A few notes on **Knowledge Management**

Knowledge management captures, distributes, and archives intellectual capital in a way that encourages knowledge sharing and collaboration in an organization. Collecting, storing, and sharing knowledge and information is crucial to the success of organizations in the knowledge era. Training—the sharing of information through instruction—is a component of knowledge management (KM). TD professionals also play key roles in initiating, driving, and integrating KM efforts.

**Key knowledge areas for this Area of Expertise (AOE) include an understanding of:**

- KM concepts, philosophy, and theory
- KM best practices
- knowledge-mapping techniques
- technologies that enable informal learning and knowledge sharing
- social learning techniques and technology
- business processes that support knowledge exchange
- business process analysis as it applies to KM
- systems analysis and design

Closely related to key knowledge are key actions. These include the behaviors and activities required for an individual to perform effectively in the AOE. Usually, key actions are easily observable and portray the daily work of TD professionals. Following the key actions are outputs, or what the professional delivers.

**Key Actions and Outputs**

<table>
<thead>
<tr>
<th>Key Actions (Do)</th>
<th>Examples of Outputs (Deliver)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and implement KM solutions</td>
<td>Systems providing access to information</td>
</tr>
<tr>
<td>Support the development of a KM infrastructure</td>
<td>Analysis, summaries, and reports of knowledge</td>
</tr>
<tr>
<td>Leverage technology</td>
<td>Knowledge map</td>
</tr>
<tr>
<td>Facilitate social learning</td>
<td>Records of KM use (such as frequency of system access)</td>
</tr>
<tr>
<td>Manage information life cycle</td>
<td>Strategy or plan for knowledge sharing in the organization</td>
</tr>
<tr>
<td>Encourage collaboration</td>
<td>After Action Review document</td>
</tr>
<tr>
<td>Establish a knowledge culture</td>
<td>Evaluation data</td>
</tr>
<tr>
<td>Transform knowledge into learning</td>
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<tr>
<td>Advocate KM</td>
<td></td>
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<tr>
<td>Benchmark KM best practices and lessons learned</td>
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**Concepts, Philosophy, and Theory**

Organizations provide knowledge to employees through two primary methods: instruction and information sharing. Instruction may provide organizational knowledge (such as corporate ideals, expectations, and safety rules) in a classroom, online, or on the job. Organizations and individuals may share knowledge informally or formally through collaboration, social media, mentoring, and socialization. KM involves effective capture, use, and reuse of organizational knowledge to benefit the organization and individuals. When a learning need is more appropriately addressed with information than with instruction, KM may be the solution. Although both instruction and information sharing aid learning, they are different with respect to goals, convenience, and how users learn.

**Methods for Providing Knowledge: Instruction vs. Information Sharing**

<table>
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<tr>
<th>Instruction</th>
<th>Sharing</th>
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</thead>
<tbody>
<tr>
<td>Goal</td>
<td>To transfer knowledge, skill, and attitude</td>
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<td></td>
<td>To be a resource for knowledge and skills</td>
</tr>
<tr>
<td>Convenience</td>
<td>Requires interruption of work</td>
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<td></td>
<td>Requires less interruption</td>
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<tr>
<td>How Users Learn</td>
<td>Content and objectives define learning</td>
</tr>
<tr>
<td></td>
<td>User defines learning</td>
</tr>
</tbody>
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Knowledge Management Concepts
Knowledge and information are vital assets for organizations. Three building blocks of KM are data, information, and knowledge, as Groff and Jones (2003) explain:

1. Data: The nature of data is raw, and without context it can exist in any form, usable or not. For example, numbers in a spreadsheet are data.
2. Information: Data that have been given meaning. For example, spreadsheets are often used to create information from a set of data, such as sales over a period of time, increases or decreases in sales, competitor trends, and so on.
3. Knowledge: Information that when combined with understanding enables action. For example, a manager analyzing a declining sales trend may take action to identify issues and carry out strategies to change the trend.

Think of the relationship of data, information, and knowledge as a hierarchy. Data get turned into information, which then provides knowledge on which decisions are based. To harness the power of KM, organizations turn information into accessible and reusable knowledge.

There are two main types of knowledge:

1. Tacit: This type of knowledge refers to knowledge in one’s head—knowing how to do something based on personal experience. It includes judgment, insights, experience, and know-how, as well as personal beliefs and values. For example, when conducting web-based training for the first time, a trainer can read about how to conduct such training but at this point he lacks tacit knowledge—the know-how based on experience.
2. Explicit: This type of knowledge includes information that has been documented or shared with someone. For example, a trainer may not have conducted online training before, but based on what she has read and heard from others, she may know the sequence of steps to log into the web session and conduct the training.

KM is the explicit and systematic management of intellectual capital and organizational knowledge. It includes the associated processes of creating, gathering, organizing, retrieving, leveraging, and using intellectual capital for the purposes of improving organizations and the people in them.

Through these processes, organizations capture and store data and information in a central or distributed electronic environment, often referred to as a knowledge base. Many organizations use knowledge bases to turn tacit knowledge (individual know-how) into explicit knowledge (documented information, steps, and processes). As noted by Groff and Jones (2003), turning tacit knowledge into explicit knowledge is one of the key functions of a KM strategy.

Learning Content Management Systems
As noted by Hall and Hall (2004), a LCMS applies the primary functions of content management—storing, searching for, and reusing content—to the training development process. In a LCMS, content is chunked (typically into learning objects, which are small, reusable pieces of content) and then managed, published, and delivered on demand.

LCMSs integrate different courses and learning materials and package content for print, CD-ROM, or electronic publication. Most are capable of importing prepackaged content from other learning content development tools, such as Microsoft Word and Macromedia Dreamweaver. Most LCMSs enable course developers to author learning content. In addition, LCMSs allow developers to create and manage course content in a centralized way and to forgo hours of manual work, reuse and reconfigure existing course content, and create multiple courses for multiple purposes using the same content. While LCMSs can integrate training content, most do not integrate with human resources systems. Some LCMSs attempt this by tracking course attendance, completions, and competencies.

The goal of a LCMS is to manage content in a highly accessible, automated database where the work of many training professionals is combined into one centralized hub. Those who need to design a course from scratch, build a new course with existing content, or find chunks of knowledge or learning objects to plug into a course under development can do so in a flash. In short, LCMSs can make the most of existing content yet support rapid development of new content. Depending on the LCMS, many offer additional benefits, as summarized by Hall and Hall (2004):

- Faster development: Most LCMSs offer a what-you-see-is-what-you-get (WYSIWYG) authoring environment, enabling talent development TD professionals to create and publish just-in-time training quickly.
- Collaboration: Storing learning content in a LCMS provides functions that surpass what typical learning authoring tools offer. Many LCMSs also have check-in and check-out capabilities that enable multiple users in different locations to access
and work on the same course simultaneously. In addition, versioning features support collaborative efforts by offering quick and easy backups.

- **Reuse:** Searching capabilities allow TD professionals to search for and reuse content. Users can also publish the same content in multiple formats.
- **Quick global updates:** TD professionals can access a learning object quickly and update it in one place, and when it is published, all instances of the object are updated in the system.

**Social Learning Techniques and Technologies**
The accelerated use of social media and social learning tools in the workplace is changing the landscape of the talent development field. While the technologies are important, they are only tools that enable learning to occur. In short, they are a means to an end and are only one component of learning. Social learning in organizations can be either a formal, organization-driven process or an informal, employee-driven process.

A savvy TD professional will constantly monitor trends in social learning technology and determine how best to use them.

**Barriers and Obstacles to Implementing Social Learning**
A key to overcoming organizational resistance is understanding the main arguments against using social media in the workplace.

**Security and Privacy**
**Obstacle:** "These systems compromise classified or private information. Social media is effective, but primarily for socializing, which could lead to lawsuits (for example, sexual harassment)."

**Strategy:** Provide guidelines covering when, where, and what.

TD professionals often work with their organizations to develop guidelines for the appropriate use of social media and to spell out employees' accountability. Information shared via social media is often corrected and rated by users, which helps keep it accurate and responsible. Rather than aim for control (which is elusive), practitioners must expand the circle of trust.

For example, organizations such as the U.S. Central Intelligence Agency (CIA), Wells Fargo, and the Mayo Clinic use social media widely even though their data is very sensitive. Rather than pronounce social media unfit for their environments, these organizations practice good governance. They remind people to participate in online information-sharing communities with a full understanding that they bear responsibility for protecting proprietary, sensitive, or classified information.

**Organizational Culture**
**Obstacle:** "We've never done it that way. Our organization will never embrace social media. Social media cannot be governed, and it's against our compliance rules."

When practitioners try to implement a new strategy that goes against corporate culture, the culture will push back and almost always win. This type of challenge is evident when leaders and employees say, "We've never done it that way." This attitude represents fear of something new. Cultures may be more resistant to social media if they are hierarchical or if they don't depend much on technology. Generational differences may also play a role in this dynamic.

**Strategy:** Start with simple rules.

Rather than starting with a heavy-handed policy condemning the use of social media, organizations should make simple rules about when people should use which tools to communicate, create, or share specific types of information. It should be easy for people to classify the information they create. The rules should clearly specify which data and content are appropriate for what use—especially within the organization.

**Strategy:** Ease into it.

Organizations sometimes ease into using social media by adopting an enterprise tool for internal micro-sharing or blogging. Embracing social media for learning is a process of adopting and adapting.

Companies can begin using social media where they are comfortable and then build so that it suits the culture and environment. Just don’t quash social media because some people don’t understand it. Learn from those who do.

**Written Organizational Policies**
**Obstacle:** "People will say inappropriate things or communicate messages that are inconsistent with the organization's marketing and image."

Fear of change and fear of compromising corporate information often feed into a third major barrier—organizational policies which prohibit or limit the use of social media. In such cases, TD professionals will need to work with legal and IT departments to move their organization in a direction that embraces social media.

**Strategy:** Provide input into relevant organizational policies.
To help organizations implement and encourage use of social media, TD professionals can help shape organizational policies coming from the HR department. They can also help encourage acceptance and use of these tools by working across organizational boundaries, for example, by working with the HR and legal departments to craft policies and procedures.

**Strategy:** Maintain governance and compliance.

Social tools are often held to higher standards than traditional business tools because they are new, and negative stories can go viral quickly. Rather than ban the use of social tools, TD professionals can educate people how to use them effectively for work. They are the future of collaboration and learning at work, so the more organizations prepare people for how to use the tools respectfully and how to apply good social practices, the better.

**Strategy:** Put forth regulations.

Regulated industries have guidelines for all forms of communication that may be distributed internally and externally; one example is email. TD professionals should consider partnering with marketing or HR to craft corporate communications policies and guidelines to help champion the appropriate use of social media and provide input and training regarding appropriate use.

**Variety of Work Flows**

A variety of problem-solving and quantitative tools and techniques help identify and improve business processes. A process map is a visual tool for systematically describing actions and behaviors in a sequential flow. A process flow or map presents a clear and logical visual representation of all the tasks and steps involved in carrying out a particular process. Unlike a simple task list, process maps graphically demonstrate decision points and their multiple options, thus allowing tasks to branch into separate paths depending on the decision's outcome. There are various approaches to process mapping.

Process maps are typically used to:

- understand a process to be able to analyze and improve it
- pinpoint problem areas and opportunities for improvement
- communicate work or process requirements
- identify the effect of work or process changes
- train staff, particularly new employees, in how to perform the work
- provide performance support to people who do not perform the process regularly

Process mapping entails constructing a process flowchart to determine where processes begin and end. The process map can show the information needed to understand the general process flow or supply detail on every finite action and decision point. The process map shows the inputs required to start the process (such as people, machines, materials, and methods), the tasks required to perform the process, decision points, and outputs at the end of the process. The purpose of process mapping is to understand the current process and identify appropriate benchmarks for measuring process results. Process maps can document the work flow of such things as processes, documents, and work. They include symbols (boxes and arrows) that indicate the basic flow of a process.

Information from a process map typically includes:

- process boundaries and links
- process owners
- process inputs and outputs
- process customers and suppliers

The objectives of the project or analysis should guide the level of detail in the process map.

Process mapping must occur **before process redesign can take place**, in order to change the flow of activities or decisions associated with generating a specific business output. Examples of business outputs include a design for a new product, a purchase order, a product, or a service. Although business outputs may often come from one department, many mission-critical processes span departmental boundaries.

**Business process analysis, design, and redesign all document workflow activities and decisions.** Well-designed work flows tend to:

- involve groups of people who are responsible for performing the tasks
- use a diagramming method (such as process maps or flowcharts) to pictorially display current and future flows of activities and decisions among departments
- use metrics to establish performance baselines and measure progress
- incorporate whole-systems thinking so that process performance is aligned with other organizational variables, such as overall strategy, competitive pressures, and activities in other parts of the organization
- include more than small representative design groups in formulating and carrying out new processes
• encourage process designers to set stretch goals (that is, goals that require considerable effort and challenge organizations to reach higher levels of performance)

Many interventions seek to redesign processes, including TQM and business reengineering. In addition, systems-thinking projects often result in changes to organizational processes. Process analysis and redesign are appropriate interventions when any of the following root causes contributes to the performance problem:

• Departments are slow and inefficient at changing information or materials.
• Decisions take longer than they should and are of low quality.
• A string of process activities that span departmental boundaries is not managed well because of turnaround issues that arise in carrying out the process.
• Bottlenecks are causing delays.
• Benchmarking data from inside or outside the organization suggests that outputs might be generated faster, more cheaply, or with higher quality.
• The spirit and culture of continuous improvement does not exist in the organization, and people do not actively seek opportunities to redesign existing work flows.

Knowledge Management Components
How do organizations transform their current structure and processes to become learning organizations that leverage KM? Marquardt (1996) provides some insight into these KM elements:

· Collaboration and the ability to connect individuals or groups: Employees in learning organizations are encouraged to share data and information with peers and co-workers. For example, some organizations may convene teams and individuals and have them share ideas from such sources as strategic reviews, system audits, and benchmarking reports. Other organizations may bring together customers, suppliers, and internal and external experts to share ideas and learn from one another. Still others rely on social media for crowdsourcing, or user-generated content, to leverage knowledge in the organization.

· Nature of expertise and access to experts: Many organizations facilitate knowledge transfer across boundaries by having people or teams possessing knowledge work with other groups or departments. This approach facilitates sharing new approaches and perceptions that new people bring to a situation. As Marquardt (1996) points out, "He or she is more likely to raise the 'dumb questions' that lead to new insight about how to handle a problem."

· Employee access to communities of practice (CoPs) to post issues, solve problems, or discuss key topics: A CoP is a group of people who share a common interest in an area of competence and are willing to share their knowledge and experience. CoPs are channels for requesting and sharing information, often through the use of online collaboration tools. For example, a group of scientists on a LAN may collaborate, share notes, and raise questions.

· Connecting groups of people with systems and applications: Some KM efforts capture data and information from the organization in a system or central repository. This information is coded (for example, by keyword or topic) and made accessible to employees through internal search engines.

· Real-time information available to people who need it, when they need it: Real-time access to organizational knowledge is a key concept in KM. This can help people make timely decisions or find critical information to complete a task.

· Depth and scope of organizational knowledge: Many organizations collect volumes of data, but unless they are retrievable in a way that makes sense to employees, they are just volumes of data. Organizations need to determine what data to capture, how to capture it, and how to make it retrievable.

Encourage sharing. Invite employees to write about it on the company’s intranet. Micro sharing, for example, via Yammer, is a good way for employees to share information.

As Rosenberg (2001) points out, "Many KM systems are facilitated by Internet technologies. Yet despite the need for technology, knowledge management is as much about people, working relationships, and communication.

Live teamwork, collaboration, and other forms of person-to-person interaction are essential to create the right balance between the information and the actions of people."

References