



Research on the Future of Learning and Business

■ Knowledge Management

What is knowledge?

"Knowledge is information that changes something or somebody -- either by becoming grounds for actions, or by making an individual (or an institution) capable of different or more effective action." -- Peter F. Drucker in *The New Realities*

Knowledge is information and thought that aids us in some human purpose-- no purpose, no knowledge. If information falls in a forest and there's no one there to hear it, it won't become knowledge.

By 2002, most businesses will have realized that semantic arguments arising from classifications such as data, information, knowledge and wisdom

What is it knowledge management?

Consultants tell us, "Knowledge Management is a discipline that promotes an integrated approach to creation, capture, organization, access and use of an enterprise's information assets. These information assets may include databases, documents, policies and procedures, as well as the uncaptured, tacit expertise and experience resident in individual workers.^[1]"

Fearing they may have left out something worthy of consulting on, the same consultants tell us, "Knowledge management (KM) is a process employed by enterprises to capture and share people's tacit knowledge (experiences, expertise and insight often shared across multiple or nonspecific domains), to promote collaboration among employees, and to provide broad access to the enterprise's information assets without regard to their source or structure (they may be internal or external to the enterprise and may be textual, data, visual or another format). The business value of KM is achieved when the sharing of an enterprise's collective information assets stimulates innovation and reuse, enables formal management and leverage of intellectual capital, drives organizational learning, and, finally, improves the collective performance of knowledge workers. KM techniques and tools include broad access across information management platforms (intranets, extranets and the Internet, as well as desktop and transaction-processing environments), groupware, sophisticated taxonomy and indexing technologies, and others."

Leveraging collective wisdom to increase responsiveness and innovation.^[2]

Vendors tell us that “Knowledge Management is _____ (fill in the name of my database rproduct or consulting service here.”

Knowledge Management is a case of the blind men and the elephant. “KM” refers to one or more of these activities:

- creating and populating a repository of in-house knowledge
- measuring the dollar-value of chunks of knowledge
- facilitating the transfer of knowledge
- creating a knowledge sharing environment
- building a corporate culture focused on innovation and knowledge creation

Blind men and the elephant: create it, evaluate it, store it, build a storehouse for it...

Just do it.

Databases:

1. Corporate yellow pages
2. Best practices system that captures lessons learned
3. Competitive intelligence

Infrastructure:

1. Groupware
2. Empowered Chief Knowledge Officer

Culture:

1. Top-down belief
2. Spirit of sharing and collaboration
3. Experimentation encouraged

Explicit Knowledge and Tacit Knowledge

“In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge. When markets shift, technologies proliferate, competitors multiply, and products become obsolete almost overnight, successful companies are those that consistently create new knowledge, disseminate it widely throughout the organization, and quickly embody it in new technologies and products. These activities define the ‘knowledge-creating’ company, whose sole business is continuous innovation.”^[3]

Knowledge

	<p>Explicit Knowledge You can write it down. Easy to share. Left brain, pragmatic – learned. Think classroom.</p>	<p>Tacit Knowledge It's tough to explain. Tough to share. Right brain, idealistic – internalized. Think watercooler.</p>
Theory of organization =	Machine for processing information	Living organism with a purpose
Knowledge =	Formal, systematic, quantifiable	Know-how and ingrained mental models and perspectives. Subjective, hunches, intuitive, highly personal.
Metrics =	Quantifiable: increased efficiency, lower costs, improved ROI	Qualitative: increased effectiveness, embodies company vision, expresses management aspirations and strategic goals, builds organizational knowledge network.
Impact =	Increases immediate capabilities	Profoundly shapes how we perceive the world around us.
Communicated =	Via words, textbooks, CBT	Via figurative language and symbolism, metaphor, analogy, modeling.

every virtue has its vices and tacit knowledge has three: it can be wrong. it's hard to change. it's difficult to communicate. tacit knowledge is stubborn. it's a never-ending cycle. identifying tacit knowledge, making it explicit so that it can be formalized, captured, and leveraged; encouraging the new knowledge to sink in and become tacit.

The Knowledge-Creating Company^[4]

“Knowledge management” is a typically Western construct. You can't really *manage* knowledge. Most of the time, the best you can do is plant the seeds and provide fertile ground for it to grow. Add a nurturing senior management and a high degree of personal commitment, and you may create a knowledge-creating company.

Engaged people are the key to knowledge-based performance in our organizations. But to make this a reality, people need an environment that allows them to participate fully in the creation of knowledge. Communities of practice are the most critical ingredient of such an environment. Knowing how to foster these communities is therefore a strategic competence

in a knowledge economy.^[5]

This framework places learning at the intersection of community, shared practice, identity, and meaning. It has a wide range of implications for the design of organizational, technological, and educational systems. These systems can be understood as learning architectures: they can be analyzed and designed in terms of the social facilities they offer for mutual engagement in practice, for the negotiation of meaning, and for the construction of identities. CHART HERE

[like growing truffles]

It is commonplace to say that people are the most important resource in organizations; but it is less common to understand this truism in terms of what best enables us to act and develop ourselves as knowledgeable participants. That is why it is crucial to treat organizations as constellations of interconnected communities and to understand and support the processes by which learning communities evolve and interact.

“We’re in the Knowledge Business.”

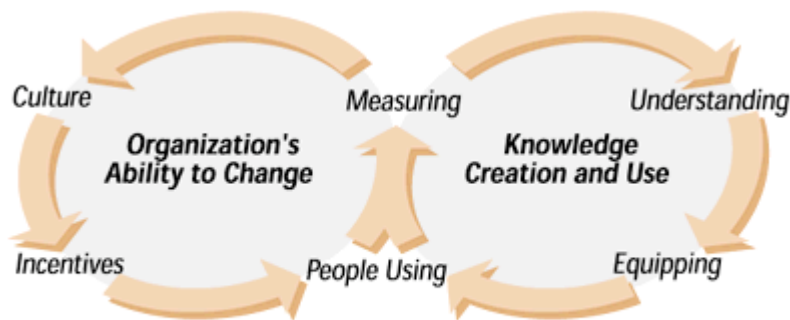


EXHIBIT VI
MANAGED LEARNING

- Communities of practice

Groupware

IRL

David Weinberger & JOHO

Facets of future scenarios

It takes bravado to shoot the rapids. Dispirited canoers flounder. Cultural change requires emotional commitment – high spirits.

Future companies will use war stories to plant values, cherish ideals, and honor heroes. They will employ every means at their disposal to tell and retell these corporate allegories – email, new hire orientation, discussion groups, [Photographs](#), videos, and oral history.



Thomas A. Stewart, Intellectual Capital. UCB Haas Library.

“Information and knowledge are the thermonuclear competitive weapons of our time. Knowledge is more valuable and more powerful than natural resources, big factories, or fat bankrolls.”

Thomas A. Stewart, Intellectual Capital



Jack Welch of GE: “We soon discovered how essential it is for a multibusiness company to become an open, learning organization. The ultimate competitive advantage lies in an organization’s ability to learn and to rapidly transform that learning into action.” And, in GE’s “boundaryless” learning culture, “The operative assumption is that someone, somewhere, has a better idea; and the operative compulsion is to find out who has that better idea, learn it, and put it into action – fast.”



How organizations implement Knowledge Management

Intranet	47%
Repository	33%
Decision-support	33%
Groupware	33%
People networks	24%
Map links to expertise	18%

Source: ASTD Research



Three quarters of all major knowledge management/learning organizations fail within two years. Booz Allen suggests this is due to:

- No specific business objective, but only general aspirations like "share best practices" or "stimulate collaboration"
- Incomplete program architecture that applies some principles of effective **learning** but does not build on the linked natural dynamics of organization change and knowledge creation and use
- Insufficient focus upon one or two strategic priorities
- Top management sponsorship without active, ongoing involvement.

Our hypothesis is that these problems stem from top management's failure to play its accustomed roles of leadership and management -- not because of a lack of commitment or interest but rather because top management recognizes that **learning** requires new management practices and is

uncertain about the role it should play.



Working Knowledge notes

Working knowledge was another tome I'd hoped to get more payback from. Maybe I'm learning enough to be jaded.

"if hp knew what hp knows, we would be three times as profitable." Lew platt, ceo. * * * information = data that makes a difference. * * * war stories as distinct from what goes on in business school. * * * rules of thumb = heuristics = recognizing known patterns in new situations. Schank calls these scripts. * * * not sharing knowledge is reinventing the wheel. * * * BP & virtual teamwork (20 ff)

understanding that there are knowledge markets and that they operate similarly to other markets is essential to managing knowledge successfully.... Many knowledge initiatives have been based on the utopian assumption that knowledge moves without friction or motivating force, that people will share knowledge with no concern for what they may gain or lose by doing so. People rarely give away valuable possessions.

Knowledge seekers are looking for insights, judgments and understanding. * * * payment via reciprocity, repute, altruism * * * without trust, knowledge initiatives will fail. It must be visible. The members of the organization must see people get credit for knowledge sharing. They must directly experience reciprocity.

Employees were expected to learn on their own time, a company norm that implied that acquiring knowledge wasn't "real work." * * * agora. "talk rooms" in Japan. Have a cup of tea. No agenda, no conference table.

"It doesn't make sense to hire smart people and then tell them what to do; we hired smart people so they could tell us what to do."

Knowledge managers and users can categorize knowledge, describe it, map and model it, simulate it, and embed it in rules and recipes. "relevance is far more important than completeness."

Is it the rich, tacit, intuitive knowledge of a seasoned expert, or is it rules-based, schematic, explicit knowledge or something in between? Whether you should do anything with the knowledge depends on its importance; what you should do to it depends on its type.

BP finds that providing access to people with tacit knowledge is more efficient than trying to capture and codify that knowledge electronically or on paper. The virtual teamwork video conferencing network is a pipeline for tacit knowledge. * * * tacit knowledge is communicated most effectively through a convincing narrative that is delivered with formal elegance and passion. * * * conversations are the way knowledge workers discover what they know, share it with their colleagues, and in the process create new knowledge for the organization.

notes on *Intellectual Capital*

Intellectual Working Capital

intellectual working capital (workaday data, the torrent of data, facts, meter readings, and so forth) should not be managed the same way as intellectual capital. working capital is a bad thing. it is a cost to be minimized. it is not to be stored but to be kept moving. intellectual working capital is a through-put, cycle-time, inventory-management problem.

the dream of a corporate master file. wrong! you want the smallest possible warehouse, containing only stocking what's otherwise hard to get in a timely way. KM should be about connecting, not collecting. Don't try to boil the ocean. Use the 80/20 rule.

stan davis says "an organization often confused with a business." a business should be defined from the outside in, not the inside out.

understanding the materialization of the immaterial is essential to learning how to compete with knowledge.

knowledge and information take on their own reality, which can be detached from the physical movement of goods and services. if knowledge is the greatest source of wealth, then individuals, companies, and nations should invest in the assets that produce and process knowledge.

taylorism is "father knows best" management. the only brainpower taylor used was managerial brainpower. taylorized workers were interchangeable.

organizational intelligence –smart people working in smart ways—has moved from a supporting role to a starring one.

the idea that knowledge can be slotted into a data-to-wisdom hierarchy is bogus, for the simple reason that one man's knowledge is another man's data.

intellectual working capital changes all the time. minimize it.

Leverage the Value-Hierarchy of Knowledge

Different skills produce different levels of impact.

<p>Difficult to replace, low value added</p> <p>Staff jobs, skilled factory workers, experienced secretaries</p> <p>“Know the ropes but don’t pull the strings.” Don’t directly impact customers.</p> <p>INFORMATE ®</p> <p>Easy to replace, low value added.</p> <p>Unskilled, semi-skilled labor.</p> <p>Success not dependent on these individuals.</p> <p>AUTOMATE -</p>	<p>Difficult to replace, high value added</p> <p>Irreplaceable role in the organization; nearly irreplaceable as individuals</p> <p>Create the products and services that draw the customers in</p> <p>CAPITALIZE</p> <p>Easy to replace, high value added</p> <p>Designers</p> <p>Work is valuable but not this particular individual; they’re fungible</p> <p>DIFFERENTIATE or OUTSOURCE -</p>
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Often, the value added is the information subtracted.

"You don't want knowledge management to become the arterial plaque on the walls of your network," Koulopoulos says.

A hired hand is not a hired mind. Routine, low-skill work, even if it’s done manually, does not generate or employ human capital for the organization. Unleashing the human capital already resident in the organization requires minimizing mindless tasks, meaningless paperwork, unproductive infights. The Taylorized workplace squandered human assets in such activities.

“Informate” = change the work to add more value to customers.

Outsourcing frees resources to continue developing high-return expertise.

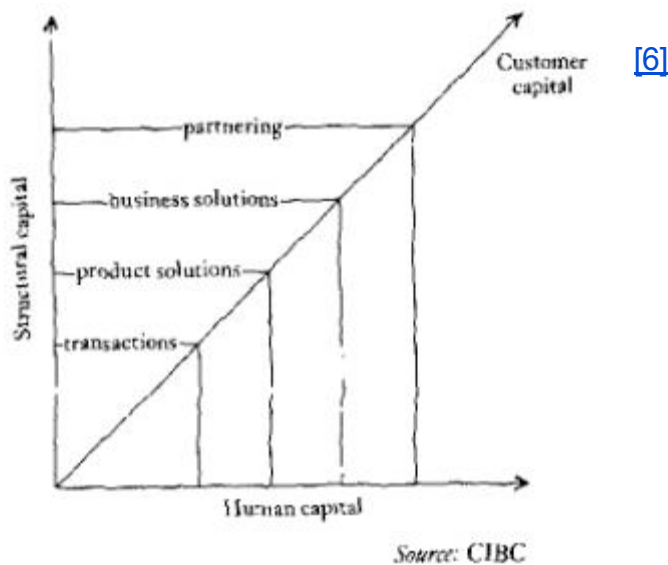
Capitalize means providing opportunities for learning. People need to feel they’re “in the game,” and not “being kicked around by it.”

How to Capitalize on High-Value Knowledge

Structural capital – “company property” – builds on corporate yellow pages, knowledge maps, speedy transfer. Do enough and no more; many overinvest. HP and others find that “demand-driven” approach is more effective than

“pushing” information into people’s emailboxes. Avoid overinvesting by making it okay not to know everything – leverage the expertise of specialists. When a manager brings in a problem, the experts teach her how to apply the lessons of a module to solve it.

Customer capital, the relationships of the company with its customers, is measured by market share, customer retention and defection, and profit per customer. This is the most valuable capital of all – it’s where the money is – but ironically, it’s also the least well managed. Tom Stewart has a wonderful line, “The customer today can call the tune because he knows the score.” The goal is to maintain an increasingly intimate relationship. Empowered customers deal directly with companies’ databases.



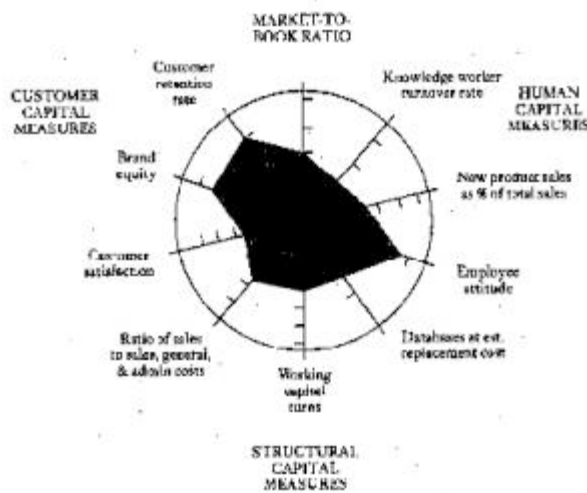
Tom Stewart’s advice on becoming intimate: “Learn your customer’s business and teach her yours.”

Tom Stewart’s Ten Principles for Managing Intellectual Capital^[7]

1. Companies don’t own human and customer capital. Companies share the ownership of human assets with employees. They share ownership of customer capital with suppliers and customers. An adversarial relationship with employees destroys wealth.
2. To create human capital it can use, a company needs to foster teamwork, communities of practice, and other social forms of learning.
3. To manage and develop human capital, companies must unsentimentally recognize that some employees, however intelligent or talented they are, aren’t assets. Invest in proprietary and strategic knowledge workers; minimize all other costs.
4. Structural capital is most easy to control because companies own it, but customers are where the money comes from.

5. Structural capital serves two purposes: to amass stockpiles of knowledge that support the work customers value, and to speed the flow of that information inside the company. Just-in-time knowledge is more efficient than knowledge stored in the warehouse.
6. Substitute information and knowledge for expensive physical and financial assets.
7. Knowledge work is custom work. Mass production does not yield high profits.
8. Analyze your value chain to see what information is most crucial. The knowledge work is generally downstream, close to the customers.
9. Focus on the flow of information, not the flow of materials. Information once supported the real business; now it is the real business.
10. Human, structural and customer capital work together.

Measuring Intellectual Capital



By 2002, even the Financial Accounting Standards Board will recognize that in an information economy, it's inappropriate to value intellectual capital at zero, consider training detrimental to profits, and use entirely different yardsticks to measure performance than used by investors and owners. Qualitative measures such as the Balanced Scorecard will replace explicit but misleading financial statements. Tom Stewart proposes this way to assess intellectual capital:

Appendix

Knowledge management Resources

Fortune: Knowledge management column by Tom Stewart
 CIO: Knowledge management column by Tom Davenport
 Harvard Business Review on Knowledge Management
 Working Knowledge
 Wall Street Journal: Friday Front Lines column by Tom Petzinger
 Journal of Business Strategy, January-February 1998 v. 19 (Special Issue)
 Long Range Planning: Special Issue on Intellectual Capital, June 1997
 Forbes ASAP: Special Issue on Intellectual Capital, April 7, 1997
 Organizational Dynamics: Theme Issue on "The Learning Organization: Applications and Results," Summer 1998
 Knowledge Inc.: Monthly executive newsletter (Quantum Era Enterprises)

Business and technology managers' checklist

- View the organization as a human community capable of providing diverse meanings to information outputs generated by the technological systems, instead of the traditional emphasis on command and control.
- De-emphasize the adherence to the "way things have always been done" so that such prevailing practices may be continuously assessed from multiple perspectives for their alignment with the dynamically changing external environment.
- Invest in multiple and diverse interpretations to enable constructive conflict mode of inquiry and, thus, lessen oversimplification of issues or premature decision closure. The multiple and diverse interpretations of information based on different subjective views would facilitate surfacing of assumptions underlying current best practices and thus ensure that such practices are continuously renewed to align with the dynamically changing reality of business.
- Encourage greater proactive involvement of human imagination and creativity to facilitate greater internal diversity to match the variety and complexity of the wicked environment.
- Give more explicit recognition to tacit knowledge and related human aspects, such as ideals, values, or emotions, for developing a richer conceptualization of knowledge management
- Implement new, flexible technologies and systems that support and enable communities of practice, informal and semi-informal networks of internal employees and external individuals based on shared concerns and interests.
- Make the organizational information base accessible to organization members who are closer to the action, while simultaneously ensuring that they have the skills and authority to execute decisive responses to changing conditions.

[1] Gartner Group

[2] The Delphi Group

[3] Ikujiro Nonaka, *The Knowledge-Creating Company*, Harvard Business Review, November-December 1991.

[4] Nonaka, *The Knowledge Creating Company*, 1991. Also Harvard Business Review.

[5] Etienne Wenger, presentation to Knowledge Ecology University

[6] Hubert Saint-Onge, Canadian Imperial Bank of Commerce, quoted in Tom Stewart's *Intellectual Capital*.

[7] Thomas Stewart, *Intellectual Capital*, pp. 163-165/

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