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## Knowledge Management Within a Learning Organization

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## Abstract

Managing knowledge has become a key component to staying competitive and effective in all areas of business. The economic changes made in recent years with approximately 97% of all employment growth coming from knowledge work has resulted in changes in the ways knowledge is gathered, managed and dispersed. Knowledge management (KM) is also creating changes in organizational approach to training, education, development, research and worker roles. The rationale for a learning organization is that organizations competing within the constantly changing global market must be flexible and adaptive to be productive and excel. Being flexible and adaptive means that productive organizations will learn how to tap into the human potential and commitment for learning at all levels. Corporations that understand the importance of collective knowledge and learning at all levels will spend the time to incorporate knowledge management and learning organization concepts to meet the demands of gathering and managing the vast amounts of knowledge produced daily in our global business environment.

## Knowledge Management Within a Learning Organization

*In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge. (Nonaka, 1991, pp: 4-5).*

Knowledge management describes the process that collects, examines, uses, and distributes knowledge. The myriad definitions in the literature are merely overblown explanations of this very simple concept. Since our species has performed knowledge management (KM) in one form or another for millennia, the natural question becomes what is so special about how we apply KM today? While it is true that the KM process determines how we make decisions and direct actions, how can the KM process be improved within our working environment and scope of authority (Bellinger 2004)? The key to the KM process is the ability to communicate improvements to the members of an organization in a manner in which they will both accept and retain improvements as they apply new ideas or skills to their daily work and staff interactions. At best, technology only brings some additional tools that make this process easier to organize and communicate to others.

The drive to improving KM is being inspired by the increasing competition among firms and academia in addition to the impact of globalization upon both communication and thought. Some indicators of this process include (Dale, 2004): Knowledge is recognized as an organization resource.

- An increasing number of occupations that are founded upon the creation and use of knowledge.
- The increased capability and merging of information, computing, and communication technologies.

These indicators help to explain the renewed emphasis on KM throughout the worldwide business community. Since different motivations, experiences, and expertise drive each analysis, the resulting approaches to the improvement of KM worldwide are equally diverse. This is especially true within the U.S. where corporations are foreign owned and have the influence of foreign leadership during

the KM improvement process. Rebecca Dale (2004) has postulated that there are at least four different types of KM that have emerged within this environment:

- *Valuing Knowledge* – Principal concern of financial institutions. Knowledge is recognized as intellectual capital.
- *Exploiting Intellectual Property* – Of special concern to the science and R&D (Research & Development) industries.
- *Capturing Project-Based Learning* – Application of project lessons-learned to the overall KM of the firm. This is more accurately a part of a learning organization (LO) as discussed below.
- *Managing Knowledge Workers* – This is actually a misnomer, for you *manage* things and *lead* people. Part of that leadership process is to ensure that the corporate mechanisms are in place to capture and vet lessons learned. Then, the leadership staff need only employ the pre-existing corporate training process to communicate those lessons to the employees in a manner where they will both learn the lessons and then are able and motivated, to apply that new knowledge to their performance in the workplace. This is especially important where barriers of stove-piped communication or jealousies centered on questions of “professionalism” are an impediment to either the learning process itself and/or the subsequent application of that knowledge.

Ryder (2004) has broken this concept down further into four KM techniques. Those techniques include:

- Knowledge Analysis (KA) – Modeling the knowledge source to identify strengths, weaknesses, and weight the contribution of KM to an organization. KA is considered an essential step in the KM process.
- Knowledge Planning (KP) – The next step after KA with the goal of using that analysis to plan for future requirements.
- Knowledge Technology (KT) – Identification of techniques and methods tied to technology that helps evaluate and implement KA and KP.
- Computer Supported Work Systems (CSWS) – Computer support of staff requirements allowing the implementation of both the analysis associated with KA and the future planning requirements associated with KP.

The purpose of this paper is to demonstrate how knowledge management and learning organizations are interrelated, and explore two organizational studies to show how the concepts of KM and learning organization (LO) are used in different organizations. Also explored are the benefits and barriers of these concepts, and how common barriers are overcome.

## ***Learning Organizations***

The concept that an organization is a living organism, meaning that it grows and adapts to change, is a fundamental concept that is now clearly understood and must be understood as a prerequisite to both modern KM and LO concepts if others are to interact with that organization in a meaningful way. LOs have evolved into an environment that generates an atmosphere which nurtures new ideas, creative thinking and collective thought (Ryder, 2004). A LO is an ideal that an organization strives to achieve. Smith (2001b) identifies 6 characteristics of LO:

1. Provide continuous learning opportunities.

2. Use learning to reach both individual and organizational goals.
3. Link individual performance with organizational performance.
4. Foster inquiry and dialogue, making it safe for people to share openly and take risks.
5. Embrace creative tension as a source of energy and renewal.
6. Are continuously aware of and interact with their environment.

LOs emphasize and embrace the idea that people's capacity to learn is a continual and creative process in which people are set free to continually expand their capacity to learn how to learn together (Senge, 1990). The notion of a LO comes from the belief that humans are social beings that need interaction to continue their innate drive for lifelong learning. Being effective humans is a result of participation in formal or informal learning communities. Payne-Anderson (1998) believes LOs are the key to an organization's success, productivity, and the ability to stay competitive. The value found in the collective knowledge of employees and others who have a stake in a corporation is worth an organization's look into implementing LOs.

### *How Organizations Learn*

An organization consists of a group of people who act in concert to achieve agreed results. That being the case, an organization can certainly learn and grow. An organization, however, has the same weaknesses as an individual does including an unwillingness to change, recognize and adapt to new realities, and to accept constructive criticism both from within and without (Society for Organizational Learning, n.d.)

Organizations typically grow from the top down—by the initiative and vision of its leadership. The best organizations, however, maximize their growth and learning potential by having mechanisms in place for initiatives to originate anywhere within the organizational structure. This requires a process where a firm can learn from past experience as a living organism would and implement best management (or leadership) practices to implement and apply what was learned. Such a process maximizes the mental resources resident within the entire membership pool. An organization also needs to be able to recognize when errors and failures occur in existing processes (Society for Organizational Learning, n.d.).

Learning is worthless without having the practical ability to implement what was learned as an improvement within the LO process. Organizations learn from their own experiences and the observation of others. Some of those learning methods include:

- Experimentation-Learning from actual experience as the result of a planned event.
- Informal learning-Those lessons identified through actual, yet unplanned, experience.
- Communities of Practice – Those lessons communicated through professional organizations or a peer reviewed set of professional standards (Pedler, Burgoyne, & Boydell, 1996).

KM is a purposeful effort that does not occur without LO being the premeditated and direct goal. Being a LO means direct leadership participation in raising the existing level of knowledge by combining technology, organization, and talent to focus on LO. This effort must include taking advantage of staff talent, automation resources, and

leadership expertise to fully benefit from the LO process (Ryder, 2004). Ryder makes a distinction between two processes of organizational change associated with LO:

- *Adaptive learning*-Changes that have been made in reaction to changed environmental conditions, and
- *Proactive learning*-Organizational changes that have been made on a more wilful basis than adaptive learning. This is learning which goes beyond the simple reacting to environmental changes.

Adaptive learning is more of a coping mechanism; automatic and less cognitively processed than proactive learning. Proactive learning is similar to generative learning (Senge, 1990) which is about the creative thinking process and the ability to see the systems that control events.

### ***Effective KM Practices are Essential for an Effective LO***

“Knowledge capital” is a term used to describe the intellectual wealth of an organization’s employees while “organizational intelligence” describes an organization’s sum of the knowledge of each individual in that organization (UNESCO 1977). A LO is able to capture and manage their organizational intelligence to stay competitive in the marketplace. How is this possible? The establishment of a LO is a function of both visionary leadership and support of the practical application of LO principles. KM provides the practical tools to maximize the benefits of the LO environment. The key is to connect the vision of management with the support of staff to carry out LO principles using KM practices.

A LO needs dynamic leadership and an organizational structure built on KM practices to manage the intellectual wealth of its organization. Huber (1991) regards four concepts of KM practice as vital to organizational learning and capturing organization intelligence: 1) knowledge acquisition; 2) information distribution; 3) information interpretation; and 4) organizational memory. Acquiring knowledge is achieved by supervising and managing the intellectual wealth of an organization by storing the information in a database; information distribution is simply the act of employees sharing knowledge with each other and building on one another’s understanding; information interpretation is using prior knowledge to make sense of new information received, and is used to form meaningful knowledge; organizational memory is the repository of organizational knowledge that is retrieved, built upon, and stored for the benefit of the organization (Balasubramanian 1994). Castells (2001) asserts that the function of information processing, driven by productivity and competitiveness, requires organized networks of production, management and distribution.

What exactly does it mean to manage knowledge? In summary, the following associations can reasonably be made concerning the breakdown of knowledge and how it is understood according to Bellinger (2004):

- *Information* relates to description, definition, or perspective (what, who, when, where).
- *Knowledge* comprises strategy, practice, method, or approach (how).
- *Wisdom* embodies principle, insight, moral, or archetype (why).

Is the ability to understand and manage knowledge being done in organizations today and, if so how? An organization, whether it is a LO or not, must have some process in place to manage knowledge or it cannot function in a modern society.

How does this happen? A multi-perspective modeling approach listed below represents different perspectives on an organization and can answer the questions of how, what, who, where, when and why.

- How the organization carries out its business - modeling the business processes.
- What the processes manipulate - modeling the resources.
- Who carries out the processes - modeling capabilities, roles and authority.
- Where a process is carried out - modeling of the communication between agents.
- When a process is carried out - this specifies the control over processes” (AIAI, 2003).

Bellinger’s (2004) perspective demonstrates that the ultimate goal is to increase the efficiency and effectiveness of an organization through better acquisition of, and more efficient use of the knowledge an organization requires to function most effectively.

Why does the concept of KM compliment LO? Recognizing that an organization is a living organism that grows and adapts to change is a fundamental concept that must be understood if others are to interact with that organization in a meaningful way. In order to remain competitive, organizations must control costs while performing a service at a price their clients are willing to pay.

A LO is never created by accident. The premeditated act of establishing and implementing LO principles is a direct result of leadership focus and priorities. The subsequent and deliberate choice of the KM process then becomes the practical application of that decision as implemented through the tools and methodologies that KM provides. KM is literally bonded to the LO as a set of tools in order to maximize the potential of the LO.

### *Implementing KM within a LO*

One of the most important pieces to implementation is support. “The learning company is a vision of what might be possible. It is not brought about simply by training individuals; it can only happen as a result of learning at the whole organization level” (Pedler, Burgoyne, & Boydell, 1996, p. 1). A LO facilitates the learning of all its members and continuously transforms itself. Steps toward successful implementing and maintaining an effective LO include (Peters, 2000):

- Establishing the correct environment where information sharing is expected, encouraged, and rewarded.
- Eliminate institutional impediments to cross organization communication.
- Prioritize the type of communication desired.
- Prioritize the type of tasks that aid the communication process.
- Keep time accounting sufficient so that all employees and managers can see where their level of effort is really focused.

Planning to become a LO needs to occur. It will rarely happen by accident and, even when it does; it rarely produces consistent or lasting results. Without a plan, intended learning may not occur evenly throughout the organization, or the wrong lessons can be learned (Pedler, Burgoyne, & Boydell, 1996).

Senior leadership needs to ensure that their LO vision is clearly defined and expressed throughout the organizational chain of authority so that junior staff members have the same understanding of what needs to be done, and the same motivation to do it as does senior management. This is where Senge's (Smith, 2001a) vision of a "shared leadership model" becomes so important. There needs to be a shared vision (Smith, 2001b). All of the staff must buy into the new cooperative vision that a true LO demands and then implement the concepts of a LO as a team. A conceptual foundation must be created to include the following key elements (Karash, n.d.):

*Awareness* – Recognition that learning is necessary as a pre-requisite for creating the appropriate LO environment.

- *Environment* – Everyone in the organization must be made aware of how important having an effective LO is to the organization, but also to their personal future employment and success. Employees must understand what the strategic and operational perspectives look like if they are to understand their role within that environment. The structure of the organization may also become an ally to LO if it is a relatively flat structure specifically designed to enhance communication flow both directions within the organizational chain-of-command.
- *Leadership* – The leadership within a LO must foster an atmosphere of constructive openness to ensure that employees, regardless of their position within the organization, are encouraged to fully participate in the information flow and exchange both directions in the organizational ladder. It is the personal responsibility of senior leadership to ensure that this atmosphere is nurtured and encouraged. This requires direct engagement from the Chief Operating Officer of the organization down to the most junior leader. Tangible rewards must be in place for those who best support these organizational objectives.
- *Delegation* – Leadership must actively encourage employees take personal responsibility for their actions. This must be done simultaneously, at all levels of the organization, in order to effectively break the old corporate culture and allow for each member of the organization (team) to contribute to the best of their ability without fear of either being mocked or becoming the target of retribution.
- *Learning* – Learning may be achieved through actual experience, observation, or simulation. Many times, learning to avoid failure is as important a lesson as learning from success itself. The old saying that you can learn as much from a bad example as a good one applies. Leaders need to ensure that their subordinates are not reckless but, concurrently, not risk-averse either. This is a very difficult line to tread. Leadership by example in this situation is critical to the success of establishing the correct atmosphere within which an organization may become a LO.

Organizations need to master KM in order to be able to apply LO within their environment. Any organization that does not have a rate of learning equal to, or exceeding, the change in their environment is on the path toward failure.

**Table 1:** Common Barriers to Implementing KM and LO

Challenges to KM and LO	Prevention / Solution
Developing a common language: too many cross-identified terms and concepts	<ul style="list-style-type: none"> <li>• Create a profession-wide common vocabulary to ensure that everyone understands common definitions.</li> <li>• Distribute and make accessible acquired knowledge across the organization to include various tools for different organizational levels.</li> <li>• Understand the needs of internal and external customers and how they access and use product and market information.</li> <li>• Research prospective clients, relevant sectors of business or industry, and competitive services offered by competitors.</li> </ul>
Bandwagon affect: jumping on without examining the impact on the organization	<ul style="list-style-type: none"> <li>• Examine the effectiveness of current knowledge processes and whether the culture is ready for procedural changes.</li> <li>• Evaluate KM and LO to determine what practical impact the application of these concepts will have on the organization by considering the following areas: <ul style="list-style-type: none"> <li>○ <u>Mission</u> – What is to be accomplished?</li> <li>○ <u>Competition</u> – How is the competitive edge achieved and sustained?</li> <li>○ <u>Performance</u> – How is performance maintained and improved?</li> <li>○ <u>Change</u> – How does the organization adapt to, and take advantage of, change in their environment?</li> </ul> </li> </ul>
Lack of support for changing structure of an organization to implement KM / LO	<ul style="list-style-type: none"> <li>• Create a corporate culture that embraces and encourages KM and allows for the full potential of a LO to develop.</li> <li>• Create a methodology to identify, manipulate, and model KM elements that demonstrates the benefits of change for organization and stakeholders.</li> <li>• Develop a supportive, collaborative culture that eliminates traditional rivalries.</li> <li>• Be willing to make mistakes, invest in the process, and take the opportunity to be innovative.</li> <li>• Enhance creative curiosity, team-working skills, systems thinking and generally a high level of initiative and involvement from internal participants.</li> </ul>
Identifying and capturing knowledge within the organization.	<ul style="list-style-type: none"> <li>• Organize information into a high-level information architecture.</li> <li>• Standardize documents and tools.</li> </ul>



	<ul style="list-style-type: none"> <li>• Use proven techniques for ease of access and use.</li> <li>• Develop a comprehensive training program at all departmental levels to assist employees in learning and implementing KM and LO systems.</li> </ul>
Resistance to the change of a LO culture	<ul style="list-style-type: none"> <li>• Understand the resistance as an opportunity to find pragmatic reasons and valid solutions.</li> <li>• Use the resistance to change as an opportunity to serve as a directing force in collective learning efforts.</li> <li>• Create an attitude of learning: Successful firms are more “learningful,” people want to learn; make it fun, of benefit, and part of day-to-day business; and they will be more inclined to embrace the concept.</li> </ul>

Table 1 identifies some common barriers to implementing KM and LO with a list of solutions (AIAI, 2003; Al-Hawamdeh, 2002; Bellinger, 2004; Davenport, 1998; Green, 1999; Information Mapping, Inc., 2003; Jost, 2004; Kaplan, 2002; Stuart, 1996).

## Case Studies

*Montgomery Ward (MW)* is the corporate poster-child of not keeping pace with change and learning in their industry. This firm originated as the innovation leader in their industry. Still, they managed to develop into a firm literally incapable of adapting to their evolving business environment. From all accounts it seems the management became very comfortable with their past success and failed to understand that learning and adapting was the best competitive advantage they had to offer their customers. MW seemed to have no functioning set of LO principles and, therefore, could not effectively implement the KM process to their advantage. It also appeared that MW had no critical thinking process at work capable of keeping the firm current with either their customers or their marketplace.

The leadership of MW was unable to accurately and effectively observe, quantify, and react to the evolution and change within their business environment without the benefits of LO principles. MW’s methodologies and marketing practices failed to keep pace with new products, technology, and customer expectations resulting in a slow decline in market share that ultimately resulted in the collapse of the company. The experience of MW clearly demonstrates that firms must grow, adapt, or fail. A LO is a more effective method of maximizing a firm’s ability to adapt, indeed to “learn”, from prior experiences, and continue to be effective contributors in the marketplace.

Change is not restricted to the external environment in which an organization has to adapt. Staff turnover in many organizations approaches 20% a year and their KM/LO process must also be able to assist in training/re-training people to understand, accept, and effectively contribute to the LO environment. With the increase in technology, communication, and transportation resources, the employee has become the most valued resource an organization has and is the co-equal recipient of the benefits bestowed by the KM/LO process. For this reason, the proper application of LO principles drives the development of effective KM, and effective KM enhances the LO process.

*Teltech* is a small (\$17 million in revenues) company that offers information, training, and expertise to companies wishing to better manage their knowledge and information assets. *Teltech* (Davenport, 1998) has the ability to find solutions in managing and applying internal knowledge to their business environment. The most crucial area that *Teltech* continues to excel is in areas of communicating with their clientele. To assist clients to communicate with the company, *Teltech* created KnowledgeScope, an online retrieval system that includes a thesaurus of over 30,000 technical terms that help clients access the expertise they need from *Teltech*. KnowledgeScope is managed by full-time knowledge engineers who add and replace up to 1200 new concepts per month. *Teltech* is also working on a software product called "integrated source map" that stores expert biographies and information on topics needed by their clientele. When a client accesses the "map" for information on neon lasers, for example, the system will inform the client of 3 available experts, 42 current patents, 94 recently published articles, and other pertinent information on the subject. This information will be presented in a language that the clientele can easily access and understand. Davenport (1998) believes *Teltech's* success is a result of having employees with good information management and people skills, an in-depth understanding of the concepts of KM in a LO environment, and the ability to manage and disperse internal and external knowledge.

The contrast between *Teltech* and MW could not be more stark. Where MW took comfort in floating on tradition, *Teltech* is swimming with the leaders of their industry. *Teltech* is a fully functioning LO applying KM practices to its business environment maximizing both the benefit of being an LO and the potential that *Teltech* will remain a viable member of their industry.

## **KM/LO Studies**

Giraldo (2001) asserts that organizations face constant change as they struggle to grow. Traditional methods for adapting to this change provide limited options based upon linear modeling that does not adequately address the realities these organizations face. The study incorporated a model that viewed organizations as complex social systems and presented the following findings (Giraldo, 2001):

1. Performance and socialized interaction between the staff better characterize an organization than merely an examination of an organization's performance alone.
2. Giraldo developed a framework where KM is seen as a mixture of events that balance technologies, influence the flow of knowledge, and influence the critical actions essential to prudent technology investments.

Giraldo used 62 subjects from 21 organizations. He established relationships between: (1) KM technologies and how they adapt to the internal and external environment of an organization; (2) how KM is used to achieve identified goals; (3) how KM is used to imbed knowledge and information within organizations; (4) how using KM influences an organization's culture.

Delmonte (2002) asserts that "... a new breed of information systems has emerged, called knowledge management systems."

- Information Technology (IT), in itself, neither creates knowledge nor ensures the creation of knowledge.
- Most organizations find KM extremely difficult.

- Establishing an appropriate KM focused culture is more important in building effective KM than any proposed IT solution.
- The need to establish an appropriate organizational culture based upon social interactions is considered essential to building effective KM.

Delmonte's study measured two components of social interaction: (1) interdepartmental connectivity, and (2) interdepartmental conflict. He found that "... there is a significant relationship between both factors and knowledge management system success."

## **Conclusion**

Most organizations focus on the tangible assets when it is the intangible assets their employees bring to work each day (knowledge, experience, expertise, imagination, and creativity) that matter. Peters (2000) asserts that it is the intangible assets that are what gives organizations their true value in the marketplace. What does the future hold for KM and LO? We will see improved tools for collecting, organizing, and combining knowledge driven by both the increasing speed in communication and the increased power of the processing tools available. What is needed, however, is not more theoretical development but more competent implementation of the KM and LO theories already at hand. A well-managed KM system is essential for an effective LO to meet the challenges that organizations face in our current business global environment.

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