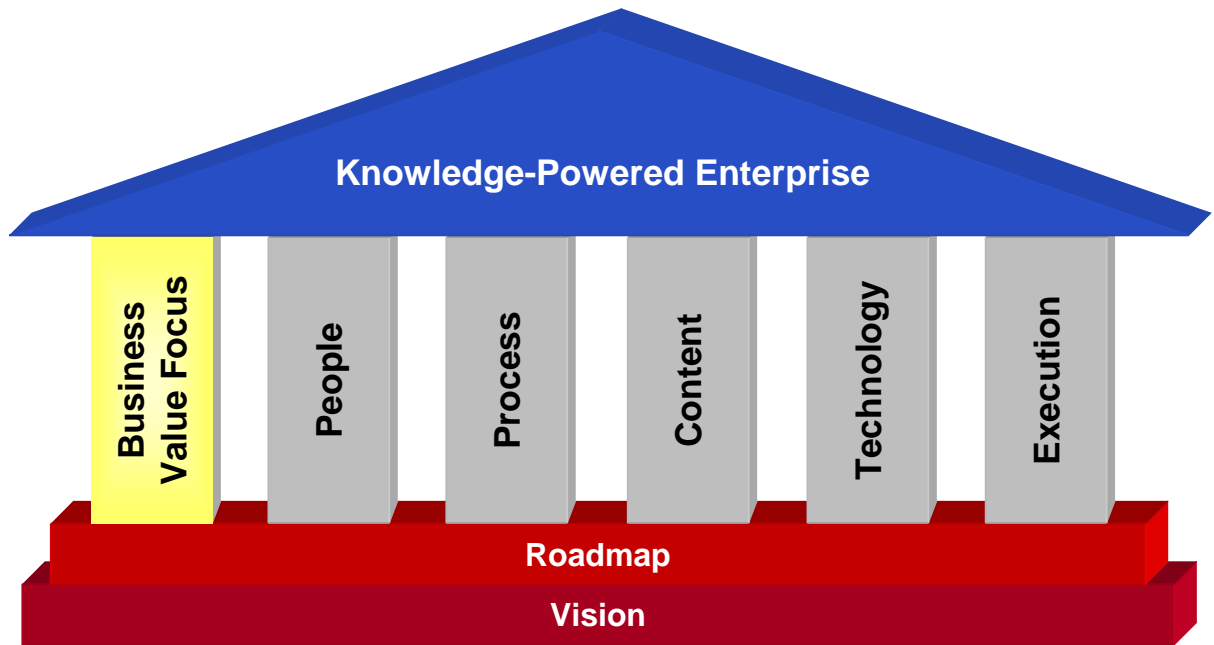
***Knowledge Management
is a contact sport***

... not a spectator sport.

Be part of the knowledge network!

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Pillars of KM Sustainability



Focus on Business Value

- Address a compelling business need, opportunity, or core corporate value. This is essential for gaining management support and for maintaining momentum across the organization. Managers and individual contributors must see the value of supporting a KM program.

Business Value Focus

- **What are the organization's priorities?**
 - Strategic imperatives
 - Goals and objectives
 - Response to crisis
 - *Changed business environment*
 - *Unsatisfactory performance*
 - Customer satisfaction
 - Corporate values
 - Ongoing Programs: Six Sigma, Learning, HSE, ...
- **How do you discover the organization's priorities?**
 - Annual report, executive presentations, Website
 - Executive forums
 - Interviews
 - Managers' objectives

... a continuous process of discovery

Example interview question: What are the half-dozen or so pieces of information you must have before you get on with your day?

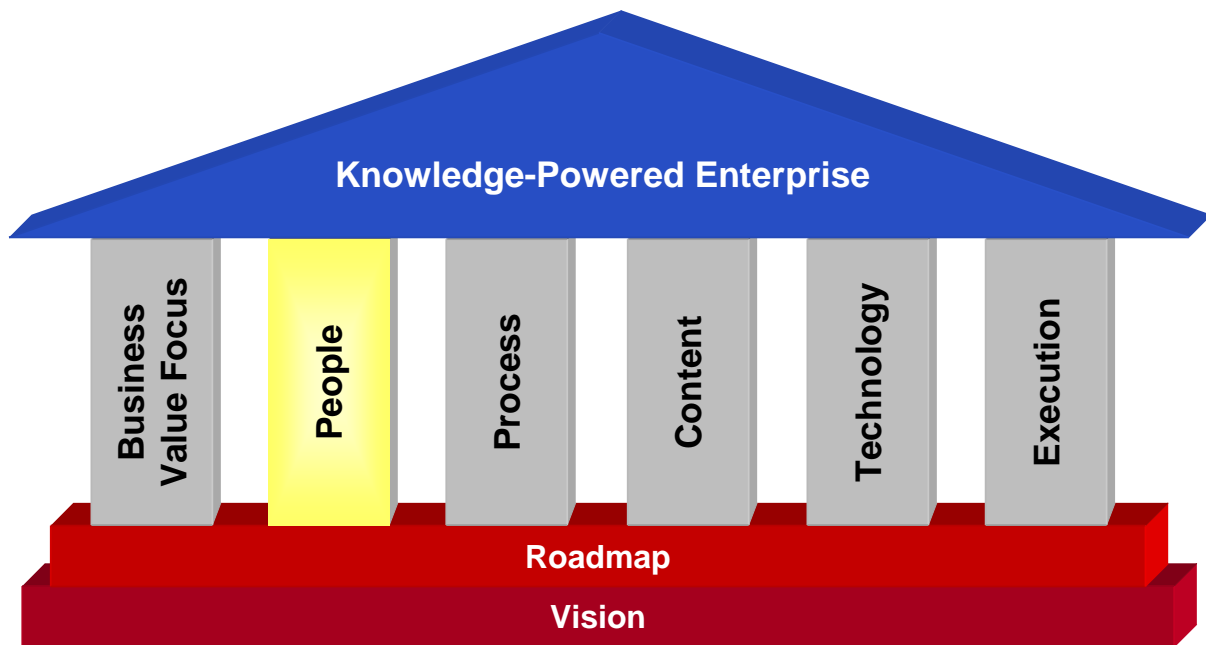
Staying on Track

- What are the things we must do to be successful ... now?
- What are the key business processes that impact the factors critical to success?
- What are the business process performance measures?
- How are we performing?
- What KM activity enables the business process performance?
- How much does it cost and what are the results to date?
- With what other enablers is the KM activity allied?

***... a continuous process of discovery,
value creation and selling***

Business conditions and management teams change ... sometimes frequently, sometimes quickly. Responsiveness and flexibility are essential.

Pillars of KM Sustainability



People

- You are seeking to change the work environment of your people to one in which knowledge sharing is the norm. Success dictates alignment with day-to-day work and career development plus continuing investment in marketing and training.

Building a New Work Environment

- **WIIFM**
 - ... for all stakeholders: individual contributors, managers, customers, suppliers, ...
- **Line Management**
 - Make knowledge sharing a normal part of daily work, performance appraisal, career development
 - Dedicate resources ... *CoPs, knowledge service desks, ...*
 - Recognize successes & ask questions
- **Communications**
 - Coordinated communications plan ... *begin with the end in mind*
 - Consistent message from managers
 - Induction training program
 - Organized serendipity
- **Communities of Practice**
 - Define roles & responsibilities: knowledge champions, business sponsors
 - Terms of reference, charter, goals ... a reason to exist

Managers: Your line management responsibility may be local, but your KM responsibility is global.

CoP Functions

- **Helping:** *Making person to person connections among peers to share ideas, insights, help*
- **Best-Practice Sharing:** *Managing flow of specific practices from individual insights to documented, verified, used best practices*
- **Knowledge Stewarding:** *Collecting, organizing, upgrading & disseminating materials people use day-to-day*
- **Innovation:** *Crossing organizational boundaries to generate new ideas*

What works

- People see the connection between knowledge sharing and business purpose
- Knowledge sharing is linked to core cultural values in the organization
- There is strong management pressure and peer pressure for people to collaborate and share
- Knowledge sharing is integrated with day-to-day work
- Human networks have champions who promote participation
- Sharing is aligned with reward and recognition

What doesn't

- Demanding the culture change to support KM
- Expecting people to change the way they work without a reason to do so
- Providing IT without behavioral support

Everyone is a potential contributor, from new hires to retirees.

NIHBIDIA - Not Invented Here But I Did It Anyway

Motivation & Recognition

- **Personal Motivation**

- *Reduced time / effort to do the job*
- *Best performance → enhanced client relationship*
- *Reduced stress through better planning & execution*
- *Being on the leading edge*

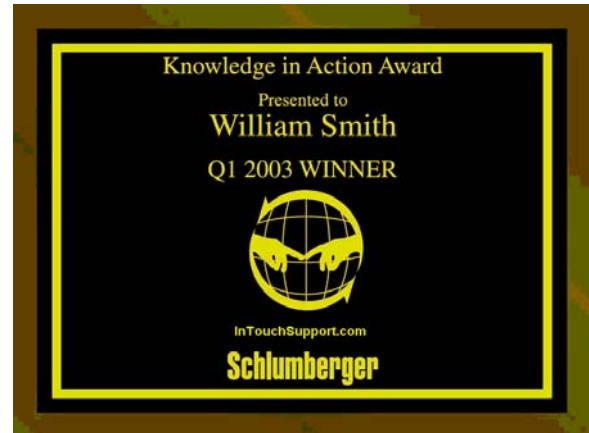
- **Community Recognition**

- *Visibility: Name in the News
Leaving a Legacy*

- **Management Recognition**

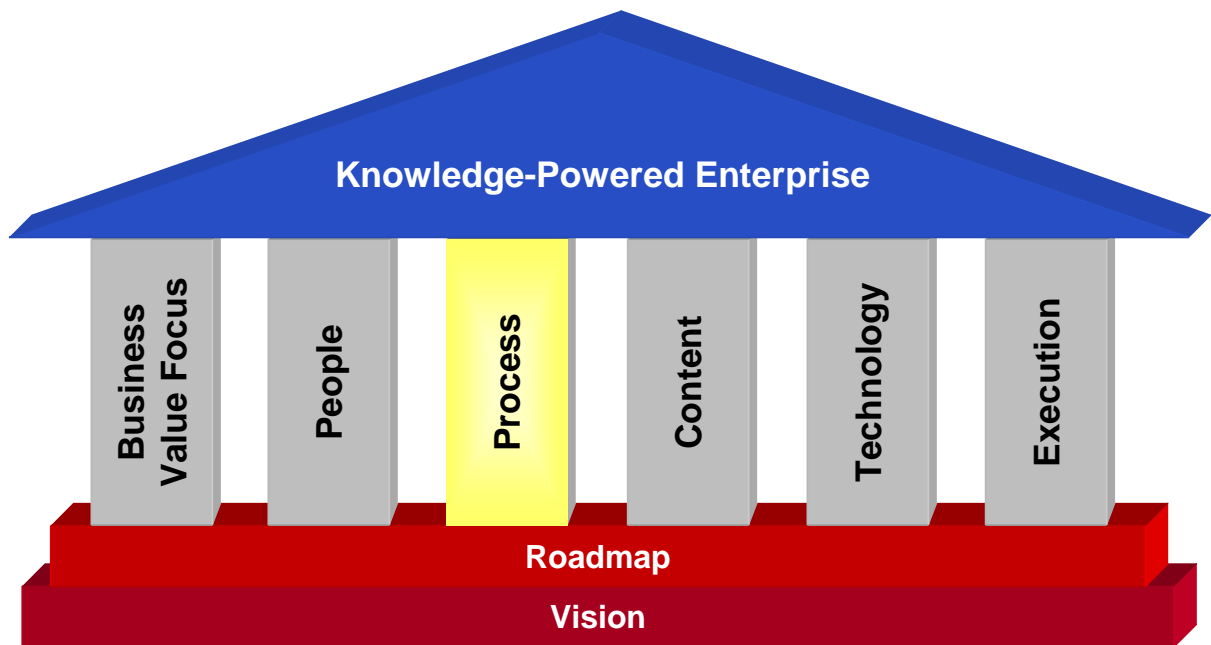
- *Objectives, appraisal, career progression*

Knowledge Sharing - Shares own knowledge, learns from others and applies knowledge in daily work. Open to new ideas and continuous learning.



Take personal responsibility ... as well as company responsibility

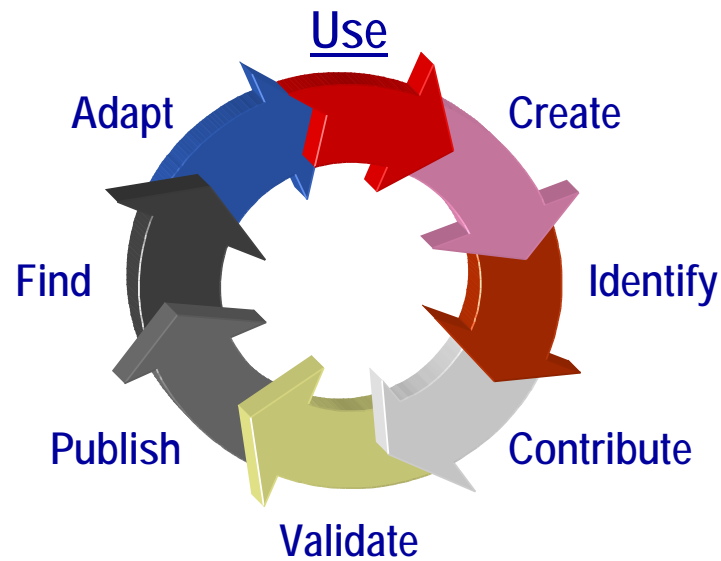
Pillars of KM Sustainability



Process

- Put in place clear processes so that stakeholders understand how they are expected to share and reuse information and knowledge and how they can get help.

Knowledge Flow Cycle



Knowledge emerges and flows in a continuous cycle.

Many organizations get stuck on the “supply side,” especially in the Create, Identify, and Contribute phases.

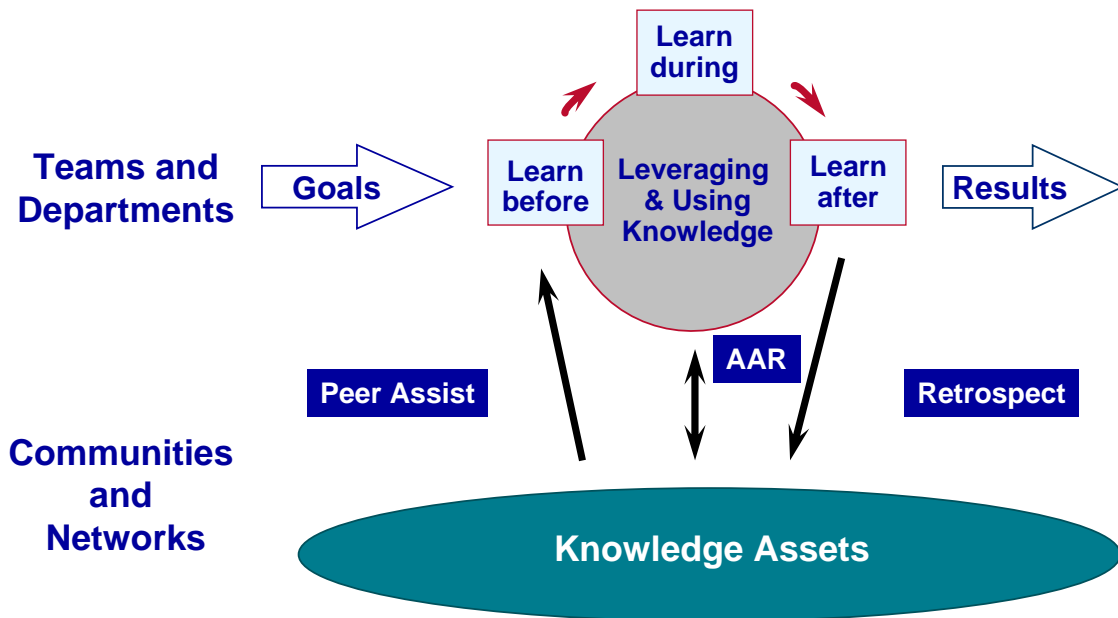
However, it is important to consider the “demand side” as well: Find, Adapt and Use. What do knowledge workers need? How will they use it?

It is also important to ensure that the information and knowledge people Find can be trusted. Hence, the Validate phase must be honored.

The Publish phase could also be called Codify or Transfer.

... and of course Measurement is important in all phases.

KM in the Workflow



Without KM, tasks/activities follow only the top horizontal.

A KM program (involving learn before, learn during, and learn after steps) utilizes (and supports, in an interdependent fashion) “Communities,” which in turn can take responsibility for the maintenance of “Knowledge Assets.”

Quick definitions

Peer Assist: Before starting a project, consult a team that has done a similar project. This helps you avoid making the same mistakes and learning the same lessons.

AAR – After Action Review: While you are doing the project, say at the end of each day, conduct a quick session to ask what was supposed to happen, what actually happened, why was there a difference, and what can you learn from it.

Retrospect: At the end of a project, ask the same sorts of questions, and compile a report ... written for the next team that takes on a similar project.

Knowledge Asset: A compilation of what we as an organization know about a particular topic (e.g., making acquisitions).

These are not all of the tools, just a subset.

Although not mentioned explicitly in this slide, technology is everywhere ... in the background.

Knowledge Management Processes

- **Demand Side**
 - Find
 - Adapt
 - Use
- **Supply Side**
 - Create
 - Identify
 - Contribute
 - Validate
 - Publish
- **Learn Before**
 - *Peer Assist*
 - *CoP, Knowledge Service Desk, Mentor, Expertise Locator, Knowledge Asset*
- **Learn During**
 - *After Action Review*
- **Learn After**
 - *Retrospect, Case History, Knowledge Map, Knowledge Asset*

International Aid Agency



Paul Whiffen

Tearfund Knowledge Manager

Tearfund is a leading relief and development charity, working in partnership with Christian agencies and churches worldwide to tackle the causes and effects of poverty.

The person speaking here is the knowledge manager for the organization. He tells a story about how KM added value to the Disaster Relief work

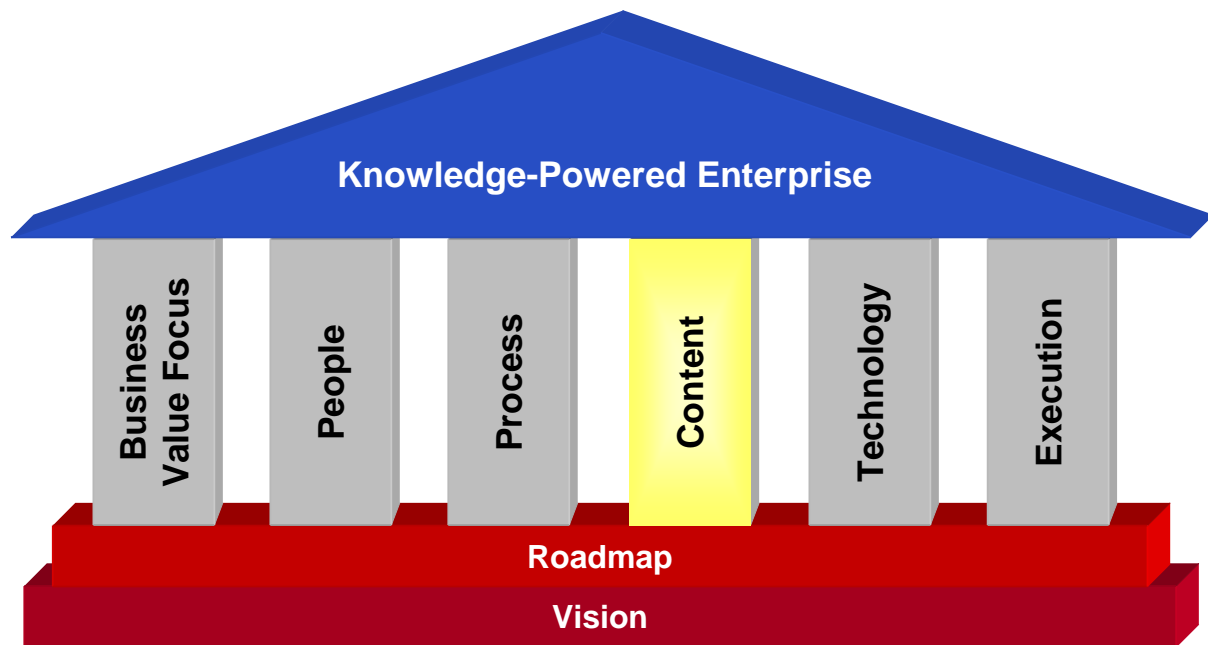
He mentions lessons learned. He refers to “Retrospects” as “Learning Afters.”

Learning After: Retrospect Questions

- What was the objective?
 - Start with a review of what the project was meant to do. Find the original documentation and any other interim plans. Go for the ground truth ask the customer/client if they got what they were after
- What did we achieve? Why were the decisions taken?
- What worked well? and why? and how can we repeat this success?
- What did not work so well? and why not? and how do we avoid this next time?
- What can we give the next project team to help them deliver the perfect result? (advice, guidance, links to people, documents etc)?
- How do we rate this project (1-10)? If the team members do not rate the project as an 8 or higher, then ask each of them for one thing they would change to improve the rating.

In a long and complex project it is useful to flow-chart the process used. The flow-charted process also can be used as a template to build the ideal process.

Pillars of KM Sustainability



Content

- Content must be relevant, high-quality and trusted, subject to an ongoing maintenance process (e.g., retiring out-of-date content), and easy to find.

Less is more.

— Ludwig Mies van der Rohe



A little humor from Steve Denning, formerly of the World Bank.

Content = Knowledge Assets

- High-quality, relevant & trusted ... *not simply documents*
- Written from the point of view of those who need the information and knowledge ... *authoring skill required*
- Maintained/upgraded regularly
 - Retirement or re-synthesis of out-of-date content due to new information and knowledge
- Easy to find what you need
 - Knowledge map guides organization and search
- Making good on the promise: "... *to the right people, at the right time, in the right context, in the right amount, at the right cost*"

just in case → just in time, just enough, just for me

Exactly what you need now vs. everything you could ever need.

Knowledge Mapping

- Identify and organize knowledge assets critical to the business
- Identify gaps, knowledge sources (individual employees, CoPs, suppliers, etc.), flows and barriers, dependencies and knowledge at risk (e.g., if key employees retire).



Knowledge Mapping is a typical early step of any KM initiative. It is also foundational.

Knowledge maps, taxonomies, ontologies are all related.

Knowledge Mapping Steps

- Select a key business process
- Map the process
 - Determine routine/non-routine tasks
 - Identify key decision points, hand-offs
 - Locate owners of, and stakeholders in key sub-processes
- Map the knowledge against the process
 - Identify important knowledge needed at particular steps of the process
 - Identify sources and recipients of knowledge
 - Follow knowledge pathways through the organization (referential)
 - Inventory types of knowledge utilized and needed (magnet content)
 - Identify gaps, lack of connectivity, and information overload
- Develop plan for collecting, reviewing, validating, storing and sharing knowledge and information

Knowledge mapping is useful to support mergers and due diligence. It is also useful for bringing new employees onboard and retaining the knowledge of employees who are leaving.

Knowledge Map Template

Process Steps

	Licensing & External Development	Exploratory Discovery	Early Discovery	Full Discovery	Exploratory Development	Full Development & Lifecycle Management	Launch	Market Planning	Customer Acquisition	Customer Retention	Manufacturing	Distribution
Arthritis & Pain												
Cardiovascular		<div>What knowledge is needed?</div> <div>Gap Level between need and have (high, med, low)</div>					Who has it?	Who uses it?	What systems produce it?		Where is it?	
CNS												
Infectious Disease												
Oncology												
Ophthalmology												
Metabolic Disease												
Urology												
Women's Health												

Therapeutic Areas



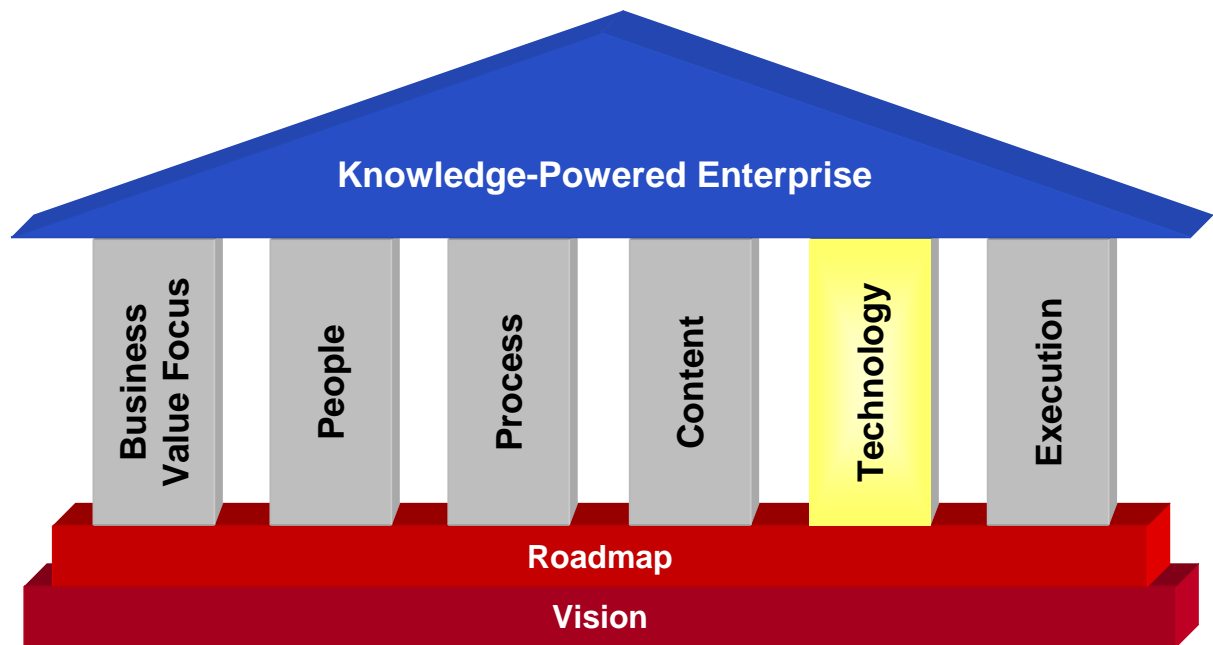
Existing knowledge can be found in the blue squares

The steps are from the BMS Product Development & Commercialization process.

Could also apply to Sales & Marketing or other processes.

The original version of this template was devised in partnership with Schlumberger for the 2002 Winter Olympic Games.

Pillars of KM Sustainability



Technology is the essential enabler. Your KM program is not likely to be sustainable without technology that delivers the functionality needed by stakeholders.

Technology

- Must deliver functionality needed by stakeholders
 - *Secure, integrated, easy-to-use ... upgraded regularly*
- Lessons Learned
 - Technology isn't everything
 - ... but you won't make much progress without it*
 - Build it and they won't come
 - ... What technology do the knowledge workers actually use?*
 - Technology without behavioral support doesn't work

Enterprise Information Portal

“... applications that enable companies to unlock internally and externally stored information, and provide users a single gateway to personalized information needed to make informed business decisions.” (Merrill Lynch, 1998)

• Today's Services

- Search & Browsing
- Presentation – Visualization
- Collaboration
- Publishing & Distribution
- Transactions
- Application Integration
- Classification
- Subscription – Notification
- Personalization
- Expertise Location
- Real-time News & Data Feeds
- Security

• Trends

- Integration across diverse content and sources
- Social Networks
- Vertical Search

The Portal serves as a useful framework around which to discuss KM technology.

Trends

Diverse content and sources: normal Web, deep Web, books, video, blogs, internal databases, ...

<http://www.abilify.com/> ... check <http://www.alexa.com/> on abilify site traffic ... check bipolar and abilify blogs

Leveraging Social Networks. Examples: Blogs, Flickr tags for finding and sharing photos.

<http://www.flickr.com/photos/tags/>

Vertical Search: This is a focus for Medstory. The company's technology brings domain knowledge and Artificial Intelligence techniques into the equation. Medstory provides clients in the pharmaceutical and biotechnology sector with software that knows where to look for data and extract its meaning. It applies knowledge about diseases, therapies, interactions and mechanisms of action as well as knowledge about people and organizations.

“Generic search technology works very well for general search, but it starts to degrade not very gracefully when addressing the needs of users in particular verticals, such as healthcare and finance. You need to embed knowledge about the domain and automate as much as you can so it can acquire elements of the domain by itself.”

<http://blogs.zdnet.com/BTL/index.php?p=1196>

Knowledge-Intensive Technology

- Use technology with built-in knowledge to automate knowledge-seeking/sharing/reuse processes whenever possible – streamline the rest
 1. Industry and company knowledge → precise search and publishing
 2. Business process knowledge → just-in-time guidance
 3. Job and role knowledge → reduced time-to-competence
 4. News and data source knowledge → essential, relevant information
- Benefits
 - Increased individual productivity, motivation and contribution
 - *Empower the best people with the best technology*
 - Increased organizational value creation
 - *Better decisions, taken faster*
 - Reduced operational cost

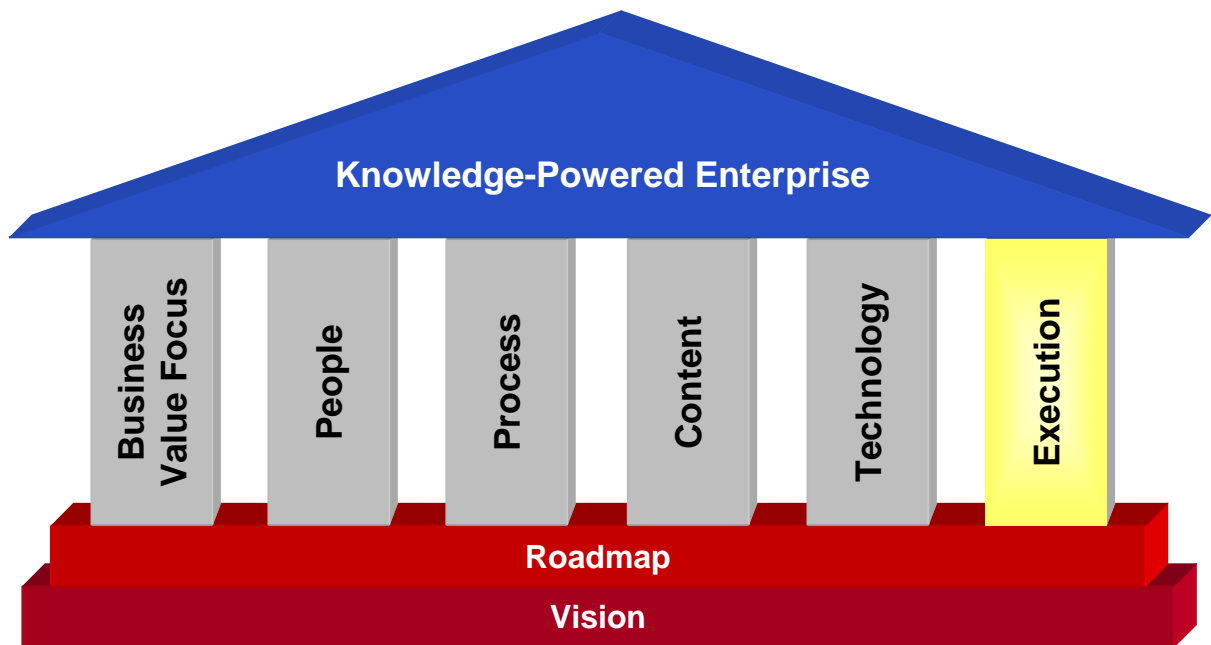
Enable people to focus on value creation. Don't force them to do tasks that can be automated.

Retrospect → Knowledge Asset → Automation (the ultimate "learning after")

Reduce organizational reaction time by empowering workers with decision-ready information

- Add context to data – connect the dots and close the loop: data → knowledge → data
- Make good on the promise to deliver the right information and knowledge to the right people, at the right time, in the right context, in the right amount, at the right cost

Pillars of KM Sustainability



Execution

- At the end of the day, your KM program must produce results. Attention to value creation and measurement are a must for continuing stakeholder support.

Best-Practice Findings

#1 for Sustainability: Easy-to-understand results

- Produce, measure and communicate
 - Align measures with core business goals and strategies – begin with the end in mind
 - Start measuring KM activities on Day 1
 - Qualitative measures help, but quantitative measures are critical in building support
 - Different stakeholders need different measures
 - Tie new KM measures to accepted process measures and metrics – be conservative



Different stakeholders need different measures to take different decisions. You need to keep in mind who is your customer; i.e., who cares?

Examples:

- **Senior Managers** – Define goals, decide on broad programs/actions; decide if programs are meeting goals
- **Line/Project Managers** – Decide on and manage projects/actions to meet goals
- **Project Staff** – Design and conduct projects/actions
- **Customers** – Decide to buy products/services
- **Suppliers** – Provide timely, cost-effective, quality products & services
- **Investors/Funders** – Decide to invest or provide funding

Not all results are financial. A result of importance may be an improved ability to attract talent or capital (by becoming known as a “cool” company.)

Lessons Learned: Err on the side of caution when reporting financial numbers. It's better to underestimate than over!

From Carla O'Dell 2004 Grapevine presentation, based on best-practice benchmarking studies

- Leaders track the impact of KM. Others tend to track costs and activity.
- Financial Impact: Median \$15M (Range: \$7M - \$200M)
- Cost per participant: Median \$152 (Range: \$33 - \$771)
- Impact per participant: Median \$357 (Range: \$100 - \$1,100) ~240% ROI

What and how to measure

Implementation



Project reporting

Participation



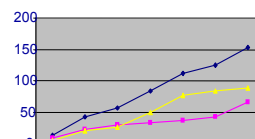
System reporting

Satisfaction



Surveys, interviews, feedback

Impact



KPI tracking surveys, interviews, feedback

Implementation: Project Reporting – Project Management Dashboards (budget, schedule), Maturity Dashboards (expansion progress by corporate function, business unit, geography), Executive Dashboards (staffing, business unit commitment).

Participation: System reporting (contributions, access, reuse, feedback, ...)

The easiest measures to get are the ones that come from the process and IT application itself. However, these process measures are surrogates for participation and health, not value.

Satisfaction: Surveys, interviews, feedback.

The second easiest are survey measures of the participants and executives.

- IBM controls how many surveys go out – there is an Employee Survey Registry group that has to approve any survey going to more than 100 people.

Impact: KPI tracking, surveys, interviews, feedback. Include interviews with business managers.

Metrics change as a KM program matures

- Phase 1: Measure ideas, insight and innovation
- Phase 2: Measure effort
- Phase 3: Start measuring results
- Phase 4: Measure final result — continuously

Potential Pharma/Biotech Impact Metric Areas

- R&D Productivity: Right Target, Right Compound, Right Development Plan
- In-Licensing Productivity
- Investment per Approved Drug – cost and time (e.g., for regulatory approval)
- Clinical Trial Success – failure rate, time to discover failure (e.g., prior to Phase I)
- Commercial
- Public Image

Role of the CKO

- **KM “process owner”**
 - Partner with business units responsible for resourcing/execution
- **Orchestrator of component/service suppliers**
 - Work with internal and external business partners / outsourcers
 - Define & enforce Service Level Agreements (SLAs)
- **Codelco Example**

The partners:

 - Manage infrastructure (Expertise Locator, Knowledge Repository)
 - *liaison with internal IT*
 - Capture, edit, manage, publish documents
 - Ensure compliance – “policeman” writes a weekly report
 - Staff the Knowledge Service Desk
 - Provide answer when known. Otherwise, talk to the experts (available 20% time) – and write up the answer for next time

KM is analogous to physical exercise. You must experience it yourself to reap the benefits. However, you can buy exercise equipment and/or hire a trainer to help.

Codelco: Contact Luis Castelli

Other outsourcing possibilities:

- KM IT infrastructure development
- Ontology development & evolution
- Document organization & migration
- Capture, editing, publishing success stories, best practices & lessons learned
- Measurement – set-up, operation, reporting

Discussion

- What are the current barriers to sustained high-performance KM in your organization?
 - Business Value Focus? People? Process? Content? Technology? Execution? ...

Form groups of 2-3 (whomever you can easily reach). Exchange views with the people next to you, then let's hear from some of you.

- | | |
|----------------------|--|
| 08:30 – 09:15 | Welcome and overview
Interactive review of KM fundamentals and how they relate to the challenges facing the drug industry. |
| 09:15 – 10:15 | Sustainability: Part I
Presentation and facilitated discussion about the best practices of KM programs that have proved to be sustainable. |
| 10:15 – 10:30 | Networking break |
| 10:30 – 12:00 | Sustainability: Part II |
| 12:00 – 13:00 | Networking lunch |
| 13:00 – 14:45 | KM Program Health Check and Tune-Up: Part I
Working group session that includes an interactive assessment of today's KM programs in the drug industry. Participants will discuss which practices they should start, continue, cease, and change. |
| 14:45 – 15:00 | Networking break |
| 15:00 – 16:00 | KM Program Health Check and Tune-Up: Part II |
| 16:00 – 16:30 | After Action Review
Wrap-up with lessons learned, questions and next steps |

**Knowledge is sticky.
Without a systematic process and
enablers, it won't flow.**

— Carla O'Dell, APQC

$$v = -\frac{k}{\mu} \frac{\partial p}{\partial x}$$

— Henry Darcy

for flow v , permeability k , viscosity μ , pressure p

Knowledge flow and fluid flow obey analogous laws. The analogy suggests a way of thinking for the knowledge manager:

To improve the knowledge productivity of an organization, take actions to:

- increase organizational permeability,
- reduce knowledge viscosity,
- increase the business pressure gradient.

See <http://www.rgsmithassociates.com/Flow.htm> for the complete article.

- | | |
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KM Tune-Up

- Adjust your KM “engine” to improve performance and ensure sustained operation at peak efficiency
 - Check overall operation
 - Identify problems
 - Repair, upgrade or add components
 - Identify actions to start, continue, cease and change

To understand whether a component is functioning properly, it is important to understand the role it plays in the overall system.

Maturity

Some basic data.

Maturity	1	2	3	4	5	N/A
1. How long has the organization had a formal KM program?						
2. Where does your KM leader report in the organization?						
3. Where is the organization on the APQC KM Roadmap?						
Total						

Q1: 5 – More than five years; 4 – Three to five years; 3 – Two to three years; 2 – One to two years; 1 – Less than one year

Q2: 5 – CEO or President; 4 – C Staff (COO, CIO, CFO, HR Chief, ...); 3 – VP; 2 – Department Manager; 1 – Section Manager

Q3: 5 – Institutionalize KM; 4 – Expand and Support; 3 – Design and Launch KM Initiatives; 2 – Develop Strategy; 1 – Get Started

See “Knowledge Management Assessment – Where are you now?” questionnaire.

Vision & Roadmap

Vision & Roadmap	1	2	3	4	5	N/A
1. Has a long-term KM vision or overall value proposition been defined for the organization (a “to be” state)?						
2. Did senior management participate in defining the vision?						
3. Has a strategic KM roadmap been defined for the organization?						
4. Did senior management participate in defining the roadmap?						
5. Are the vision and roadmap assessed and updated on a regular basis?						
6. Are the vision and roadmap aligned with other strategic programs of the organization?						
Total						

A general business case for KM.

Q1: 5 – Clear vision – it defines the “license to operate” for KM in the organization; 4 – Good vision – it gives general guidance and helps stakeholders understand why we work on KM; 3 – Satisfactory vision – it gives some guidance – the elevator speech for KM; 2 – Modest vision – it gives little guidance; 1 – No vision has been defined

Follow-up question: *Does each business unit / function have its own KM strategy/program or is there an enterprise-wide approach?*

Q2: Very strong participation; 4 – Strong participation; 3 – Satisfactory participation; 2 – Some participation; 1 – Little or no participation

Q3: 5 – Clear roadmap – it defines the ordering of steps by which to put in place new organizational capabilities enabled by KM; 4 – Good roadmap – it plays a valuable role in selecting next steps; 3 – Satisfactory roadmap – it plays a useful role; 2 – Modest roadmap – it plays a small role; 1 – No roadmap has been defined

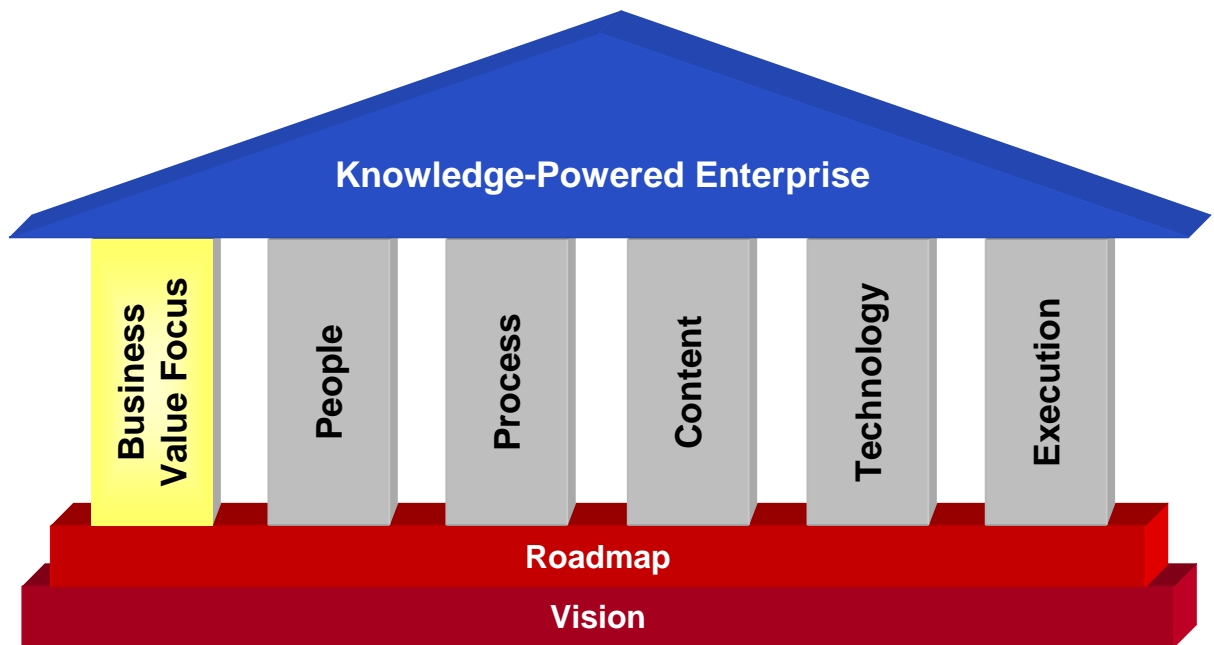
Q4: Very strong participation; 4 – Strong participation; 3 – Satisfactory participation; 2 – Some participation; 1 – Little or no participation.

Q5: 5 – Reviewed every year; 4 – Reviewed every one to two years; 3 – Reviewed every two to three years; 2 – Reviewed every three to five years; 1 – Not reviewed regularly

Q6: Very strong alignment; 4 – Strong alignment; 3 – Satisfactory alignment; 2 – Some alignment; 1 – Little or no alignment.

Example of alignment: *Has your organization linked its KM program with the organizational learning/training and development function?*

Pillars of KM Sustainability



Business Value Focus

Business Value Focus	1	2	3	4	5	N/A
1. Is KM built into the organizational mission and/or values statement?						
2. Does the KM program have a business value focus agreed upon with management?						
3. Have there been recent changes in business conditions or in the management team?						
4. Do you know the current priorities of the organization?						
5. Are KM objectives reviewed regularly with management (or with a management-based KM steering committee)?						
6. Is KM allied with one or more strategic programs of the organization?						
Total						

Some of these questions build on the Vision and Roadmap section.

Q1: 5 – KM appears in the mission / values statement – senior management talks about it with customers, investors, employees; 4 – KM appears – senior management talks about it to employees; 3 – KM appears, but is not usually mentioned; 2 – Something like KM appears – if you know what to look for; 1 – KM does not appear

Q2: 5 – We are in lock step – management drives the program; 4 – Strong agreement; 3 – Satisfactory agreement; 2 – Some agreement; 1 – Little agreement, or it's never been discussed

Q3: 5 – Very stable (some changes over a three to five year period); 4 – Stable (some changes over a one to three year period); 3 – Somewhat dynamic (some changes this year); 2 – Dynamic (some changes this quarter); 1 – Very dynamic (some changes this month)

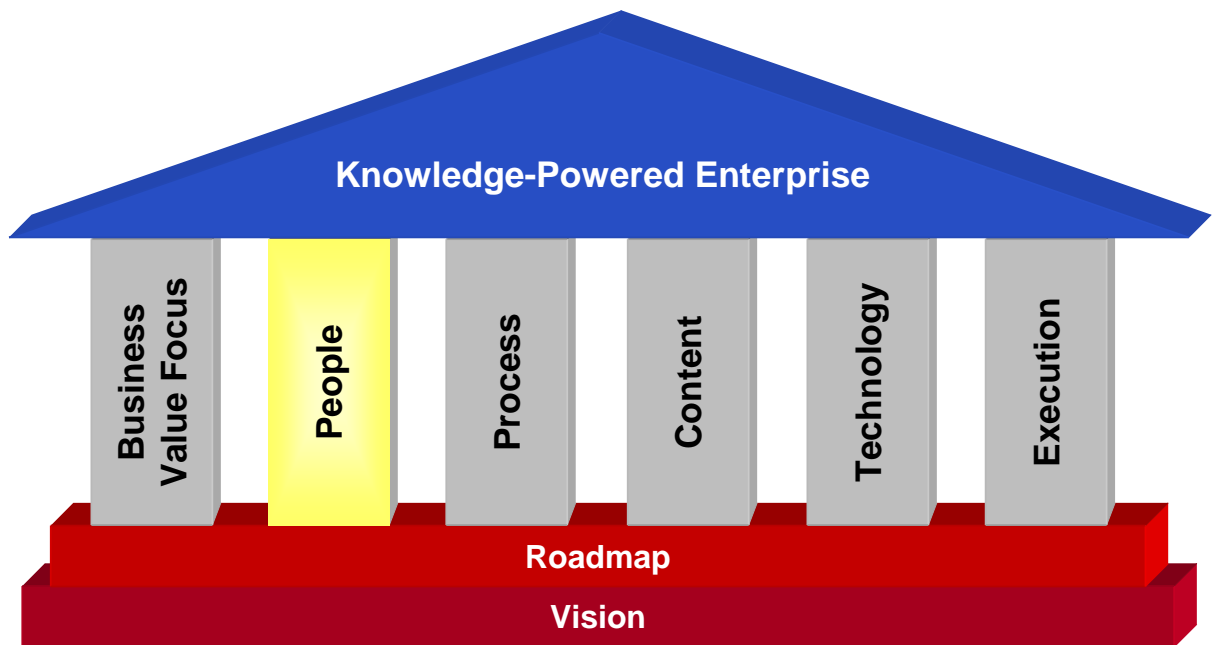
Q4: 5 – Very confident; 4 – Confident; 3 – Somewhat confident; 2 – Not confident; 1 – Not at all confident

Q5: 5 – Every month; 4 – Once a quarter; 3 – Annually; 2 – Every one to three years; 1 – Rarely happens

This could include reviewing the business case and results for all KM projects.

Q6: 5 – Very strong alliances with other strategic programs; 4 – Strong alliance with at least one other strategic program; 3 – Satisfactory alliance with at least one other strategic program; 2 – Some alliance with another strategic program; 1 – Few or no alliances with other strategic programs.

Pillars of KM Sustainability



People – Alignment

People – Alignment	1	2	3	4	5	N/A
1. Is there widespread understanding of the business value of knowledge sharing among stakeholders?						
2. Is there a knowledge-sharing element of the performance appraisal form that is normally applied by managers?						
3. Do employees have knowledge-sharing/reuse objectives?						
4. Have business units designated people to support KM (e.g., champions, knowledge service desk staff, ...)?						
5. Does a KM role represent a positive career move?						
6. Do managers support KM by encouraging participation, recognizing successes and asking questions?						
7. Is KM included in induction or other training?						
Total						

Q1: 5 – Very clear understanding; 4 – Clear understanding; 3 – Satisfactory understanding; 2 – Some understanding; 1 – Little or no understanding

Stakeholders: managers, individual contributors (possibly customers, suppliers, investors and others).

Q2: 5 – KM is on the form and always discussed by managers; 4 – KM is on the form and usually discussed by managers; 3 – KM is on the form and sometimes discussed by managers; 2 – KM is on the form, but rarely discussed by managers; 1 – KM is not on the form

Q3: 5 – Almost all employees; 4 – 75%; 3 – 50%; 2 – 25%; 1 – Few or no employees

Q4: 5 – Most business units have designated full-time people ; 4 – Most business units have designated part-time people; 3 – Some business units have designated full-time people; 2 – Some business units have designated part-time people; 1 – KM staff are centrally located and funded

Q5: 5 – Very positive career development step – only the best performers are given these roles; 4 – Positive career move; 3 – Lateral move – not seen as negative; 2 – Not seen as a positive move; 1 – Next career move is out of organization

Q6: 5 – Yes - Almost all managers give strong, visible support; 4 – Yes – Most managers give strong, visible support; 3 – Yes – Most managers give visible support; 2 – Some managers give visible support; 1 – Few managers give visible support

Q7: 5 – KM is an element of all training classes; 4 – KM is an element of most training classes; 3 – KM is an element of some training classes, including induction training; 2 – KM is an element of few training classes; 1 – KM is only taught in KM-specific training classes

Related questions: *Is knowledge sharing emphasized during the hiring process? Is there a dual ladder system (management vs. technical)?*

People – Communication

People – Communication	1	2	3	4	5	N/A
1. Do you have a KM communications plan and program?						
2. Is the program customized for different groups (e.g., managers, individual contributors, geographies)?						
3. Do you use multiple communications channels (Web, e-mail, newsletter, presentation, lunch, ...)?						
4. How often do you communicate – to individual contributors, business managers, senior management?						
5. What fraction of knowledge workers has attended a KM training class?						
Total						

Q1: 5 – Very strong plan and program; 4 – Strong; 3 – Adequate; 2 – Limited; 1 – No formal plan or program

Q2: 5 – Well tuned for all important stakeholder groups; 4 – Tuned for most groups; 3 – Tuned for some groups; 2 – Weakly tuned for some groups; 1 – Little or no tuning exists

Q3: 5 or more channels; 4 channels; 3 channels; 2 channels; 1 channel

Follow-up question: *Do you employ professional writers / editors / communicators to author content, pique the interest of knowledge workers, craft and deliver the messages, etc.?*

Q4: 5 – Daily or weekly; 4 – Monthly; 3 – Quarterly; 2 – Annually; 1 – Less than annually

Q5: 5 – Almost all; 4 – 75%; 3 – 50%; 2 – 25%; 1 – Few

People – Connection

People – Connections	1	2	3	4	5	N/A
1. Have you implemented an expertise locator system?						
2. Is participation the norm – expected behavior?						
3. Who is responsible for keeping the information current (individuals, HR, IT, ...)?						
4. Do people regularly contact others they do not know personally and are those contacted inclined to respond?						
5. Are active Communities of Practice in place?						
6. Are CoPs officially recognized – with champions, business sponsors, terms of reference, goals, responsibilities?						
7. Do you have a reward and recognition program for strong contributions to knowledge sharing or CoPs?						
Total						

Q1: 5 – Integrated with corporate directory and HR system; 4 – Integrated with HR system; 3 – Integrated with corporate directory; 2 – Stand-alone system; 1 – No system

Q2: 5 – Almost all employees participate – coupled with performance appraisal; 4 – 75%; 3 – 50%; 2 – 25%; 1 – Few

Q3: 5 – Individuals are responsible – and take the responsibility seriously – information almost always up to date; 4 – Individuals are responsible – information generally up to date; 3 – HR; 2 – IT; 1 – Don't know

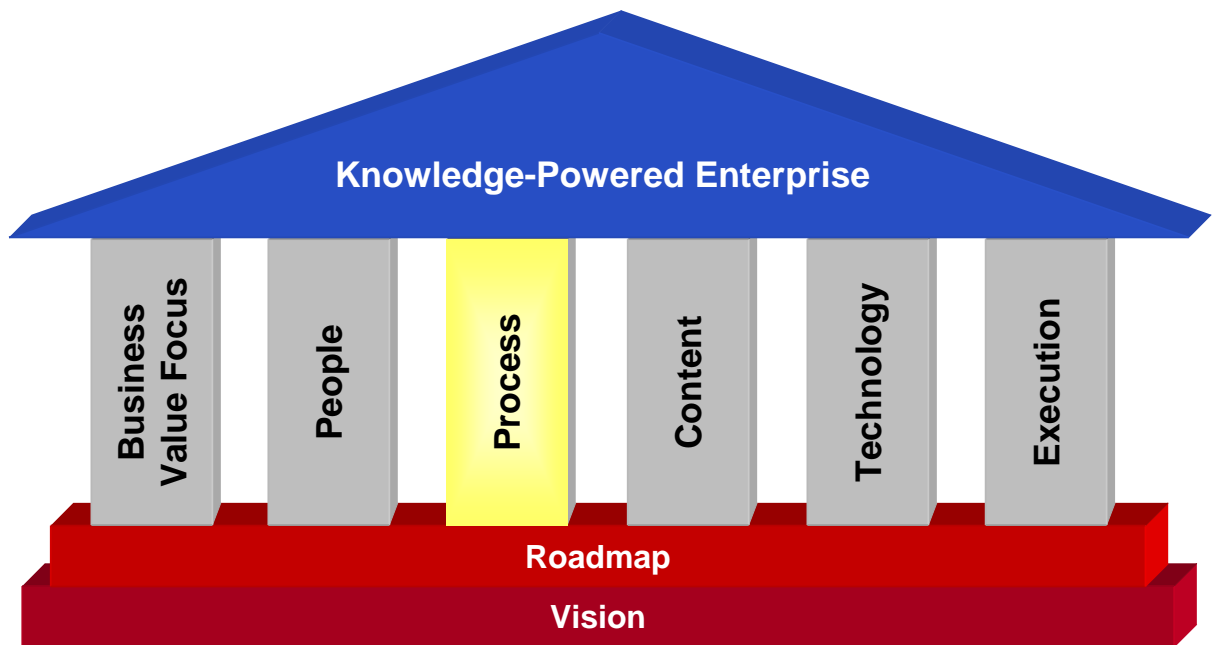
Q4: 5 – Yes to both – it's expected behavior in the organization; 4 – Yes, as a general rule; 3 – Sometimes; 2 – Not very often; 1 – Rarely

Q5: 5 – Yes – CoPs are a normal way of working – membership is expected behavior; 4 – CoPs are a normal way of working in some parts of the organization; 3 – CoPs exist – membership optional; 2 – Some communities exist, but they are more like “communities of interest”; 1 – No communities

Q6: 5 – CoPs official, with champions and business sponsors – CoPs are expected to play a strong role; 4 – CoPs official, with champions; 3 – CoPs official – managers give members time to participate; 2 – CoPs not official, but exist anyway; 1 – CoPs do not exist

Q7: 5 – Very strong program; 4 – Strong; 3 – Adequate; 2 – Limited; 1 – No formal program

Pillars of KM Sustainability



Process – General

Process – General	1	2	3	4	5	N/A
1. Have processes been defined for seeking, sharing and re-use of information and knowledge, and for obtaining help?						
2. Is there widespread understanding of knowledge-seeking/sharing/reuse processes among stakeholders?						
3. Are stakeholders involved in introduction and regular assessment of KM processes?						
4. Do stakeholders regularly contribute new information and knowledge?						
Total						

Q1: 5 – Very comprehensive processes; 4 – Comprehensive; 3 – Satisfactory; 2 – Fair; 1 – No formal processes exist

Q2: 5 – Very clear understanding; 4 – Clear understanding; 3 – Satisfactory understanding; 2 – Some understanding; 1 – Little or no understanding

Stakeholders: *managers, individual contributors (possibly customers, suppliers, investors and others).*

Q3: 5 – We are in lock step – stakeholder input drives process definition and update; 4 – Stakeholder input generally solicited; 3 – Stakeholder input sometimes solicited; 2 – Most stakeholder input comes via Website feedback; 1 – Stakeholder input is rare

Q4: 5 – Almost all employees contribute – it's expected behavior, recognized by peers and by management; 4 – Most employees contribute – it's expected by peers; 3 – Some employees contribute; 2 – Few employees contribute – most new information and knowledge is published by a central team; 1 – No formal process exists

Process – LB/LD/LA

Process – LB/LD/LA	1	2	3	4	5	N/A
1. Do employees follow a standard “Learn Before” process?						
2. Do employees follow a standard “Learn During” process?						
3. Do employees follow a standard “Learn After” process?						
4. Is there a process for transforming learnings into knowledge assets and/or standard operating procedures?						
5. Is a validation process in place?						
Total						

Q1: 5 – ‘Learn before’ is part of a required business process and occurs by default in all projects; 4 – Accepted behavior for most pieces of work; 3 – Occurs sporadically; 2 – Rare – most projects have no pre-learning; 1 – Almost never occurs – all projects start from a knowledge base restricted to the tacit/explicit knowledge of the participants

Q2: 5 – ‘Learn during’ is part of a required business process and occurs by default in all projects; 4 – Accepted behavior for most pieces of work; 3 – Occurs sporadically; 2 – Rare – relies on the enthusiasm of the project leaders; 1 – Almost never occurs – project reviews and processes have no ‘knowledge capture’ element

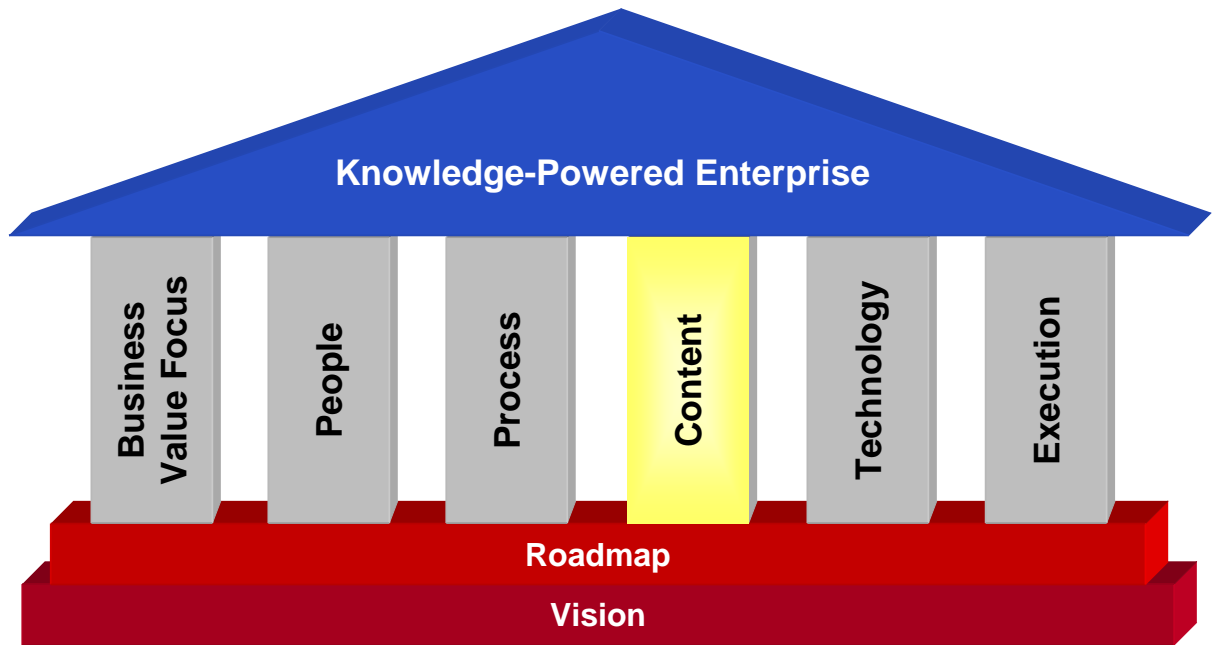
Q3: 5 – ‘Learn after’ is part of a required business process and occurs by default in all projects; 4 – Accepted behavior for most pieces of work; 3 – Occurs sporadically; 2 – Rare – relies on the enthusiasm of the project leaders; 1 – Almost never occurs – post-project look-backs (when they occur) have no ‘knowledge capture’ element

Q4: 5 – Very comprehensive process; 4 – Comprehensive; 3 – Satisfactory; 2 – Fair; 1 – No formal process exists

Becoming part of the standard operating procedures implies that learnings become part of the standard training programs.

Q5: 5 – Very comprehensive process – all contributions are validated; 4 – Comprehensive – most contributions are validated; 3 – Satisfactory – some contributions are validated; 2 – Fair – we rely on individual employees to only contribute valid information; 1 – No formal process exists – caveat emptor

Pillars of KM Sustainability



Content – Repository

Content – Repository	1	2	3	4	5	N/A
1. Does the organization have a single knowledge repository, “the place to go” for information & knowledge?						
2. Is the repository filled with high-quality knowledge assets, “just what you need”?						
3. Does a knowledge map exist for the organization?						
4. Can stakeholders generally find “just what they need”?						
Total						

Q1: 5 – Yes, one central repository, understood by employees as “the place to go,” supported by a content management system; 4 – A few widely used repositories exist; 3 – Many repositories exist – not integrated; 2 – Some repositories exist on a local basis; 1 – The only repositories are on individual PCs.

There will be related questions in the Technology section.

Q2: 5 – Very good quality – “just what you need” – written from the point of view of the next team that will take on a similar project; 4 – Good quality; 3 – Satisfactory quality; 2 – Fair quality; 1 – Poor quality – far from “just what you need”

Follow-up question: *Do you employ professional writers / editors to author content, pique the interest of knowledge workers, etc.?*

Q3: 5 – Very comprehensive knowledge map – includes a taxonomy / classification system used to organize the repository and guide search; 4 – Comprehensive – gives some guidance; 3 – Satisfactory knowledge map exists, but not integrated with the repository; 2 – Some local knowledge maps exist; 1 – Little or no knowledge mapping has been done

Q4: 5 – People almost always find what they need – quickly – the content is almost always there; 4 – People find what they need most of the time; 3 – People generally find what they need – with time and effort; 2 – People may or may not find what they need – and it isn’t easy; 1 – People are unlikely to find what they need – the usual strategy is to ask colleagues

Content – Process

Content – Process	1	2	3	4	5	N/A
1. Is there an active maintenance process (e.g., for retiring or re-synthesizing content)?						
2. Who is responsible for maintaining content?						
3. Is there an active feedback process to ensure quality and relevance & identify high-value information/knowledge?						
4. Can stakeholders trust the content in the knowledge repository (e.g., due to a validation process)?						
5. Does an active process exist for seeding new areas and filling “business-critical” gaps?						
Total						

Q1: 5 – Content is upgraded or retired on an active, continuous basis; 4 – Content is upgraded or retired periodically; 3 – Most content is maintained, but not necessarily in a timely fashion; 2 – Some content is maintained; 1 – There is little or no content maintenance

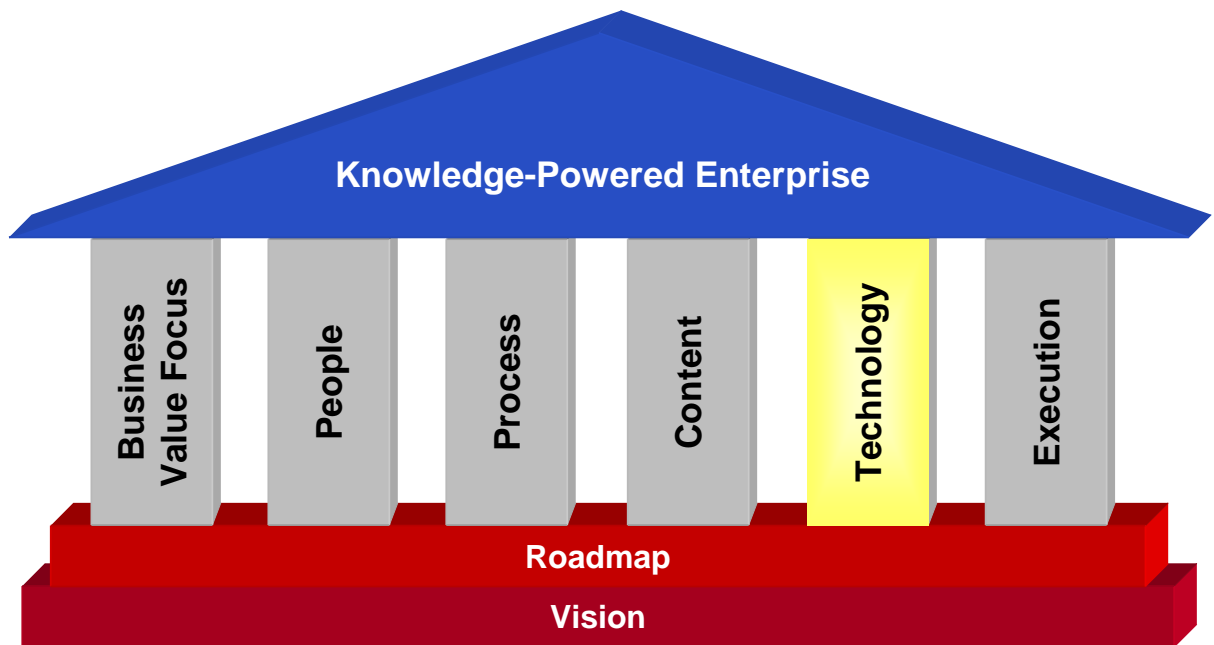
Q2: 5 – Almost all business units have designated content owners responsible for maintenance – using a process managed by the central KM team; 4 – Most business units have designated content owners; 3 – Maintenance is up to individual contributors; 2 – The central KM team is responsible for most maintenance; 1 – There is little or no maintenance

Q3: 5 – Very active content rating/feedback process – ratings and feedback are the norm; 4 – Active process; 3 – Process exists – usage is ‘hit and miss’; 2 – Process exists, but is not much used; 1 – No process exists

Q4: 5 – Employees can almost always be assured that content is valid; 4 – Mostly assured; 3 – Reasonably assured; 2 – Employees need to be cautious; 1 – No validation process exists – caveat emptor

Q5: 5 – A process exists by which almost all gaps are filled (e.g., tasking CoPs and/or project teams); 4 – A process exists and most gaps are filled; 3 – A process exists and some gaps are filled; 2 – Gaps are filled in an ad-hoc fashion; 1 – Gaps go largely unfilled

Pillars of KM Sustainability



Technology – General

Technology – General	1	2	3	4	5	N/A
1. Are stakeholders involved in introduction and assessment of KM technology?						
2. Does the KM technology meet the needs of the stakeholders? (superb, could be better, behind the curve)						
3. Is the KM technology guided by a knowledge map (for search, browsing, expertise location, ...)?						
4. Are portals and the Web widely used on the Intranet?						
5. Do the deployed search engines enable stakeholders to find what they need? (information, knowledge, expertise)						
6. Is virtual collaboration technology widely used by project teams and CoPs?						
Total						

Q1: 5 – We are in lock step – stakeholder input drives the technology; 4 – Stakeholder input generally solicited; 3 – Stakeholder input sometimes solicited; 2 – Most stakeholder input comes via Website feedback; 1 – Stakeholder input is rare

Stakeholders: *managers, individual contributors (possibly customers, suppliers, investors and others).*

Note: A high score for Q1 implies that KM technology is assessed and upgraded regularly.

Q2: 5 – Our technology is superb – just what we need – only minor tweaking is required; 4 – Our technology keeps us ahead of the curve – but we keep looking for improvements; 3 – Our technology is adequate – we are neither ahead nor behind; 2 – We are behind the curve on technology; 1 – Technology is not a priority

Q3: 5 – Very comprehensive knowledge map – includes a taxonomy / classification system used to organize the repository and guide search; 4 – Comprehensive – gives some guidance; 3 – Good knowledge map exists, but is not integrated with the repository; 2 – Some local knowledge maps exist; 1 – Little or no knowledge mapping has been done

Q4: 5 – Portals and the Web are the norm for the Intranet; 4 – Widespread, but other technologies exist (e.g., Lotus Notes); 3 – Portals and the Web are used, but do not dominate; 2 – There is some usage, but other technologies dominate; 1 – Portals and the Web are little used

Note: Q5 was asked earlier from a content perspective. This time, from a technology perspective.

Q5: 5 – If the content exists, people almost always find it – quickly; 4 – Most of the time; 3 – Generally yes – with time and effort; 2 – Maybe yes, maybe no – and it isn't easy; 1 – Not much chance – the usual strategy is to ask colleagues

Q6: 5 – Very widely used – the norm; 4 – Used by 75% of teams; 3 – 50%; 2 – 25%; 1 – Little used

Technology – Responsibility

Technology – Responsibility	1	2	3	4	5	N/A
1. Who is responsible for designing the KM technology plan and selecting components?						
2. Who is responsible for deploying and managing the KM technology infrastructure?						
3. Is KM part of the overall IT strategy of the organization?						
4. Is the KM team involved in data integration (e.g., bioinformatics, business/corporate intelligence)?						
Total						

Q1: 5 – Joint responsibility shared by KM and IT; 4 – KM responsibility – strong IT input; 3 – IT responsibility – strong KM input; 2 – IT responsibility – little KM input; 1 – No formal enterprise-wide responsibility – handled locally by individual units

Q2: 5 – Internal IT or external supplier responsibility – managed via Service Level Agreement (SLA) held by KM; 4 – IT responsibility – strong KM input; 3 – IT responsibility – modest KM input; 2 – IT responsibility – little KM input; 1 – No formal enterprise-wide responsibility – handled locally by individual units

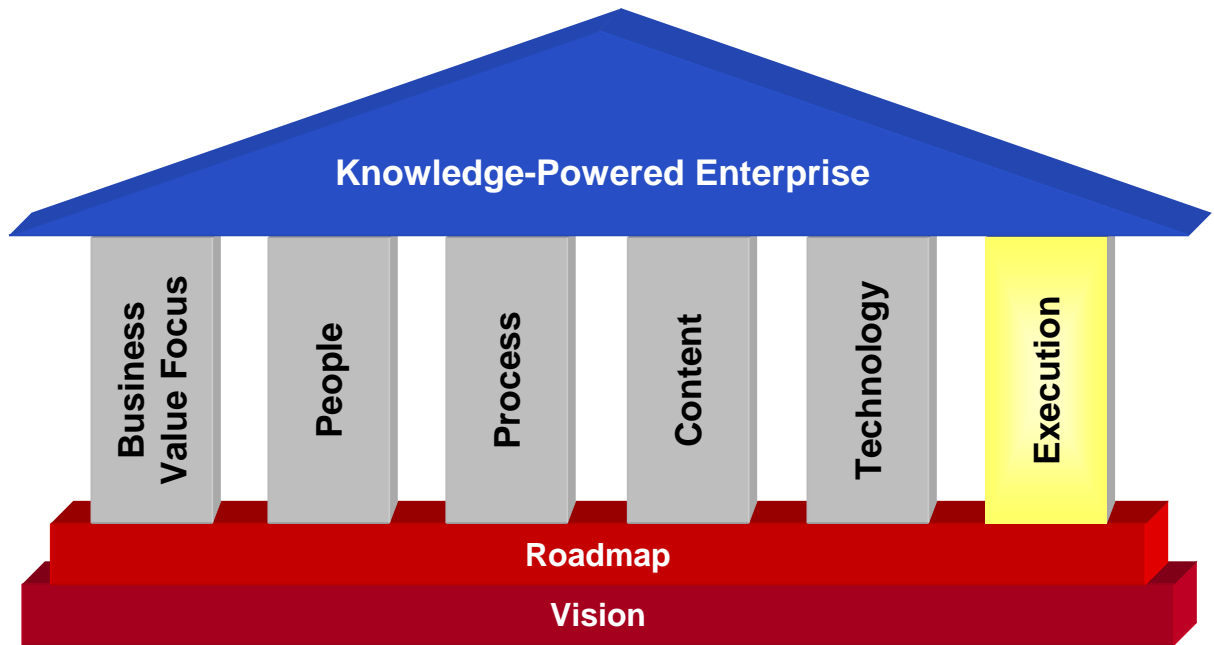
Q3: 5 – Fundamental part of the overall IT strategy; 4 – Strong part of the strategy; 3 – Part of the strategy; 2 – Minor part of the strategy; 1 – Not part of the strategy

Q4: 5 – KM involved in every aspect – playing a key role; 4 – KM very involved; 3 – KM involved; 2 – Some KM involvement; 1 – KM not involved

For more on data integration and knowledge management, see:

David B. Searls. Data Integration: Challenges for Drug Discovery. *Nature Reviews | Drug Discovery* Vol. 4, January 2005, pp. 45-58.

Pillars of KM Sustainability



Execution – Metrics

Execution – Metrics	1	2	3	4	5	N/A
1. Has your KM program produced results recognized by management?						
2. Do you have Implementation metrics?						
3. Do you have Participation metrics?						
4. Do you have Satisfaction metrics?						
5. Do you have Impact metrics?						
6. Do standard metrics exist for CoPs?						
7. Are metrics tuned to stakeholders?						
8. Are KM results reviewed regularly with management (or with a management-based KM steering committee)?						
Total						

Q1: 5 – Results recognized by management and celebrated externally; 4 – Results recognized by management and celebrated internally; 3 – Results recognized by management; 2 – Results recognized by some managers; 1 – Few results to report and/or management not much interested

Q2: 5 – Very comprehensive metrics; 4 – Comprehensive; 3 – Satisfactory; 2 – Fair; 1 – No tracking

Q3: 5 – Very comprehensive metrics; 4 – Comprehensive; 3 – Satisfactory; 2 – Fair; 1 – No tracking

Samples: number of communities, number of people using a particular KM program, who is contributing, who is reusing, ...

Q4: 5 – Very comprehensive metrics; 4 – Comprehensive; 3 – Adequate; 2 – Fair; 1 – No tracking

Follow-up question: *How do you measure: internal survey, external survey, ... ?*

Q5: 5 – Very comprehensive metrics; 4 – Comprehensive; 3 – Adequate; 2 – Fair; 1 – No tracking

Samples: cost savings, productivity increase, bottom line impact, top-line growth, quality improvement, customer satisfaction, innovation, time to competence, hiring success, ... based on organizational KPIs

Follow-up question: *What is your management's relative emphasis on qualitative metrics (e.g., attitudes, beliefs, culture, and stories) compared to quantitative measures?*

Q6: 5 – Standard metrics exist and are tracked for almost all CoPs; 4 – 75%; 3 – 50%; 2 – 25%; 1 – No tracking

Q7: 5 – Well tuned for all important stakeholder groups; 4 – Tuned for most groups; 3 – Tuned for some groups; 2 – Weakly tuned for some groups; 1 – Little or no tuning exists

Q8: 5 – Every month; 4 – Once a quarter; 3 – Annually; 2 – Every one to three years; 1 – Rarely

This could include reviewing the KM objectives as well as the business case for KM projects.

Execution – Partners

Execution – Partners	1	2	3	4	5	N/A
1. Do you have a network of internal and/or external KM partners/suppliers?						
2. Do you outsource some KM functions (e.g., infrastructure, logistics)?						
3. Are KM functions managed via Service Level Agreements (e.g., infrastructure up-time, CoP member satisfaction)?						
Total						

Q1: 5 – Very strong network – both internal and external suppliers; 4 – Strong network, mostly internal (e.g., IT, HR); 3 – Adequate network; 2 – Weak network; 1 – KM takes care of its own needs – stands alone

Note: *This is in addition to partnering with business units ... who must take ownership and share responsibility for results.*

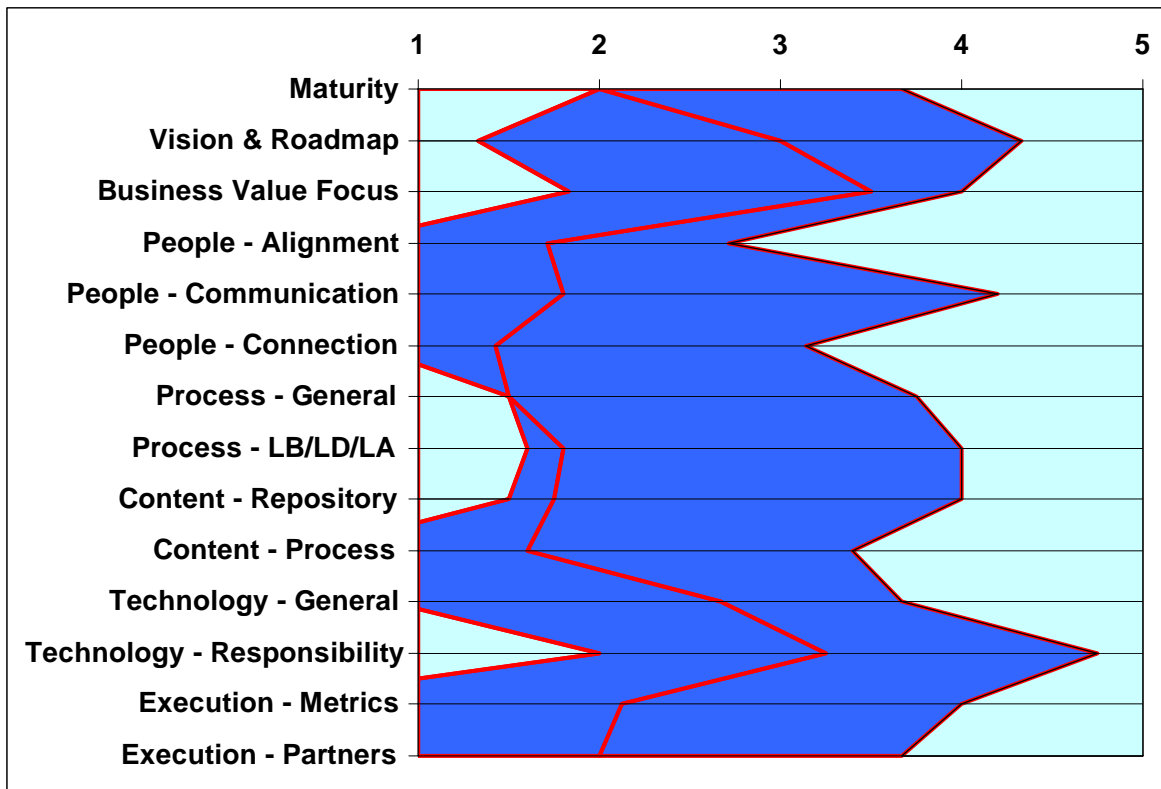
Examples of external network partners: *technology suppliers, consultants, writers, editors, trainers, communicators, knowledge service desk staff.*

Q2: 5 – Yes, everything we can; 4 – Many functions; 3 – Some functions; 2 – Few functions; 1 – No outsourcing

Note: *Score “insourcing to internal IT” as “outsourcing.”*

Q3: 5 – Yes, SLA’s are the norm; 4 – SLA’s are pretty standard; 3 – SLA’s are used for some functions; 2 – SLA’s are used for a few functions; 1 – SLA’s are not used

KM Tune-Up River Diagram



Left Bank is lowest score of any organization in the group for a category.

Right Bank is highest score of any organization in the group for a category.

Line between the banks is the score for a particular organization in each category.

It takes 30-45 mins. to answer the questions.

Discussion

- Select one or more categories
- Find people with whom you can learn
- Discuss
- Report
 - Components to repair, upgrade or add
 - Actions to start, continue, cease and change

- | | |
|----------------------|--|
| 08:30 – 09:15 | Welcome and overview
Interactive review of KM fundamentals and how they relate to the challenges facing the drug industry. |
| 09:15 – 10:15 | Sustainability: Part I
Presentation and facilitated discussion about the best practices of KM programs that have proved to be sustainable. |
| 10:15 – 10:30 | Networking break |
| 10:30 – 12:00 | Sustainability: Part II |
| 12:00 – 13:00 | Networking lunch |
| 13:00 – 14:45 | KM Program Health Check and Tune-Up: Part I
Working group session that includes an interactive assessment of today's KM programs in the drug industry. Participants will discuss which practices they should start, continue, cease, and change. |
| 14:45 – 15:00 | Networking break |
| 15:00 – 16:00 | KM Program Health Check and Tune-Up: Part II |
| 16:00 – 16:30 | After Action Review
Wrap-up with lessons learned, questions and next steps |

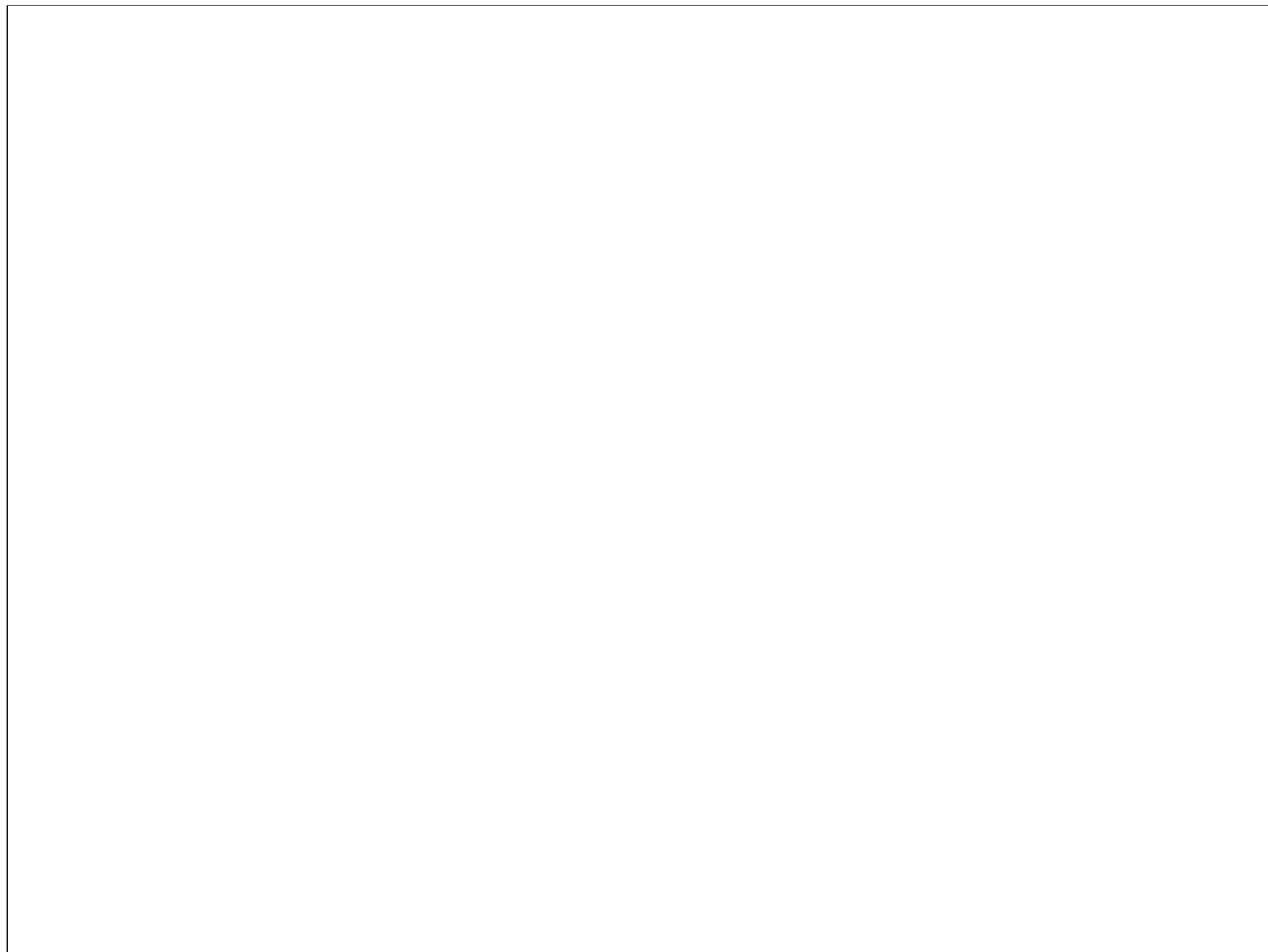
“Steal with pride—Share with delight. ”

— *Holderbank*

“Good artists copy. Great artists steal.”

— *Pablo Picasso*

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After Action Review

1. What was supposed to happen?
 - Context
2. What actually happened?
 - Ground Truth
3. Why was there a difference?
 - Root Cause Analysis
4. What can you learn from it?
 - Recommendations



Col. Ed Guthrie

1. What was supposed to happen? This establishes the Context.
 2. What actually happened? This establishes the Ground Truth.
 3. Why was there a difference? Conduct a Root Cause Analysis to understand the gap between what was supposed to happen and what actually happened.
 4. What can you learn from it? Recommendations. What to keep doing. What to stop doing. What to start doing. What to change.
- Don't pay more than once to learn a lesson. Reuse the knowledge before next time. Don't repeat old mistakes. Make new ones.

Lessons Learned

A lesson is not “learned” until it has been validated, it results in a change in behavior, and that change produces the predicted results.

“In a complex situation, most of what you learn from a single experience is the wrong answer. So you go out and choose a different answer to the problem, and it’s wrong too, but maybe it’s less wrong.... You’ve got to learn in small bites, lots of them, over time, and they’ll work, eventually, into a complete solution to the problem.”

— Col. Joe Moore, From Post-Mortem to Living Practice

Lessons learned are often the output of an After Action Review. They are a key part of just-in-time knowledge delivery – presenting the relevant knowledge “just-in-time” in a business process – when a person or team is about to execute a step in the process.

However, note the iterative improvement aspect of AARs.

Power = Knowledge^{Shared}



See <http://www.rgsmithassociates.com/Power.htm> for more on Power = Knowledge^{Shared}