

Session 6

Learning Organizations and Knowledge Management

A Conventional View
&
An Alternative View

Learning Organizations/Knowledge Management

Why the Interest?

- 4 **Opinion leaders**
- 4 **Perceived growth in knowledge**
- 4 **Bandwagon effect**
- 4 **Become part of everyday parlance**
- 4 **Skills shortage**
- 4 **Recognition of growing difference between tangible and intangible assets**

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Opinion Leaders

When the rate of change outside the firm is greater than the rate of change inside the firm, the end is in sight. Jack Welch--CEO General Electric

The rate at which individuals and organizations learn may be the only source of sustainable competitive advantage. Ray Stata--CEO Analog Devices

Any organization can change, but change without the benefit of learning is risky and inefficient. Sal Belardo

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Exponential Growth in Knowledge

- 4 **By the year 2020 knowledge will double every 73 days or less**
- 4 **World Wide Web is doubling every 90 days**
- 4 **Internet is doubling every 250 days**
- 4 **Moore's Law The power of silicon technology doubles every 18 months**
- 4 **Metcalfe's Law The value to those connected to a network increases by n square**

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Bandwagon Effect

General Electric, ABB, Siemens, BMW, Toyota, Monsanto, Teltech, Roche, Microsoft, Andersen Consulting, McKinsey & Company, A.D. Little, 3M, Otican, Pfizer, Skandia, Steelcase, US West, British petroleum, etc.

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Part of Everyday Parlance

- 4 **Go to Amazon.com, and look at the number of books devoted to the subject**
- 4 **Search the journal databases**
- 4 **Look at the number of Ph.D. thesis titles**
- 4 **etc.**

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Skills Shortage

The less translation that occurs within someone's head, the better. There is a 17% turnover in our business every year. That means that every five years we lose most of our knowledge. A knowledge management system must capture this personal knowledge and translate it into institutional knowledge.

Roger Siboni KPMG Peat Marwick

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Tangible Versus Intangible Assets

The difference between market value and net assets in growing. Think of this difference as intangible assets or various types of intellectual capital customer capital, investor capital, structural capital, human capital

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The Learning Organization

Some Definitions

Learning organizations are organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspirations are set free, and where people are learning how to learn together. (Senge)

..organizations skilled at creating, acquiring, and transferring knowledge, and at modifying behavior to reflect new knowledge and insights. (Garvin)

Organizational learning means the process of improving actions through better knowledge and understanding. (Fiol & Lyles)

An entity learns if, through its processing of information, the range of its potential behavior is changed. (Huber)

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The Learning Organization

A Prescription

- 4 **Shared Vision:** *Where there is no vision the people perish Proverbs 29:18*
- 4 **Surfacing and Testing Mental Models:** *Essential to effective communication*
- 4 **Systems thinking:** *The essential properties of any system are the properties of the whole that none of the parts possess*
- 4 **Team Learning:** *Two heads are really than one..some times that is*
- 4 **Personal Mastery:** *The difference between a master and grand master is passion..caring and curiosity*

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Shared Vision

- 4 **The practice of shared vision involves the skills of unearthing shared pictures of the future that foster genuine commitment and enrollment rather than compliance.**
- 4 **The single thread that runs through all success stories is the involvement of large numbers of individuals in identifying the vision. *How the words get written are just as important as what get written..***
- 4 **All must understand, share in and contribute to the organization s vision, or that vision will not become a reality.**
- 4 **It is not truly a vision until it connects with the personal vision of the people throughout the organization--a by product of interactions of personal visions.**

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Shared Vision

Information & Communication

In their theory of Autopoiesis, Maturana and Varela contend that communication is not the transmission of information, but the coordination of behavior among entities that are structurally coupled.

Information is not objective: Think of the color red, or of a textbook given to two different people.

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Surfacing and Testing Mental Models

- 4 Mental models are deeply ingrained assumptions, generalizations or even pictures or images that influence how we understand the world and how we take action. Mental models are active, they shape how we act. *Senge, 1990*
- 4 Mental models are mechanisms whereby humans are able to generate descriptions of system purpose and form, explanations of system functioning, and observed system state, and predictions of future system states. *Rouse & Morris, 1986*
- 4 A collection of knowledge about a physical device, system or process. *Schumacher & Czerwinsky, 1992*

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Surfacing and Testing Mental Models

Representation & Cognition

- 4 What we see is a function of where we stand, our constitution, our experience. Cats and birds see trees differently from the way humans do because they perceive light in different frequency ranges. The shapes and textures they bring forth will be different than ours.
- 4 Maturana and Varela contend that the world is not pre-given cognition is not representation. Cognition represents perception, experience, and emotion.
- 4 Heizenburg noted that what we observe is not nature, but nature exposed to our method of questioning.

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Systems Thinking

- 4 The word systems come from the Greek, Synhistanai, meaning to put together in a context. A system is an integrated whole whose essential properties arise from the relationship between its parts, and systems thinking is the understanding of a phenomena within the context of a larger whole. The properties arise from the interactions among the parts, and are destroyed when the system is dissected, either physically or theoretically.
- 4 Systems thinking is not the same as systems analysis. *Think of an automobile.*
- 4 Systems can be understood by rich pictures made by employing positive and negative feedback loops. *Circular not linear*

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Team Learning & Personal Mastery

The Key: Critical Thinking

- 4 Critical thinking and reasoning are essential to communication and collaboration. Unfortunately, most people are not trained in these skills or do not practice them for what ever reason.
- 4 There are numerous approaches that can be employed to teach or organize critical thinking *the case method, research methods , the scientific method, bloom s taxonomy, semantic structuring, etc.*
- 4 For team learning, it is essential that people are able to ask questions in such a way that they understand the context to which the discussion pertains. Individual must demonstrate critical reasoning skills so that they can be understood.

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Knowledge Management

Some Definitions

Policies, procedures and technologies employed for operating a continuously updated linked pair of networked databases. (Anthes)

Bringing tacit knowledge to the surface, consolidating it in forms by which it is more widely accessible, and promoting its continuing creation. (Birket)

Process of capturing, distributing and effectively using knowledge. (Davenport)

Knowledge management is the process of capturing a company's collective expertise wherever it resides—in databases, on paper, or in people's head—and distributing it to wherever it can help produce the biggest payoff. Knowledge management is getting the right knowledge to the right person at the right time. (Info Week 10/20/97)

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Knowledge Management

A Prescription

- 4 **Knowledge Identification:** *Where is the knowledge? Who has it? What type of knowledge is it?*
- 4 **Knowledge Elicitation:** *How can we acquire it? What tools can we use?*
- 4 **Knowledge Dissemination:** *In order for it to be disseminated, it must be represented so that it can be stored and processed.*
- 4 **Knowledge Utilization:** *We must be able to evaluate the benefits of its use.*

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Top Five Reasons Cited

- 4 **Organizing existing corporate knowledge**
- 4 **New ways to share tacit knowledge**
- 4 **Support for research and knowledge generation**
- 4 **New ways to share explicit knowledge**
- 4 **Smart tools to aid decision making**

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Some Important Questions to Consider

- How will managers know when their companies have become learning organizations?*
- What corporate changes in behavior will be required?*
- What policies and programs must be in place?*

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Two Major Problems

- 4 In too many instances, knowledge management initiatives start in the information technology department ultimately focusing on the IT infrastructure, and what the IT people deem important. As a result many of these efforts focus on information rather than knowledge.
- 4 It is difficult to evaluate learning or to place a value on intangibles such as knowledge, especially tacit knowledge. Some types of knowledge take years to digest so that the benefits of learning may not appear until some time in the future.

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Relationship between computer expenditures and company performance

There is no direct correlation between IT investment and business performance or knowledge management. The same dollar spent on the same system may give a competitive advantage to one company, but be only an expensive paperweight to another.

Erik Brynjolfsson...Professor, The Sloan School of Management

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In the last 20 years, U.S. industry has invested \$1 trillion in technology, but has realized little improvement in the efficiency and effectiveness of knowledge workers.

John Seely Brown, Director of Research at Xerox Parc Research Center attributes this failure to organizational ignorance of the ways in which knowledge workers communicate and operate through the social process of collaborating, sharing knowledge, and building on each other's ideas.

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What is knowledge?

The data, information, knowledge, wisdom pyramid

How is knowledge related to learning?

- 4 *Experimentation*
- 4 *Speculation*
- 4 *By what we learn from other sources of knowledge*

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Knowledge Elicitation

Types of Knowledge

VS

Elicitation Techniques

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Knowledge Elicitation

Types of Knowledge	Examples	Elicitation Techniques
Concepts and Relations	Portfolio Modeling	Tutorials, lectures Repertory Grid
Routine Procedures	Calculation of Risk and Credit Worthiness	Protocol Analysis Task Analysis
Facts and Heuristics	What to Do If Assumptions are Violated	Incidental Protocols Memory Probe
Classificatory Knowledge	Choosing Among Candidate Tests ROI, NPV, etc.	Sorting Tasks Multi-dimension al Scaling

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Knowledge Management Efforts

Four Categories

- 4 **Knowledge Repositories:**
External Competitive Systems: General Electric's Customer Knowledge Management
Internal Structured Repositories: Best Practices, Tips, Lessons Learned, etc.
Internal Unstructured Systems: Discussion Databases:
- 4 **Knowledge Access: British Petroleum**
- 4 **Knowledge Environment: Microsoft**
- 4 **Managing Knowledge as an Asset: Dow Chemicals**

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Knowledge Management: A Matrix Approach

Knowledge Stages

	Identification	Elicitation	Dissemination	Utilization
Key Enablers				
Technology				
Measurement				
Leadership				
Culture				