Measuring KM Activity and Progress

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April 27, 2007

Knowledge Leadership Forum 2007, New York, NY.

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At the end of the day, your KM program must produce easy-to-understand results. Measurement affords a means for demonstrating progress and sustaining stakeholder support. It is essential for understanding what is working, and for determining what should be changed to ensure that the expected benefits are realized.

In this session, we cover the following points, illustrated with examples from a variety of organizations.

- Answering the key questions: What is the value proposition? What resources will be required to realize the benefits? How long will it take to realize the benefits?
- Input measures, activity measures and output measures;
- Measuring progress vs. measuring activity;
- How measurement needs change over time; and
- Measurement best practices.

Three Key Questions

- **Value Proposition**
  - What are the expected business or organizational benefits?

- **Cost**
  - What resources will be required to realize the benefits?

- **Time**
 - How long will it take to realize the benefits?

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Three questions are central to the business case for any performance improvement program, including knowledge management:

- **Value Proposition:** What are the expected business or organizational benefits?
- **Cost:** What resources will be required to realize the benefits?
- **Time:** How long will it take to realize the benefits?

At the end of the day, your KM program must produce easy-to-understand results that answer these questions.
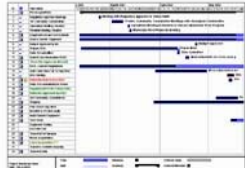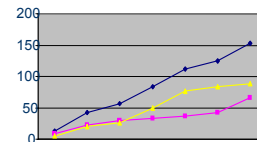
How we measure

Participation

Corporate View: Where are we against our institutionalization plan, wrt point of no return, idea of relevance of solution

Individual View: Metrics needed for implementation of incentive program, management by objectives, …

Satisfaction: For evolution, innovation

Impact: Justifying investment *and* directing new investment

Participation: CoP Members

Communities & SIGs	Members	Without CNP
Chemistry (_873_ registered in community SIGs)	163	13%
Batteries	16	25%
Formulation	20	15%
General Chemistry	539	17%
Green Chemistry	182	13%
Macromolecules	348	11%
Rheology	9	0%
Electrical (_2414_ registered in community SIGs)	707	21%
Design Support	348	21%
Downhole Electrical Motor	259	16%
Electrical Design	892	18%
High Temperature	106	14%
Technology	1083	19%
Telecommunications	1382	20%

Communities & SIGs	Members	Without CNP
Mathematics (_1477_ registered in community SIGs)	94	16%
Applied Mathematics	940	13%
Geometric Modelling	324	16%
Inversion Optimization and Uncertainty	345	14%
Mathematical Data Analysis	658	15%
Mechanics (_1994_ registered in community SIGs)	678	14%
Materials for Mechanical Engineering	817	13%
Mechanical Equipment Integration	859	14%
Modeling and Simulation	850	15%
Sensor Technology	756	16%
Nuclear (_553_ registered in community SIGs)	46	7%
Neutron and X-Ray Generators	121	21%
Nuclear Modelling	101	15%
Nuclear Technology	433	15%

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~13,000 members

Participation: Community Dashboard

Health Check Details

Metric	Value	Health
% voter turnout in last election	8%	🟥
% members with CNP	94%	🟩
% CNP's updated within last year	37%	🟧
% CNP's accessed within last year	97%	🟩
% SETC members Senior and above	0%	🟥
# nomination in last election	1	🟥
# shared SIGs or hosting communities	1	🟥
charter exists?	No	🟥
last charter update date	N/A	⬜
icon exists?	Yes	🟩
# Tellus subjects of interest selected	0	🟥
# R&D input items (input briefs, white papers) submitted last year	N/A	⬜
SIG membership breakdown: 123i / 123 / 12 / 1	4778 / 1560 / 1046 / 641	🟧
# of BB's listed on home page	4	🟥

Country Distribution for SIG123 members

Country	United States	Great Britain	France	Norway	United Arab Emirates	all
Members (%)	233 (31%)	90 (12%)	82 (11%)	25 (3%)	24 (3%)	

Participation: Knowledge Sharing

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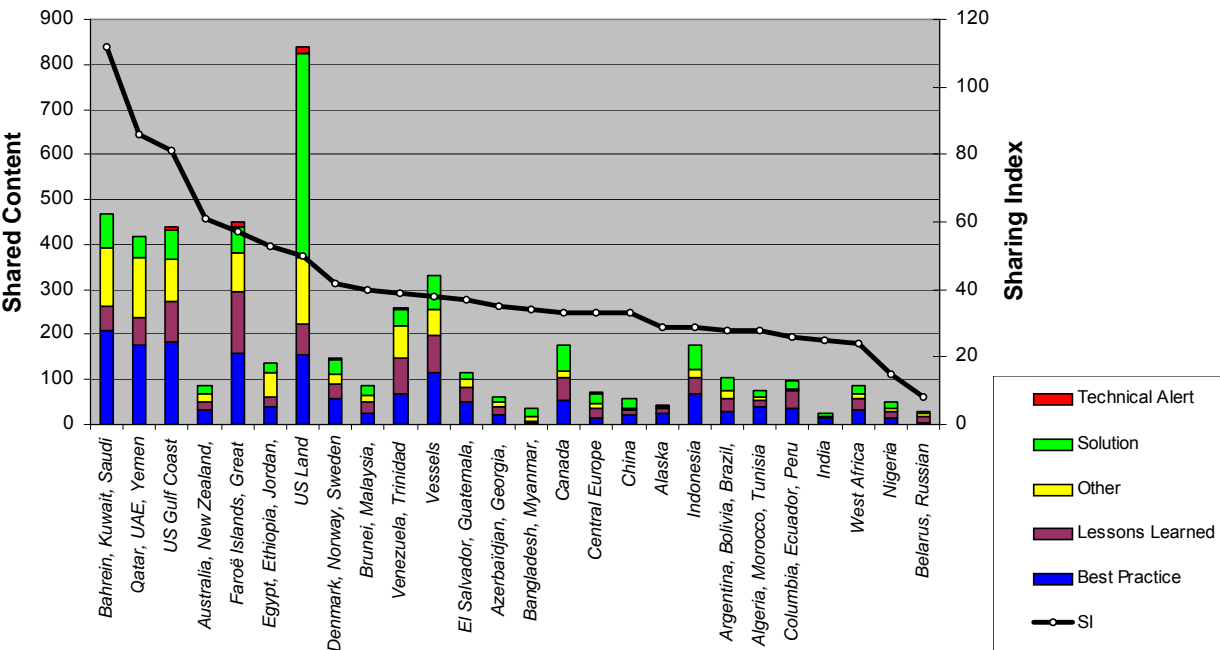
Satisfaction

- Annual survey by third party: Web-based survey and e-mail solicitation
- Satisfaction data is on a four-point scale:
  - **Completely satisfied** - nothing that can be done to increase the respondent's satisfaction with the experience
  - **Mostly satisfied** - respondent satisfied with most aspects of experience
  - **Somewhat satisfied** - respondent feels a significant, although not dominant, level of dissatisfaction with the experience
  - **Not satisfied** - respondent is absolutely dissatisfied with the experience
- Industry standard: **>80%** indicates a high level of satisfaction

| Not satisfied	Somewhat satisfied	Mostly satisfied	Completely satisfied

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Feedback collection is built into the system
- Knowledge reuse
- Knowledge activity
- Impact on safety
- Impact on service quality
- Impact on revenue
- Impact on client satisfaction
- Impact on company image

Complemented by an annual survey conducted by an independent third-party.

Impact: Knowledge re-use by origin, per area

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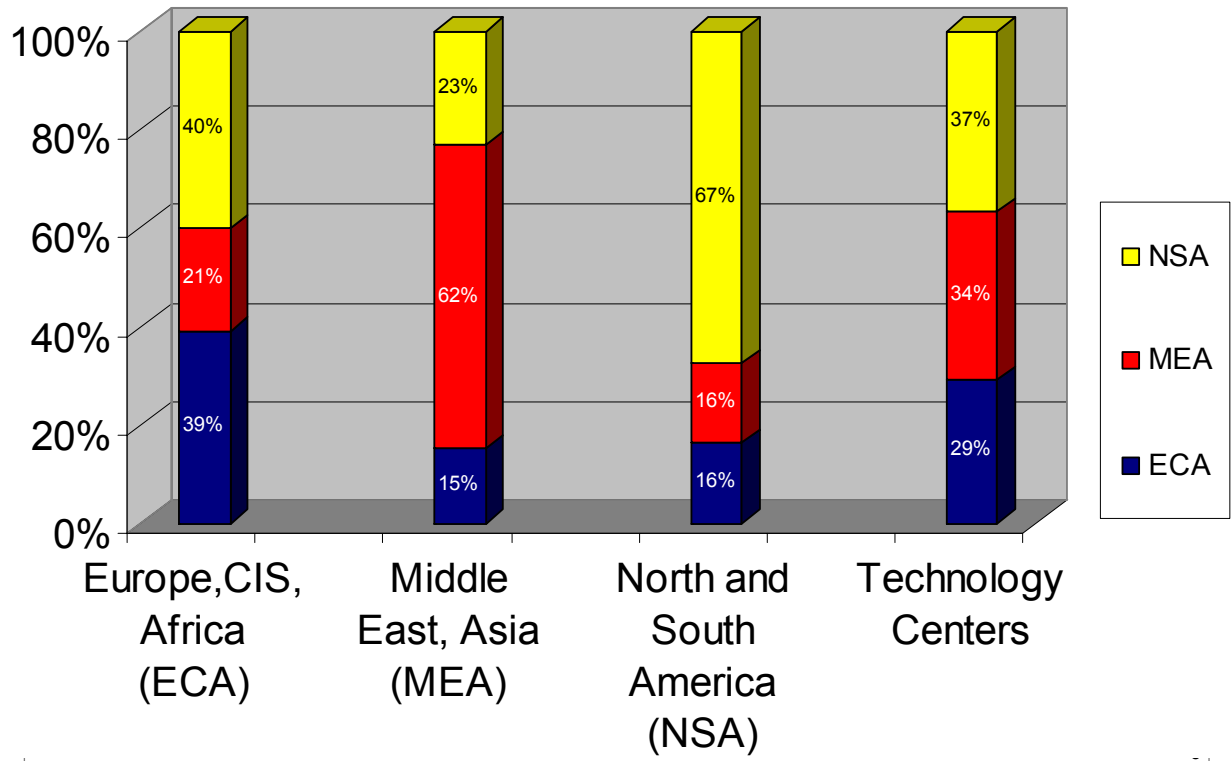
Types of Measures

- **Input Measures** (or **Cost Measures**)
  - Expenses to create and support the program (consultants, staff, IT, …)
  - Time of participants

- **Process Measures** (or **Activity Measures**)
  - Level of participation in the KM program
    - Number of lessons learned, CoP members, Web page views
    - Perceived utility of KM processes and technology in improving participants jobs

Leading Indicators

- **Output Measures** (or **Outcome Measures** or **Results Measures**)
  - Progress in delivering on the value proposition
    - Hard-dollar business metrics
      - Revenue growth, Productivity, Efficiency, Capex/Opex, Quality, Cycle time, Innovation
    - Soft-dollar measures
      - Surveys/assessments: success stories, cost avoidance, customer/employee satisfaction
      - Time-to-competence, Ability to attract talent or capital
    - Integrated with business KPIs in Balanced Scorecard

Lagging Indicators

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Measures fall into three classes:
- **Input Measures** (or **Cost Measures**): These include expenses to create and support the program (e.g., consultants, direct staff, IT) plus the time of participants.
- **Process Measures** (or **Activity Measures**): These are measures of the level of participation in the KM program. Examples include: number of lessons learned, number of project teams using KM approaches, Web page views, number of CoP members, and perceived utility of KM processes and technology in improving the daily jobs of participants.
- **Output Measures** (or **Outcome Measures** or **Results Measures**): These are the measures of progress in delivering on the value proposition. They may be traditional "hard-dollar" business metrics like: revenue growth, improved productivity (e.g., revenue/employee for a service business), improved efficiency (e.g., return on capital employed for a capital-intensive business), reduced capital or operating expense, improved quality, reduced cycle time, or enhanced innovation (e.g., percentage of revenue from new products). They may also be "soft-dollar" measures like: success stories, cost avoidance, increased customer satisfaction, improved skills and competencies, decreased time-to-competence, and improved ability to attract talent or capital. Organizations often expect the KM program to influence their overall Key Performance Indicators and integrate its results into a Balanced Scorecard.

Input and process measures are called "leading indicators", whereas output measures are called "lagging indicators." Because different stakeholders need different data to take different decisions, sustainable KM programs employ a blend of leading and lagging indicators.

Selecting a set of measures

- Initial Discussions
  - Obtain benchmarking data
  - Determine what success means to stakeholders
    - Senior Managers, Operational Managers, Individual Contributors, Customers, Suppliers, …
  - Determine the data they will require to be convinced

- Match measures to stakeholder needs
  - Decisions that can be taken using the data

- Match measures to organizational culture

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The measures that make sense for your KM program depend on the culture of your organization. Begin by asking around to understand what long-term success means to the different stakeholders (e.g., senior managers, operational managers, colleagues, individual contributors, customers, suppliers) and what data they will need to be convinced. Prime these early discussions by going over successes reported by other organizations in benchmarking studies. However, be prepared for a vigorous discussion. Reported successes are usually greeted by healthy skepticism ... from all stakeholders.

Points to keep in mind
- *Precise* metrics are hard to establish
- Even imprecise metrics are very useful – maybe not to "prove" the value proposition (and ROI), but to show improvement, and to flag particular strength/weakness areas (that then can be addressed).
- It is important to *try* to stay with extant metrics (where data are already being captured within the organization)
  - If you need to create new metrics, follow the rule of least-interference – make the metrics:
    - as easy to implement as possible; and
    - as "natural" as possible – "natural" meaning immediately understandable and obviously relevant

Because different stakeholders need different data to take different decisions, sustainable KM programs employ a blend of leading and lagging indicators.

Measures for key stakeholders

1. ## Measures meaningful to management
   - Combination of input and hard-dollar measures
   - Include anecdotal measures / success stories

2. ## Measures meaningful to participants
   - "Things are getting better"

3. ## Measures useful to the knowledge manager
   - Process measures

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Use what you learn to select a small set of measures for each pilot project:

- Measures that are meaningful to management. For these decision-makers, the most useful are likely to be a combination of input and "hard dollar" output measures, but be sure to include some anecdotal measures (e.g., success stories) and process measures in the mix. While "hard dollar" measures are the most useful for senior managers to decide if the program is producing the expected benefits, they are often the most difficult measures to obtain.

- Measures that are meaningful to participants in the KM program. Metrics are important to demonstrate that "things are getting better." Here anecdotal stories are useful "metrics" – possibly, even more useful than numeric metrics, inasmuch as good anecdotes resonate and spread.

- Measures that are useful to you as knowledge manager. These are primarily process measures that help you assess overall program health, measure the utility of individual KM processes and technologies, and guide next steps.

- *We're different*

- *The knowledge manager can't claim all the credit*

- *It is easy to measure progress in a business, but much harder for government or non-profit organizations*

Following are some familiar objections, together with some ideas on how to respond to them.

- *"We're different."* The results don't apply to our organization.

  Of course, this may be true. It is best to find results from organizations that are close to your own (perhaps competitors, customers or companies that use similar business processes in a different sector) or where the differences can be shown to be immaterial to the case for KM.

- *"The knowledge manager can't claim all the credit."*

  Organizational performance results are indeed based on a number of factors. Focus on results reported by line management and play down those reported only by a knowledge manager.

  Be aware that organizations typically do not attribute results to a particular functional group (KM, IT, HR, …). For example, Schlumberger reports these results for a specific KM program (InTouch): queries resolved 20 times faster and $200 million/year revenue created or saved.

  This kind of reporting is consistent with the way companies attribute revenue to new products. They don't carve up the revenue by function (R&D gets this percentage, Marketing gets that percentage, and so on). Of course, the analogy to KM isn't perfect because company accounting systems track revenue for individual products, whereas they typically don't track cost savings by program with the same rigor.

  This leads to a caveat when measuring the results of your own KM program: **Avoid percentage credit negotiation.** In this approach, a functional group (like KM or R&D) engages business managers in a kind of negotiation about what percentage of the revenue or cost savings for a particular program should be attributed to their efforts. Experience has shown that this is a waste of time and reduces the credibility of the group doing the negotiating.

- *"It is easy to measure progress in a business, but much harder for government or non-profit organizations."*

  It is true that "hard dollar" output measures are less obvious for a government or non-profit organization. Concentrate on "soft dollar" measures like customer satisfaction, cost avoidance, not making the same mistake twice, providing quick access to correct information, etc.

Measurement needs change over time

**APQC's Road Map to
Knowledge Management Results:
Stages of Implementation™**
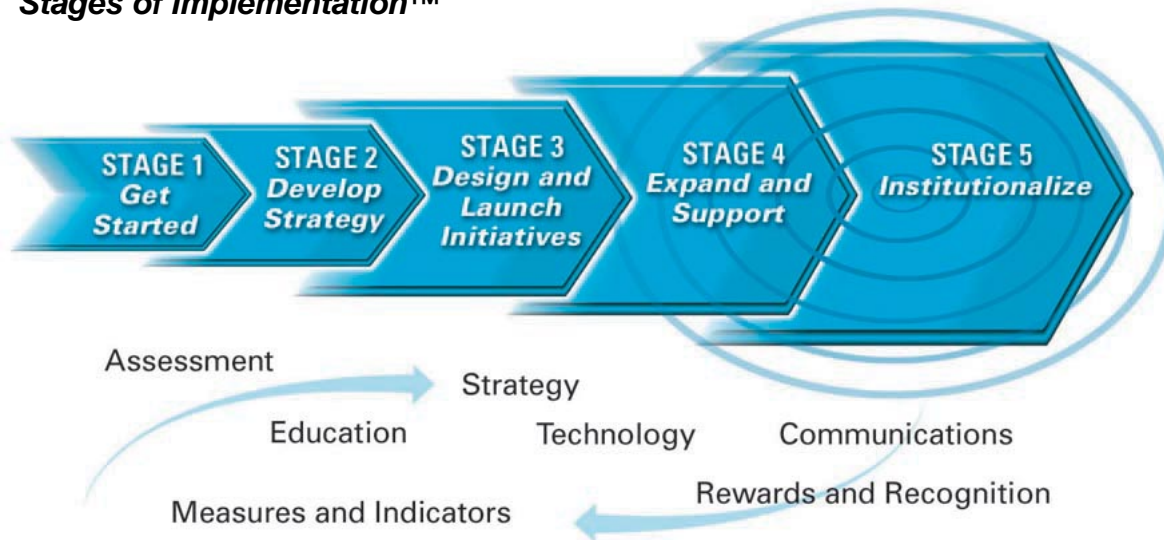
Organizations predictably move through five stages of KM maturity (*Get Started, Develop Strategy, Design and Launch Initiatives, Expand and Support, Institutionalize* – from APQC.) While measurement needs change over time as experience is gained, it is important to measure progress at every stage.

Measurement needs change over time

- **Get Started / Develop Strategy**
  - Explicit ROI case difficult (maybe even dangerous)
  - Early results likely to be more intangible, but still measurable
  - Examples: Reusing materials and expertise, eliminating redundant efforts, avoiding making the same mistake twice, finding information quickly and easily

- **Design and Launch Initiatives**
  - First critical measurement challenge
  - Common mistakes
    - Not being specific about what processes you expect to change and how
    - Failing to build the necessary measurement systems
  - Process measures easiest to obtain, but be sure to capture some output measures
  - Quantitative measures best (if obtainable), but anecdotal measures also valuable

- **Expand and Support / Institutionalize**
  - KM-specific measures to drive and reinforce behavior, assess progress, and build a business case for additional KM efforts
  - ➔ Importance of KM-specific measures diminishes for line management
    - Must be possible to compare KM to other organizational uses of money
    - Require standard business metrics for "apples-to-apples" comparisons

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At the outset, making an explicit ROI case for KM is difficult. Results from the early stages of a KM program are likely to be more intangible, but still measurable. These include reuse of materials and expertise, eliminating redundant efforts, avoiding making the same mistake twice, and finding information quickly and easily.

Early on, identifying metrics that are: (a) relevant to the business imperatives; and (b) easily (already?) captured by existing systems. This sets baseline.

As to benchmarking – these metrics can work to flag strengths/weaknesses (as gleaned from other organizations' experiences).

The first critical measurement challenge arises as you prepare to launch pilot projects. This is where organizations most often make the mistake of not being specific about what processes they expect to change and how—and by failing to build the necessary measurement systems. You will find process measures the easiest to obtain, but be sure to capture some output measures. Quantitative measures are best if you can get them, but anecdotal measures, like success stories, are also valuable.

During KM implementation, there are different objectives at different times. Clearly, new objectives may require new measures

As your program matures and enough success has been achieved to combat early skepticism, the measurement challenge changes. As knowledge manager, you will continue to monitor KM-specific measures to drive and reinforce behavior, assess progress, and build a business case for additional KM efforts. However, the importance of KM-specific measures diminishes for line management. As KM becomes institutionalized, it must be possible to compare KM to other organizational uses of money. In general, this requires standard business metrics for "apples-to-apples" comparisons.

Metrics at this stage demonstrate value and support new spending as the program expands.

New knowledge managers should be aware that few organizations have reached the end state where KM is "the way we work."

Knowledge Assessment Protocol

1. **Learn Before**

2. **Learn During**

3. **Learn After**

4. **Communities of Practice**

5. **Knowledge Assets**

6. **Organizational Unit Alignment**

7. **Knowledge Roles**

8. **People / Culture**

9. **Technologies**

10. **External Organization / Environment**

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1. **Learn Before:** Learnings and current effective practices are sought and reviewed before beginning any project or major work.

2. **Learn During:** A process is in place to ensure routine review of learnings during any project or major work and to update the plan accordingly.

3. **Learn After:** Experience and learnings are captured, published and shared after each project or major work in a user-focused, user-friendly format.

4. **Communities of Practice:** Knowledge-sharing networks are maintained through active participation, in all areas that drive organizational performance.

5. **Knowledge Assets:** A process is in place to integrate newly captured knowledge with the existing knowledge base of the organization, and to make it visible and reusable by others as a discrete asset.

6. **Organizational Unit Alignment:** Knowledge is treated with the same rigor as other organizational assets (money, people, …). It is addressed in budgeting, processes, risk management, and project review.

7. **Knowledge Roles:** Responsibilities are defined, and individuals are made accountable for owning and maintaining all knowledge processes and knowledge assets.

8. **People / Culture:** Knowledge sharing and re-use are default behaviors for the organization and its people.

9. **Technologies:** Technologies are in place that allow practitioners to communicate with their peers anywhere in the organization and to share and retrieve critical information and knowledge.

10. **External Organization / Environment:** The expectation of the encompassing organization and its clients is that knowledge management is standard practice.

Sample Assessment Dashboard
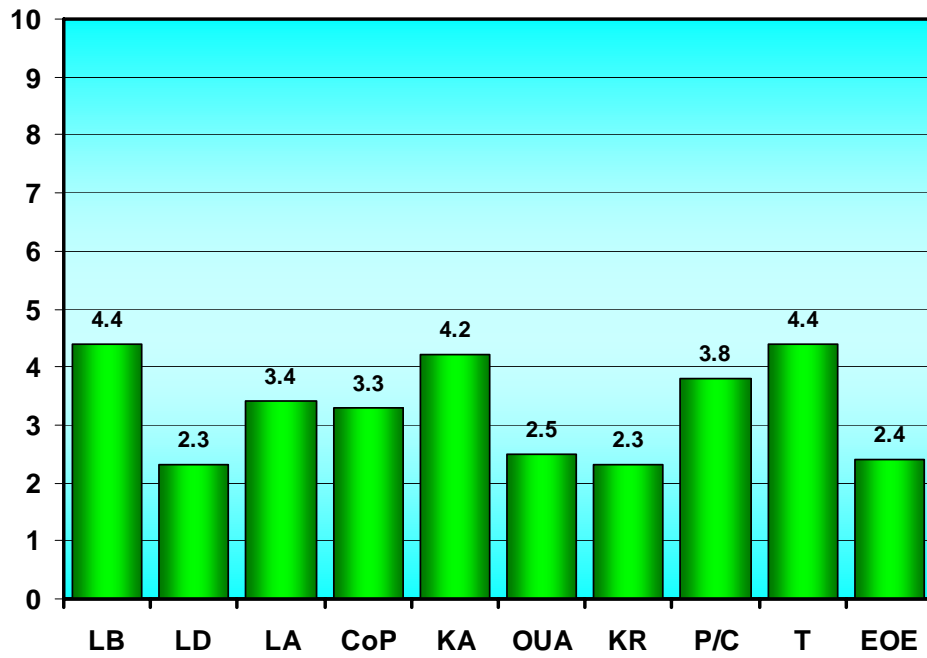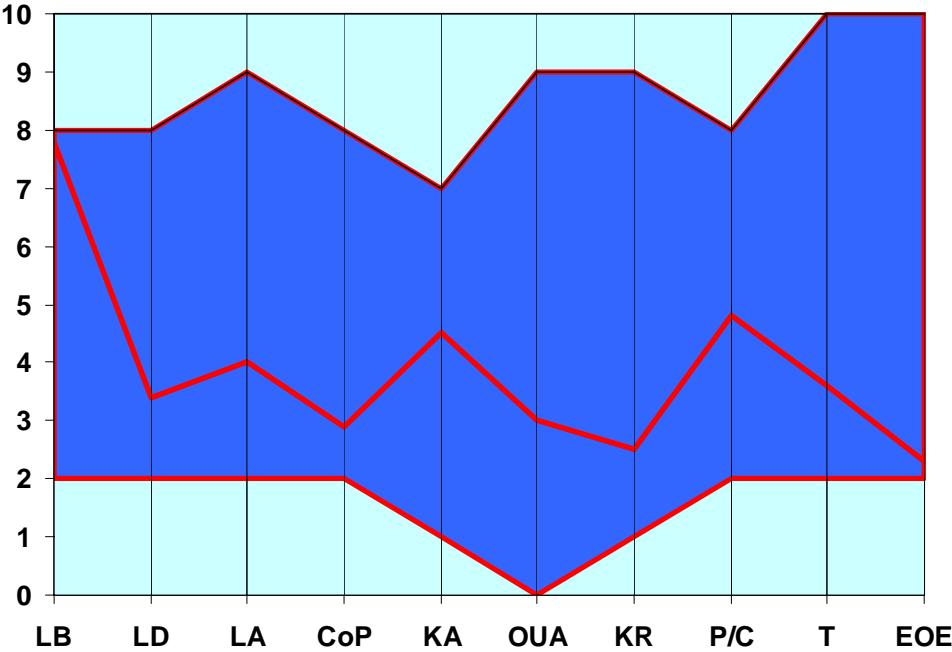
Comparisons & Predictions
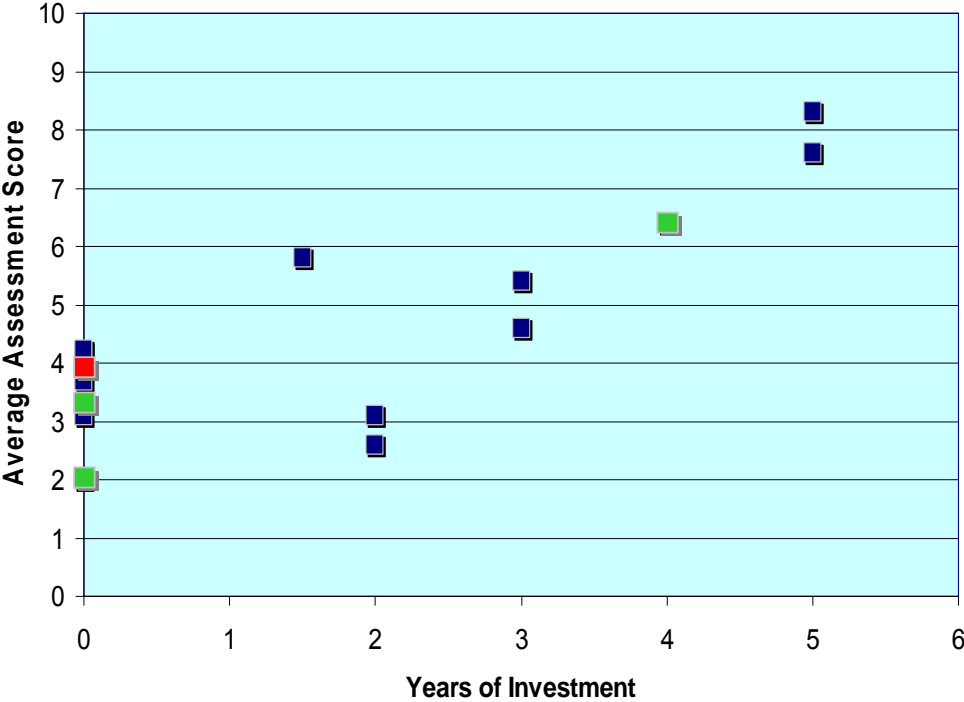
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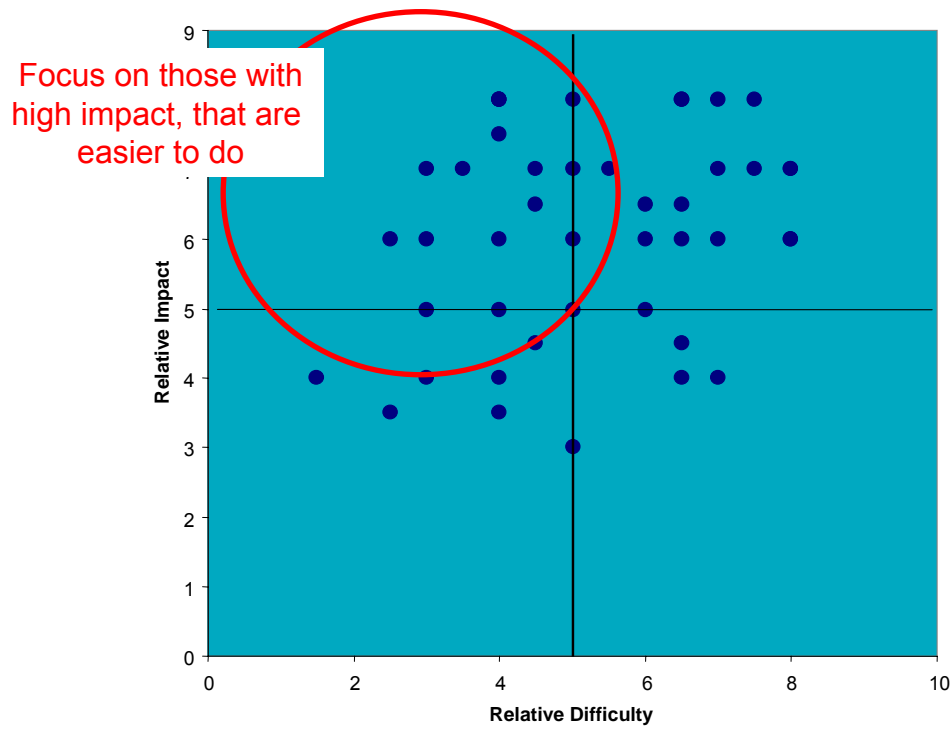Upper Line: Strong culture/people attributes; much more plan-before-doing

Lower line: Largely first-movers in KM

Green dots are analogs to the current organization

River Diagram

BOSTON SQUARE Specific Initiatives

Focus on those with high impact, that are easier to do

Relative Impact

Relative Difficulty

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Diagram is for focusing attention on likely first-actions -- dot-placement is a bit subjective or speculative -- any dot probably could be moved an inch in any direction.

Summary – Measurement Tips

- Start measuring early in the life of the program and continue to measure often
- Measures are best "designed-in" to KM projects, not added later
- Match the measure to the audience
  - For every measure, understand which stakeholders are interested and what actions they could take as a result of having the data
- Keep it simple. Focus on a few critical measures
  - Don't create measurement schemes that are more trouble than they are worth—too time-consuming, too expensive, too hard to understand
- The best output measures are those already used by the organization and widely understood by managers and individual contributors
  - Avoid developing new ones
- Aim for accuracy and balance among input, process and output measures
- Don't raise unrealistic expectations about ROI
  - ROI is still primarily captured indirectly and by extrapolation
- Stories are powerful indicators of success and promotional tools
  - Not a replacement for "hard dollar" measures, but useful to demonstrate progress to managers and to drive knowledge-sharing behavior throughout the organization

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Summary slide