

Knowledge Management – Lessons from the Pioneers

Karl-Erik Sveiby

November 2001

INDEX

KNOWLEDGE MANAGEMENT – LESSONS FROM THE PIONEERS	1
Cost Reduction or Revenue Generation?	3
Is Knowledge an Object or a Process?	4
KM – a “Movement” with Three Origins	5
Lessons from the Pioneers.....	6
1. Enthusiastic Champions.....	6
2. ...build on Existing Core Competence	6
3. They Address an Urgent Strategic Imperative.....	7
4. ...with Firm Commitment from the Top.....	7
5. Early Quick Wins Neutralise the Nay-sayers.....	7
Myths and Reality about KM.....	8
References	9

Cost Reduction or Revenue Generation?

Recently I asked the participants at a workshop on knowledge management: "Why did you come here? **If you see Knowledge Management as the Answer**. What is your Question?"

"50% of our workers are retiring in the next five years and we must come up with methods to capture their knowledge before they leave."

"We had three business units developing more or less identical computer systems for handling components, each costing \$500,000. They didn't know if each other. We must reduce the waste".

"I manage three hospitals, there is no learning between the hospitals the doctors refuse to transfer best practice".

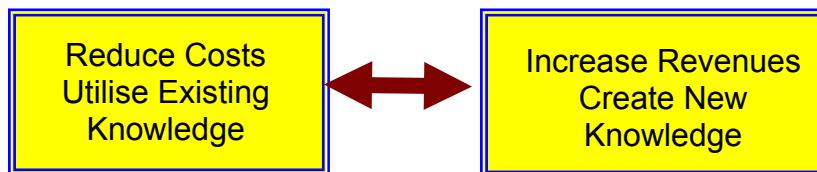
"We need to measure our intangibles. We have implemented a Balanced Scorecard but it didn't work."

The common thread among nineteen of the twenty managers in the room was the traditional middle management concern to increase efficiency, reduce waste, in short: better **utilise existing knowledge or measure performance**.

One of the twenty in the room said:

"I came here to learn how to make my department **more innovative**." Her concern was how to **create new knowledge**.

The managers displayed one of the two KM dynamics: Can KM be used to reduce costs or to increase revenues?



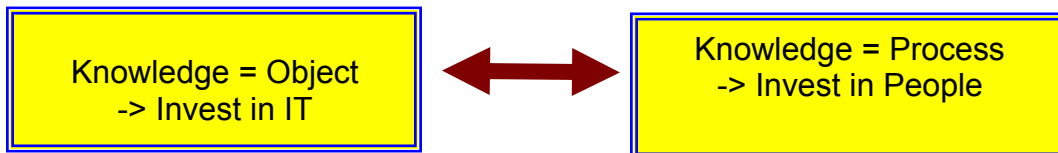
KM can address both issues, of course, but the heavy emphasis on efficiency in the answers is quite typical. A survey of chief executives in 2000 made by the Conference Board reported that some 67% of the KM initiatives were related to best-practice sharing, efficiency and information transfer. Only 7% responded that their KM efforts had to do with innovation.

The majority of middle managers don't see themselves in charge of revenue creating activities (that is believed to be the sole responsibility of sales and marketing!). When the business problem is defined in cost reduction terms the solution is more often than not a new IT system, to re-engineer the information processes and to buy a database.

If the purpose, on the other hand is to create new knowledge and to increase revenues, the solutions become much more complex and much more rewarding. After all: you can only save 100% of the costs, but sky is the limit when it comes to increase revenues.

Is Knowledge an Object or a Process?

The other dynamic concerns the understanding of what Knowledge is. Is Knowledge an object or a Process? The question is generally placed in the “too hard-basket” so the existing implicit paradigm that Knowledge is some kind of advanced Information is allowed to prevail. However, the question must not be avoided.



If you as a manager believe that knowledge is more or less the same as information you will also tend to believe that by investing in Information Technology you will have “implemented Knowledge Management”. It is an easy way out. Unfortunately it is also an easy way to lose money. The reluctance to deal with this issue has caused wastage in the order of billions of dollars world-wide. Ernst & Young for instance, the first of the Big Five to make heavy KM-related investments, readily admit that their initial ~\$100 million investments in IT systems were wasted.

If you, on the other hand, are convinced that Knowledge is a Process (i.e. a human faculty) and that the key to success in Knowledge Management lies in People you find yourself in a dilemma. Where do you start?

Let me first answer the question about Knowledge by defining it as a “capacity-to act”¹.

Knowledge = A Capacity to Act

Knowledge is a Process. It is dynamic, personal and distinctly different from data (discrete, unstructured symbols) and information (a medium for explicit communication). Since the dynamic properties of knowledge are in focus, the notion *Individual Competence*² can be used as a fair synonym.

The definition is too important for managers to be dismissed; What’s the point in having people with lots of knowledge, but who are unable to do anything with it? What is the point in filling computers with information if the value is in the people?

If we accept that Knowledge is a human faculty, the purpose for Knowledge Management concerns how the organization best can nurture, leverage and motivate people to improve and share their Capacity to Act. ***KM becomes a strategic issue for the whole organization.*** I call it a ***Knowledge-based Strategy.***

KM – a “Movement” with Three Origins

It is important to understand that KM has not evolved out of a set of formal methodologies. As a concept it has at least three origins and this makes the field confusing for people trying to grasp it for the first time.

It is often the case that similar concepts and research emerge independently in different parts of the world. In the mid 1980's researchers and practitioners all over the world started to be interested in the role of knowledge in businesses.

In the US the term 'managing knowledge' was beginning to be used in the context of artificial intelligence around 1986. One group at DEC comprising among others Debra Amidon were focused on how learning could be enhanced by technology and another team led by Karl Wiig were doing research in Artificial Intelligence. Debra Amidon published at Purdue University in 1988 a Paper on Research consortia: *Managing the Knowledge Asset into the 21st Century*:

The problem with AI was that most of the AI systems fell into disuse after 6 months to a year so a group in A.D Little started to look at the role that knowledge plays in conducting business -- be it design engineering, weather forecasting, running a refinery process, and so on. Karl Wiig, the head of the AI group at that time, says (in an email Nov 2001):

“We started to think in terms of creation, learning, sharing (transferring), and using or leveraging knowledge as a set of social and dynamic processes that needed to be managed (sure, technology came into it at times but was not at the center, we discovered later). And we could not come up with a better term than ‘Knowledge Management.’ -- Now, I regret that we could not find a better descriptor!”

Karl Wiig used the term *Knowledge Management* in a presentation in 1986 for the first time and went on to publish several books on his team's experiences. In 1990 he wrote possibly the first article in the world with Knowledge Management in the title: *Knowledge Management: An Introduction* in Proceedings of IAKE Second Annual International Conference.

In Japan a research team around Ikujiro Nonaka had since the early 1980's been concerned with innovation and how to speed up the process of innovation in Japanese large corporations. In 1987 Nonaka's student Hiroyuki Itami, in the book *Mobilising Invisible Assets*, observed that U.S. businesses often do not pay enough attention to protecting and developing invisible assets such as the goodwill of clients, reputation, loyalty and trust in business relationships, because they are not emphasized on the balance sheet. Nonaka turned to epistemology for inspiration particularly Michael Polanyi and his concept of Tacit Knowledge. In 1995 Nonaka and Takeuchi published their groundbreaking book *The Knowledge Creating Company*, which redefined the field of KM. Nonaka contrasts his concept knowledge creation against knowledge management, which he regards as a poor term too influenced by IT.

In Sweden I was managing my own publishing company and our concern was how to build strategy for an organisation that has no traditional production; the only production factor being the knowledge and creativity of the employees and the only resource being knowledge. We developed a 'competence-based strategy' approach for our company and in 1986, I published our approach in *Kunskapsföretaget* (Eng. *The Know-How Company*). In 1990, I explored the strategic approach further in *Kunskapsledning* (Eng. *Knowledge Management*), which possibly is the world's first book with knowledge management in the title. The title referred to a strategic approach to manage knowledge resources, particularly knowledge workers, and there was no reference to information technology.

I also developed a theory on how to measure intangible assets, testing the theories with a group of executives, the 'Konrad group'. The results of the work was, published in 1989 in the book *The Invisible Balance Sheet*, which proposed a theory and a score card approach for measuring 'Knowledge Capital' by dividing it into three categories: 'Customer Capital,- Individual Capital, and Structural Capital'. By 1991 some 40 Swedish companies had been inspired to publish their Knowledge Capital, the best known example being Skandia Insurance, which re-labeled the concept *Intellectual Capital* in their first annual report supplement on 'Intellectual Capital' in 1994.

We can thus see that KM has an American Information/AI-origin, a Japanese Knowledge Creation/Innovation origin and a Swedish Strategy/Measuring origin. There is also a close link between the Swedish concepts of KM and Intellectual Capital. Depending on the speaker/writer one will therefore see completely different perspectives and paradigms. The American IT-influenced perspective on KM is contrasted against the Japanese and Swedish more people-focused KM perspectives.

Some lament this lack of cohesion and absence of a formal all-encompassing theoretical framework. I believe it is a strength. The concept of Knowledge Management is unusual in its ambiguity, extraordinary in its depth, unfathomable in its rapid expansion and – best of all – it has no single TM©® owner. From a few seeds planted by a few of us a decade and a half ago, the framework and the practices are now growing exponentially through the efforts of hundreds of thousands of practitioners and thinkers worldwide who practice what they teach in a very broad range of pioneering experiments. The sharing of knowledge about KM is unprecedented in history. KM is a LINUX of management concepts. A "Movement" of people round the globe connected and contactable via the Net.

Lessons from the Pioneers

Because KM is so diverse the approaches are also quite diverse. Some common themes emerge however.

1. Enthusiastic Champions...

Companies who are now regarded as "pioneers", (i.e. they started early and with little or no consulting support) have had the fortuitous presence of one or more enthusiastic individuals who have combined conceptually innovation and change agent behaviours. They have defined pushed, cajoled, and manipulated their organisation into a KM approach. Gordon Petrash in Dow Chemical, Hubert St Onge in Clarica, Bipin Junarkar in Gateway Computers, Josef Hofer-Alfeis in Siemens, Marcus Speh in Shell Oil, Paul Norman in MTN to mention but a few of the mid-level managers who have taken upon them or been given a task to improve the performance of the company. Their primary means of achieving these business results have been to make KM work as a valuable approach in one part of the business or in the whole organisation.

Champions are natural leaders with vision, and a missionary belief in the value of KM to bring their organisation into the future.

2. ...build on Existing Core Competence

The successful pioneers built their KM initiatives around existing core competencies. For Shell which pioneered the notion that strategic planning was not a business management process but a corporate learning process the Shell Learning Centre was the natural KM base. In Dow Chemical's portfolio of 29,000 patents was a key strategic asset that was underutilised. For Chevron the capability of knowing where when and how to drill for is a core competence and so

found it natural to build KM on their pioneering Best Practice management. In the publishing firm Affärsvärlden the initiative came from the editorial department. At McKinsey and the other professional services firms KM addresses the bottleneck issue of how to make the knowledge of the valuable experts more effectively and efficiently utilised.

3. They Address an Urgent Strategic Imperative...

The merged Pricewaterhouse Coopers knew they had a goldmine of expertise but they did not know where and how to find it. They did know they had some 120,000 overlapping databases (about the same number as the number of employees!). PwC's KM initiative therefore focused heavily on an IT architecture. Nokia, the Finnish company that has succeeded in dominating the mobile phone industry applies KM principles in order to reduce time-to-market. The KM pioneers in Siemens, one of the world's largest conglomerates, offer a way to create value from diversity.

Motorola's KM initiative got wings when the newly instated KM Office was able to show a way to address one of the causes of the diversified electronic giant's chronically low profitability, lack of coordination in sales and marketing efforts. Skandia's US subsidiary wanted a method to "clone" its wildly successful financial services formula in new markets.

Buckman Labs, a small ~1,200 employees chemicals firm was desperate for a way to let their widely dispersed agents and experts share ideas and information. An IT system KNETIX was design to facilitate communications between sister companies, so that the collective knowledge and understanding of the entire organization could be brought to bear on any problem. The resulting acceleration of knowledge transfer would lead to a strategic advantage based on the leverage of internal (as opposed to external) knowledge.

In Unilever a company which finds most of its products battling mature markets, the KM pioneers got thumbs up when they focused their efforts on how to reduce costs in the whole value chain. Microsoft on the other hand, does not have cost problem but a speed problem. How to find the best team for a task as quickly as possible is the promise that KM promises to solve. There are those who claim that Microsoft is succeeding because it can manage its intellectual capital much better than many of its competitors.

For both the financial publishing house Affärsvärlden and MTN, the fast-growing South African mobile phone network operator, KM meant a reinvention of the entire strategy in fast-growing markets competing for scarce talent against larger market players.

4. ...with Firm Commitment from the Top...

Champions without powerful sponsors at the top become lonely guerilla warriors prone for defeat. In Buckman Labs, Affärsvärlden, PwC and SA Armstrong the sponsor was the one of the owners and KM was elevated to a strategic issue. In Shell the powerful Learning Centre was the sponsor, in Skandia no one questioned the decisions of the juggernaut US subsidiary that redefined Skandia's entire mission.

5. Early Quick Wins Neutralise the Nay-sayers

Gordon Petrash at Dow Chemical often refers to the "low-hanging fruit" when he described how he won the first battles to change existing routines. While the group knew that Dow possessed an array of other intellectual assets (such as know-how, copyrights, trademarks and trade secrets), it reasoned that patents was an area in which it had a high probability of success, could demonstrate obvious value, and could implement its new processes quickly. Petrash estimates

that the firm increased its annual licensing income from \$25 million in 1994 to more than \$125 million three years later.

Robert Buckman discovered that the new products jumped when they introduced the KM initiative from 24% of sales in 1993 to 34 in 1994 and has stayed there since. He attributes the higher innovation level to the combination of a collaborative culture and information sharing that they achieved. Most of the low-hanging fruit tends to be found by sharing practices and increasing efficiencies. From the Conference Board Paper:

- ❖ Ford Motor Company saved more than \$600 million in three years.
- ❖ Hewlett-Packard reduced its cost per call by 50 percent.
- ❖ Rank Xerox reduced its dispatches by 15 percent.
- ❖ Roche sends out its products for FDA approval six months faster.
- ❖ Sequent registered 10 percent higher sales for new sales reps after six months.

More long-term effects of better management of knowledge are quoted as:

- ❖ make decisions faster and closer to the point of action;
- ❖ overcome internal and external barriers;
- ❖ provide more opportunities to innovate;
- ❖ reduce product development time; and
- ❖ enhance customer relationships.

However, the focus on innovation and customer knowledge are expected to be the areas where breakthroughs and future growth will emerge.

Myths and Reality about KM

Finally as a summary, a reality check of the Myths about KM

- KM is the same thing as learning
No, learning is a means to an end – KM must have a business focus
- KM is a series of procedures which are to be implemented
No, KM is a fundamental shift in strategic paradigm
- KM is to capture knowledge kept in the heads of people
No, KM concerns how to create environments for people to create, leverage and share knowledge
- KM is a question of ensuring information is sent to everyone
No, central push tends to fail. Catering for demand is much more effective.
- KM is a simple add-on to business as usual
No, KM requires deep rooted behavioural and strategic change
- KM is a function to be delegated to HR or IT
No, KM requires top management involvement; it is a fundamental shift in strategic perspective.
- KM is just a matter of investing in IT
No, IT is a tool for information exchange, but can never drive change

For readers interested in learning more about how to change the strategic paradigm I recommend to read: Sveiby (2001): A knowledge-based Theory of the Firm to Guide Strategy Formulation Intellectual Capital Journal 2:1.

References

Amidon Debra (1988): *Managing the Knowledge Asset into the 21st Century: Focus on Research Consortia*, (co-authored with Dan Dimancescu), Proceedings from the Critical Issues Roundtable at Purdue University, Technology and Strategy Group.

Hackett Bill (2000): *Beyond Knowledge Management: New Ways to Work and Learn*. The Conference Board.

Itami Hiroyuki (1987): *Mobilizing Invisible Assets*. Harvard Business Press

Nonaka I & Takeuchi H. (1995): *The Knowledge Creating Company*. Wiley

Sveiby KE (1986): *Kunskapsföretaget*, ("The Knowhow Company" co-auth. Anders Risling), Liber

Sveiby KE (1989): *Den Osynliga Balansräkningen* ("The Invisible Balance Sheet") Ledarskap, w. "Konradgruppen".

Sveiby KE (1990): *Kunskapsledning* ("Knowledge Management"), Affärsvärlden 1990.

Wiig Karl (1990): *Knowledge Management: An Introduction* in Proceedings of IAKE Second Annual International Conference. Washington DC: International Association of Knowledge Engineers, 1990, pp. 13-41.

¹ This definition of Knowledge builds on L Wittgenstein and M Polanyi ("Knowledge is an activity best described as a Process-of-Knowing").

² The Latin root *competo* simply means that an actor has sufficient ability to fulfil his/her goals. Competence is know-how + the ability of reflection. It is the expertise of mastering the rules of the profession so well that they no longer need to be obeyed. Competence in Polanyi's sense implies the ability of know-how within a certain domain and the ability not only to submit to the rules but also by reflection influence the rules of the domain or the tradition. Competence is thus not a property but a relation between individual actors and a social system of rules. A person is competent within a tradition: *In a competent mental act the agent does not do as he pleases, but compels himself forcibly to act as he believes he must.*

Polanyi (1958) also makes an illustration of incompetence: *We draw here a distinction between two kinds of error, namely scientific guesses which have turned out to be mistaken, and unscientific guesses which are not only false but incompetent.*

An individual is thus not competent per se, rather it is the individual in a role and in a context who is competent or not. In order to change the rules a competent individual needs a social or communicative knowledge in addition to know-how.