Communication: The Leverage for System Learning

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Systems theory is a holistic mental model for ordering reality. It suggests that the whole is greater than the sum of its parts, and that the interfaces and the interactions must be understood in equity to the component parts. Von Bertalanffy (1969) puts it this way:

> It is necessary to study not only parts and processes in isolation, but also to solve the decisive problems found in the organization and [the] order unifying them, resulting from dynamic interaction of parts, and making the behavior of parts different when studied in isolation or within the whole (p. 31).

Additionally, systems transfer information within the system, and between the system and the environment (von Bertalanffy, 1969). When these systems are created by people, they are designed to meet some human purpose; thus, they are subject to human influence (Checkland, 2000). These are examples of human activity systems that are ordered in wholes as a result of some underlying purpose (Checkland, 2000), and it is humans and their discourse that accomplishes this ordering. Information flow within a human activity system constructs its reality; therefore, the following articles are reviewed within the mental model that information and knowledge transfer are required to construct learning within any human activity system.

Article One: Knowledge-Based Systems

Martinsons, M. G. (1995). Knowledge-Based Systems Leverage Human Recourse Management Expertise. International Journal of Manpower, 16(2), 17-34.

This article focuses on the use of information technology (IT), and ways that the human resource professional can leverage this information to enhance his or her ability to cope with dynamic environmental changes. This article continues by exploring the difference between knowledge-based systems, and other information technologies in terms of their applicability, benefits, costs, and limitations.

Knowledge based systems are computer software applications that emulate the ability provided by experts to apply knowledge to diagnosing the situation and identifying the potential solutions. These systems address a particular problem by combining expert knowledge, which is stored in the computer system, with facts that are solicited interactively from the user.

This artificial intelligence is more permanent, easier to duplicate, and less expensive than the human expert. Knowledge based systems provide benefit to the organization by ensuring expertise is not loss when a key employee leaves the organization, by facilitating junior personnel in performing expert-like tasks accurately and confidently, and by assisting people in remembering all the details required to make professional decisions.

Nevertheless, these systems have limitations. They are only applicable to narrowly defined problems, and are not capable in applying common sense reasoning. The information stored in these systems may be organizational specific, and difficult to document and verbalized. Additionally, these systems are still immature in their abilities, and the ability to validate these systems is inadequate.

Packages are now available in the commercial market for as little as $100.00, which has prompted many organizations to pursue their use. Dupont, Digital Systems Corporation, and the Boeing Company used these systems during the 1980's with significant benefit, although they were used as "intelligent assistants" instead of expert decision makers. These systems continue to improve, and their use has been linked to cost savings and quality improvements. The emergence of these knowledge-based systems provides the human resource profession a tremendous opportunity to increase its effectiveness while shedding the image of an information technology laggard.

Currently knowledge-based systems are being used in human resource management activities to help employees select flexible benefit plans, predict outcome of wrongful dismissal cases, increase the effectiveness of placement activities, analyze staff performance problems, and support labor negotiations. The greatest benefit of these systems is derived when applied to the most sophisticated activities. Specifically, human resource management can benefit from applying this technology to work force planning, recruitment and selection, and staff development and performance appraisal.

Article Two: I Heard It Through the Grapevine

Cook, P. (1999). I Heard It Through the Grapevine: Making Knowledge management Work by Learning to Share Knowledge, Skills, and Experience. Industrial and Commercial Training, 32(3), 101-105.

This article discusses issues associated with facilitating people to willingly share information in order to assist their organization in leveraging their collective knowledge. The article states that it is desirable to maximize the workers shared intelligence; however, the actual implementation of knowledge management is often problematic. The reason knowledge

management is problematic is because many knowledge systems fail to account for the organization's culture, leadership style and values, which are the way things are personally accomplished; structures and systems, which are both the formal and informal structures; and skills and resources, which are its talents supported by staff functions. Specifically, knowledge management must fit the organizational container, and changes in one part of the organization must be balanced with changes in the others.

Many strategies can work for eroding barriers to knowledge transfer, but no single recipe works for all organizations. One of these strategies is the shift in thinking from "knowledge equals power" to "knowledge sharing equals much increased power." This requires that leaders ensure that all employees understand that knowledge must be leveraged into profitable innovations. Leaders must understand that conflict and misunderstandings generates knowledge, and leaders should ensure incentives are provided to employees for networking after normal work hours. Additionally, organizations that are serious about knowledge transfer should facilitate the informal communication channels; that is, the organization should assist the use of the "grapevine" network.

Other informal networks can be implemented by creating an "shadow cabinet" that is composed of the organization's future leaders who provide alternative views; or by creating structures that construct quick and easy communication channels, facilitate borrowing of resources across organizations, and define each individual's contribution. Additionally, upside-down reward systems, which reward people from using each other's ideas; and knowledge constipation removal, which eradicates outdated information from possible use should be promoted.

Specifically, organizations should implement systems that facilitate adaptive learning (this is the "what" of learning, which helps people do today's work), generative learning (this is the "how" of learning, which helps people do tomorrows work), and transformative [sic] learning (this is the "why" of learning, which helps people create a sustainable future. In order to achieve these levels of learning, the strategies of storytelling, creative swiping, time management, and accelerated learning workshop may be employed.

Article Three: Using Mentoring and Storytelling.

Swap, W., Leonard, D., Shields, M., & Abrams, L. (2001). Using Mentoring and Storytelling to Transfer Knowledge in the Workplace. Journal of Management Information Systems, 18(1), 95-114.

This article presents that the core capabilities of an organization are its critical skills, management systems, and norms and values; and that it is these knowledge assets that allows the organization to compete in the marketplace. Interestingly, these knowledge sets are primarily intangible, and this knowledge accrues through dynamic relationships and life experiences. It is difficult to transfer knowledge from expert to novice because true expertise takes at least ten years to develop, and requires the ability of the expert to apply his or her knowledge within constructed patterns.

This tacit knowledge can be transferred with the use of the two processes: internalization and socialization. These processes are aided through mentoring and story telling. Although the research shows little evidence that supports that mentoring and organizational performance are correlated, it does show that mentoring assists in building the organization's core competencies.

When transferring knowledge to novices through mentoring, it is important that the knowledge gap between novice and mentor is not excessive. This is important because the

learner must have some context in which to assimilate the information into knowledge. It is important that the learner actively participate in the learning; thus, providing learning experiences are crucial to development of expertise. Additionally, Socratic dialog, when used by the mentor, improves learning by soliciting learner activity in the process. Finally, the novice observing the mentor can also enhance learning.

Besides mentoring, storytelling assists in transferring tacit knowledge within an organization. A story is a "detailed narrative of past management actions, employee interactions, or other intra- or extra-organizational events that are communicated informally within the organization." These stories can be divided into:

1) Rule-Breaking

2) Is the big boss human?

3) Can the little person rise to the top?

4) Will I get fired?

5) Will the organization help me when I have to move?

6) How will the boss react to mistakes?

7) How will the organization deal with obstacles?

Stories help people remember because they are more vivid, engaging, entertaining, and are easily related to personal experience. Stories do not transfer all kinds of knowledge equally, and they should not be used indiscriminately as a strategy for transferring critical skills, managerial systems, and norms and values. Stories can be used to transfer tacit knowledge. Stories help us remember, and the more often people recall information from memory, the more likely they will believe it is true.

Conclusion

Open Systems require the transfer of information within the system, and between the system and the environment (von Bertalanffy, 1969), and this can be accomplished in several ways to create learning within an organization. Specifically, it has been demonstrated that knowledge use can be improved by using computer programs and expert systems, and that tacit knowledge can be better transferred through informal communication channels and structured mentoring. Finally, it is apparent in the articles reviewed that knowledge transfer is the key to organizational learning, and that hard and soft systems can be created to leverage that transfer.

References

Checkland, P. (2000). *Systems thinking, systems practice*. New York: J. Wiley.

von Bertalanffy, L. (1969). *General system theory; foundations, development, applications*. New York: G. Braziller.