Learning Track 1: Challenges of Knowledge Management Systems

Successful deployment of knowledge management systems requires a very clear understanding of how the firm creates and uses knowledge. Organizations need to determine precisely how they can benefit from knowledge management programs and whether the benefits are realistic.

Opportunities

Businesses armed with proprietary knowledge about their customers and operations have what could be called an "invisible competitive advantage" if this knowledge is not available to competitors and cannot be purchased by others in the marketplace. For that reason, knowledge management systems can be a source of tremendous value if they enable firms to further leverage that knowledge.

Management Challenges

Proving the quantitative benefits of knowledge management projects that deal with intangibles such as "knowledge" and "collaboration" is often more challenging than other information systems projects. Information systems that truly enhance the productivity of knowledge workers may be difficult to build because the manner in which information technology can enhance higher-level tasks, such as those performed by managers and professionals, is not always clearly understood. Some aspects of organizational knowledge are tacit, unstructured, and not easily captured or codified. Only certain kinds of information problems are appropriate for intelligent techniques.

Research conducted in the past five years on knowledge management projects has uncovered a number of difficulties in implementing knowledge management systems. Among these difficulties are the following:

- Insufficient resources are available to structure and update the content in repositories.
- Poor quality and high variability of content quality results from insufficient validating mechanisms.
- Content in repositories lacks context, making documents difficult to understand.
- Individual employees are not rewarded for contributing content, and many fear sharing knowledge with others on the job.

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- Search engines return too much information, reflecting lack of knowledge structure or taxonomy.

Solution Guidelines

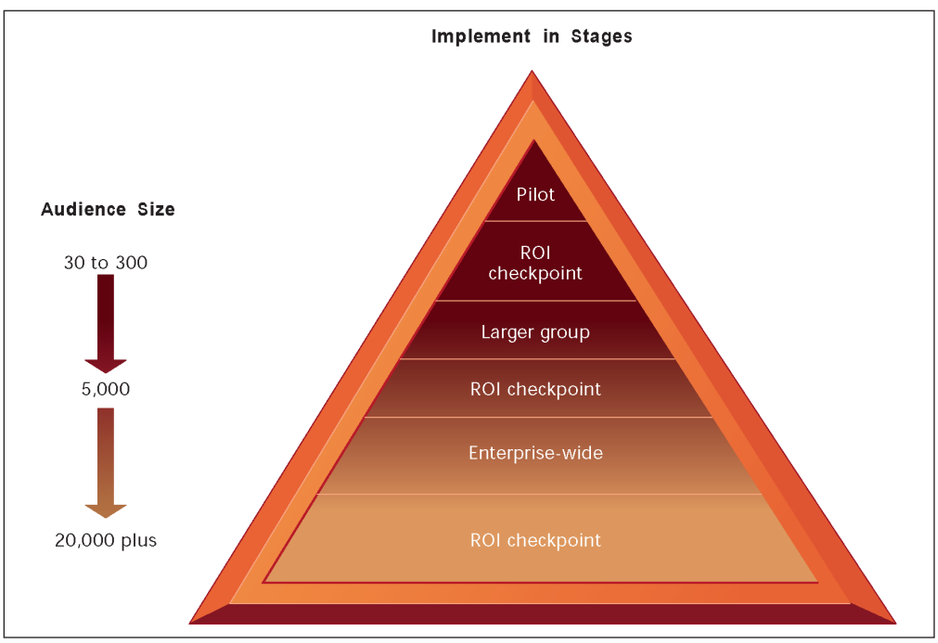
There are both managerial and technological solutions to these challenges. Communities of practice are useful in providing motivation to employees and help provide context to knowledge. Properly designed knowledge taxonomies are also helpful in organizing knowledge. Firms can revise their employee compensation systems to reward knowledge sharing.

Proper planning and rollout can increase the chances of success for knowledge management projects. There are five important steps in developing a successful knowledge management project that has measurable results:

- Develop in stages
- Choose a high-value business process
- Choose the right audience
- Measure ROI during initial implementation
- Use the preliminary ROI to project enterprise-wide values

Staged implementation and choice of business process or group to impact are perhaps the most critical decisions (see Figure 11-1). At each stage in the implementation process somewhat different metrics can be used to evaluate a project.

FIGURE 11-1 Implementing Knowledge Management Projects in Stages.



Knowledge management projects have a greater chance of succeeding if they are implemented in stages with clearly defined ways of measuring results.

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In general, pilot projects should have 30 to 500 people involved. Knowledge management projects produce value by sharing knowledge among a large number of users and developing a large, useful knowledge repository or knowledge network. Measures of value will change as the project moves from the pilot stage through the group and enterprise stages (see Table 11-1).

TABLE 11-1 Stages for Measuring Value of Knowledge Management Systems

Stage	Approach	Required Time	Data Availability	Accuracy
Pilot project	Bottom up Evaluation metrics	Short	Usually available	Good
Group implementation	Group utilization data (e.g., demand)	Moderate	Easily gathered	Better
Enterprise-wide implementation	Process improvement	Lengthy	Requires effort	Best

In the early stages, bottom-up reports and evaluations from users can be gathered. Users can be asked to assign a value (either a dollar value or minutes and hours saved during work) to the various uses they make of the knowledge management system:

- Number of conversations viewed
- Number of visits
- Number signed on to system
- Number of answers found in the knowledge base
- Number of answers received from expert providers
- Average rating of answers (on a scale of 1 to 5)
- Number of FAQs requested

In the group implementation stage, a different set of top-down measures can be used. Here, managers need to assign a value to answers viewed, improvements in business processes, new unexpected answers, the number of documents shared (as opposed to reinvented), and the number of FAQs accessed. The emphasis in these stages is on establishing a dollar value for the system's benefits based on reasonable assumptions and reports from users developed in the pilot stage.

Table 11-2 illustrates one set of results of using these measures for 1,000 users during a 90-day period. The total savings produced by all of these improvements during that period amounted to $225,010, or an average savings of $225.01 per user. If we projected these benefits for an entire year, total savings would amount to $900,040 (or $900.04 per user). If the system cost $700,000 to implement and $100,000 annually to maintain after the first year, the total benefits would amount to $200,040 in the first year and $800,040 each succeeding year. Chapter 15 describes the various capital budgeting models that can then be used to calculate the actual return on investment.

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TABLE 11-2 Example of Savings from a Knowledge Management System

Metric	Assigned Value	First 90 Days Results	Total Value
Documents shared	$450	172	$77,400
Answers viewed	$10	6,103	$61,030
New answers	$30	486	$14,580
Best practices	$3,000	18	$54,000
FAQs	$225	80	$18,000

In the enterprise-wide implementation stage, other enterprise business process metrics become more important, such as response time to customers, speed of new product development, reductions in head count, reduction in procurement costs, and reductions in management decision-making intervals.