Design Concepts

Introduction

We like to think that Atomicat is unique.

However, this is no side effect. Our approach to organisations and their problems is something many years in the making.

We made some radical conceptual leaps and assumptions about what businesses would look like in the near and distant future when we designed our approach almost 15 years ago. Then we worked as if the timing of the requirements we would be able to fulfil on in the marketplace would emerge and dovetail with the release of our product. Needless to say, our approach did (and does still) raise some eyebrows.

However, our views on what to work for were neither insulated nor unsubstantiated, many of the concepts behind our products appeared in the public press and are collected in this brief.

The Inspirations

Leif Edvinsson   *Arie De Geus*

The most important influences on our design thinking is the work of both Leif Edvinsson (the contextual organisation) and Arie De Geus (the living organisation). In developing the Worx platform, we merged their idea systems to design software for a contextual, living organisation.

That being said, we also made sure that we could pragmatically accommodate more mainstream and prevalent business management ideologies concurrently, such as General Electric's Differentiation Curve and Six Sigma.

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Tech Pioneers Preview the Future

Thinking, talking computers - with components in cars, clothes, and walls - will be the world's accessible libraries.

Stuart J. Johnston, special to PC World
Thursday, April 08, 2004

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Tech Pioneers Preview the Future

Predicting the future is risky business, and even visionaries turn conservative when facing that challenge. But the four winners of this year's Draper Prize from the National Academy of Engineering are as qualified for the task as anyone.

Bob Taylor, Alan Kay, Charles "Chuck" Thacker, and Butler Lampson were recently honored for their groundbreaking research at Xerox Palo Alto Research Center in California 30 years ago. Among their accomplishments: accurately envisioning the office of the future that most of us now use daily.

The four winners shared with PC World their views on the future of computing. Their predictions are rather general and surprisingly near-term, but they're bolstered by examples of current research. As Kay says in describing what he calls the power of the context: "Point of view is worth 80 IQ points."

Clearly, visions sometimes take time; the PC was first envisioned in a July 1945 Atlantic Monthly article by Vannevar Bush, who headed technologies development for the military in World War II. And we still haven't caught up to the Jetsons' robotic vacuum cleaners and personal commuter jets. But these four visionaries have a better batting average than most tech seers.

Only the Beginning

"I'm constantly amazed at the number of people who think that there's not much more to do with computers, [because] actually, the computer revolution has only just begun," Lampson says. The other three Draper Prize winners concur.

"Personal computing is far from ubiquitous," Thacker says. "After all, there are only a few hundred million PCs [today], and there are 6 billion of us. There are a lot of areas--for example, primary education --where computers are still little used."

The four expect that several hot areas of research and innovation will become even more important when combined: wireless technologies, ever-higher-speed communications, speech recognition, improved search engines, and management of huge volumes of related information. These segments' total impact could be much larger than the sum of their parts. "I think wireless will make a fundamental difference in the way people use computers, since for the first time people can carry portable devices that give them access to the network, as well as all the things they have on their desks, [and] this will cause a wide variety of new devices to appear," says Thacker, who worked with Lampson on Microsoft's Tablet PC designs.

Tired of your PC's messy, pesky cables? The solution may be wireless. "I think that short - range wireless will take over for nearly all connections between computers and peripherals, because it's much more convenient," Lampson says.

Next Step: Disassembly

In fact, look for the traditional PC --keyboard, screen, hard disk, network adapter--to become "disaggregated." The pioneers expect that the components will become separated but will continue to work together. Many computer research groups at universities, and at private and corporate labs, are working on this assumption.

As wireless access becomes common and cheap, as chips and communications get faster, and as prices continue to drop, there is less reason to tie a disk to a keyboard and screen --it could sit in a closet or a car trunk. So could processors and memory. The network will be everywhere, both wired and wireless.

A PC's screen could also change radically: It may become whichever display device is closest. Current research includes such examples as flashing advertising panels in the grocery store checkout line. Or you may pause to check data on an office hallway's "video" wall that displays a computer's output using special electronic paints already in development. Another future display in the works is a laser - powered holographic system that shows text and video in the air using tiny programmable actuator chips called MEMS (micro electro - mechanical systems, already used in many commercial products). Or the display you use simply might be a piece of "electronic paper" that you crumple when you're through.

Input and control could be via a wireless keyboard, a handwriting recognition device, or an array of microphones embedded in the surface of your desk or your car's dashboard. With voice recognition technology, such input devices are always listening in the background for you to "wake up" the computer.

Embed and Spread

Fundamentally, most computers may simply vanish from view, either through disaggregation or by becoming embedded into walls, appliances, and even your clothes -- or a combination. "My wife, who doesn't use PCs or Macs at all, says, 'The best computer is an invisible computer,'" Thacker says. "Although putting computers into things like toasters and refrigerators seems a little silly today, it is becoming increasingly less silly." Indeed, some consumer electronics stores already sell early versions of computerized appliances .

Cars already have dozens or hundreds of computers built into them to control everything from the steering wheel's angle to the DVD player, as well as to monitor gas consumption or to power the wheels, brakes, and suspension.

Lampson wants to see that go a giant step farther. He envisions cars that drive themselves, primarily for safety reasons. In fact, he'd like to see all cars always on autopilot.

Meanwhile, expect the way you get telephone service to change. Wireless, as well as high-speed communications from your cable company (and perhaps your electric utility), will cause that change, especially with the advent of Voice over Internet Protocol . This high - quality version of Web phone technology is expected to take off as network backbones get faster and more reliable. The phone company's old copper wires will finally prove too slow. The holdup is the so -called last-mile problem: the expense of rewiring that last few hundred yards from the network in the street up to your door.

Lampson concurs: "Getting the computer to understand what you say to it and behave intelligently is an entirely different matter" from speech recognition.

Even after 60 years of development, computers are still basically machines that can only crunch an endless stream of ones and zeros. While they are blindingly fast at math, there are many things they don't do well at all. Reasoning and making commonsense decisions without human decision- making is still difficult, because life is not easily boiled down to mathematical equations, no matter how complex. Although several research projects are focusing on imbuing computers with such cognition --one has been under way for 20 years --that remains a holy grail for computer science. But as more information becomes available in digital form, better search technologies may combine with satellite technologies to become accessible through portable devices such as Tablet PCs. The result? The entire Library of Congress may become available in a Third World village.

The four pioneers say that fundamental shifts are ahead, as we change both the way we think and the way we view the universe.

"I don't think anything really important has happened yet," Kay says. "If we compare [the PC and other technologies] to the printed book, the printing technology preceded the big changes in thinking [and] argumentation by about 150 or 200 years." He predicts that changes will come as computing "coevolves with the users, especially children, until a new kind of fluency will be able to happen. And then, those after us will see some big changes."

The Context's The Thing

Stuart Crainer talks to Leif Edvinsson about 21st century knowledge work

© KnowledgeCurve

In A Nutshell

Leif Edvinsson's business card labels him a Global Knowledge Nomad.

The restlessly peripatetic Swede is a former winner of the Brain of the Year award, which is awarded by the UK's Brain Trust. Previous winners include chess player Gary Kasparov and the scientist Stephen Hawking. Edvinsson came to prominence as the world's first director of intellectual capital at the Swedish insurance company Skandia.

He is the author of Intellectual Capital (with Michael Malone) and Corporate Longitude.

Having left Skandia in 1999, Edvinsson is an adjunct professor in knowledge economics at Lund University and is involved with Sweden's Royal Institute of Technology, which is offering a new degree in design and health delivered in Sweden and Italy

> 'People suffer from burn-out. Companies cut numbers so that fewer people are expected to work harder and harder. The end-result is the anorexic corporation'
> Leif Edvinsson

The Article

What is the big issue currently occupying your mind?

The big issue now is the context around the knowledge worker. The context surrounding knowledge workers has become tougher.

Research suggests that 20% of our health is related to the architecture which surrounds us - workspace design, sound levels, smells, types of seating and so on. Context matters.

That's why VW Audi has a seven-man research team looking into the smell of new cars. It is part of the image of the car. When someone buys a car they want the smell of high- quality leather rather than glue or oil. The same goes for attracting knowledge workers to a job. They require the right context.

One of the things I like to do is to have meetings while walking. It is more enjoyable and more fertile. Do you really think that sitting in an airless, windowless office is the best environment to come up with great ideas?

And if you get the context wrong?

People suffer from burn-out.

Companies cut numbers so that fewer people are expected to work harder and harder. The end-result is the anorexic corporation.

Every 15 minutes someone succumbs to burn-out in Sweden alone. This is incredibly costly as companies lose human and structural capital. At the level of society, wealth-creation is consequently slowing down at a huge social cost.

While it takes weeks to chemically treat cancer, burn-out takes much longer to treat. We spend about one tenth of what we spend on medical treatment on the context of knowledge workers.

Yet the context has a much bigger impact.

This is not just a Swedish problem. In Japan there is karoshi - death by overwork - and working hours in the United States are significantly higher than those in Europe.

We are working harder rather than smarter. We now need to focus on knowledge care in terms of the context, as well as the brain itself.

So the challenge of intellectual capital is also very personal and health oriented.

One important dimension of this is to replace offices with other meeting places or knowledge arenas, such as knowledge cafés. We have to have space to clear our heads to seize our own opportunities.

In years gone by, people took to the waters in search of physical restoration. Now, we need mental spas, places where we can renew ourselves and our minds. After all, we have the potential for hundreds of billions of thoughts a day.

The opportunity cost of not seizing these opportunities is enormous. This is brain economics, the care for the talent potential.

I think it was Peter Drucker who lamented the inefficiency of the knowledge worker. He was right. You, as brain power, can work positively and usefully for four to eight hours a day. Thereafter your effect is likely to be a negative one.

So, the questions we should be asking are: How can the brains of people operate to their best? How do we design working life as well as we do our cities? There is a security dimension to this: what I call the defence of intellectual capital:

How do you create a secure environment for your knowledge recipes?

How do you avoid detrimental hackers to your information technology systems?

How do you protect the health of vital knowledge workers?

The question of the defence of intellectual capital is, at present , in the hands of very few people.

In your brain there is something called the hippocampus which is your intelligence centre. This screens the signals from the surrounding context. From this the brain produces adrenaline or serotonin which produces a happy smile.

Business leaders need to ask: how can they produce a context which has a positive effect on people's hippocampus?

At a time of uncertainty leaders have to act as catalysts, have the courage to prototype, to probe, then to use their sensitivity and intelligence and then to act. We have to move from reactive behaviour - such as budget planning - to prototyping, experimenting, acting as a catalyst.

People in organisations don't do it because they're scared. They block themselves. So the leadership focus should be on creating the context to give people the confidence, as well as mind satisfaction.

What can companies do?

They need continuously to invite new solutions which are just around the corner, waiting to be applied.

In times of uncertainty they need to come up with more innovations, answers to the unknown. At a practical level, they can change the reception area, as Skandia did, into a welcoming space, like a bar.

If they're a museum take away the ticket office. Open up. Security is a paradox. On one hand it is about locking things up - like protecting patents.

But from an economic and psychological perspective you have to move to a defence based on opening up rather than locking up. The trend now is to close doors rather than encourage transparency. It is counterproductive.

Companies can change working contracts so they employ more part-time people to reduce stress and increase people's intelligence by providing new perspectives.

They can invite senior citizens into the organisation because they have a different perspective. They can scale down to work with fission rather than fusion; they can use a federal structure rather than focusing on mergers and acquisitions.

Finally, companies should develop contexts, connections and contactivity to leverage the intellectual capital in waiting around the business.

Intellectual capital measures are now also applied to nations. Is this useful?

The intellectual capital of nations is becoming more important. Today most nations are not leveraging their brain power, but rather burning it out.

They are approaching a new risk level of poverty rather than wealth. There are four main enablers for future wealth, according to Canadian Nick Bontis, in reverse order of importance - business efficiency, foreign trade, education and research and development (R&D).

That's the intellectual capital agenda for nations. R&D and education are by far the most important. We are currently investing a lot in military R&D. The good news from this is that it will have - at some stage - a positive effect for society with spin-offs in technology, medical treatment, health care and food.

Technological investments in defence often have been a key driver for the development of structural capital.

At the same time, we need new organisational models.

If schooling is so important to society, what kind of schools or universities could we develop? If R&D is important, what new arenas for experimentation could be developed? If demographics show a greying workforce, what kind of initiatives can we take to offer senior citizens new opportunities?

If 20% of the world's brains are in Asia, where China is graduating the same number of M Sc degrees annually as the US has a total stock, what kind of cultural bridges do we need to develop between Asia and Europe?

What other trends do you envisage?

One is the rise of knowledge-tourism. Knowledge tourists spend 10 times more than a traditional tourist.

Thousands of Japanese visit Sweden every year just to look at Swedish houses for senior citizens. The next area might be to visit laboratories and other mind-stimulating spaces.

We are going to see intelligent cities as well as regions. Barcelona already has a chief knowledge officer to develop the city's intellectual capital.

In the old days harbours were for the movement of goods, now we need harbours for the flow of knowledge.

Oil is the current battlefield. In the future it might be brain power. We are moving from oil power to brain power. So how is your hippocampus doing now? - © KnowledgeCurve

From Corporations To Living Systems

In a rare interview, Arie de Geus talks to Des Dearlove about the need to change how we understand companies

Former Royal Dutch/Shell executive Arie de Geus believes we are entering a new business era in which people will take centre stage

© KnowledgeCurve

In A Nutshell

After a distinguished career at Royal/Dutch Shell, Arie de Geus is one of the few management practitioners to blaze a trail in the academic world. Widely credited - by MIT's Peter Senge among others - with originating the concept of the "Learning Organisation", De Geus is the author of the influential Harvard Business Review article "Planning as Learning".

In an executive career that spanned 38 years and three continents, De Geus was responsible for Shell's businesses in Africa and South Asia. As head of the company's highly influential group planning, he oversaw pioneering work on scenario planning, decision-making processes and the management of change.

A member of the Center for Organizational Learning at MIT and the Nijenrode Learning Centre in the Netherlands, and as a visiting fellow at London Business School, De Geus has advised many governments and private institutions. His best-selling 1997 book The Living Company brought an in-depth knowledge of what works in a company to bear on contemporary business.

All corporate activities, he argues, are grounded in two hypotheses: "The company is a living being and the decisions for action made by this living being result from a learning process."

> 'Perhaps we have now reached the point where people cannot be replaced by machines any more'
> Arie de Geus

The Article

The Living Company was very well received. Why haven't you written a follow-up book?

Most of the time since The Living Company was published I've been working on a theme that's in the book but not very strongly. It is an economic theme.

The business of business is the production of goods and services, for which other people are prepared to pay a price.

Companies produce those goods and services by combining three factors of production - land, capital and labour.

In The Living Company I was saying wouldn't it be interesting if these three factors of production didn't always play the same role, but had different weightings.

Notably when you look back through history, you can see a clear development in some countries and continents. Look at Western Europe, for instance.

There's an early period when land and natural resources are the dominant production factor. This is followed by a period in which capital is the dominating productive factor.

So my hypothesis is that it is possible that we are now in a period when the dominant production factor is slipping towards what the economists call labour but what I prefer to call people and human talent.

If this is true then the consequences are immense.

A lot of business commentators now use biological imagery, but you were one of the first to describe companies as living communities. Was that a deliberate attempt to challenge how we think about management?

Yes. Words are important. I'm very concerned about changing the language of business because language creates reality. And the language in which we create the reality of business is still based on the capitalist period.

We still talk about human capital, for instance, which is a contradiction in terms. Yet it is possible to argue that in fact labour has now taken over from capital as the most important factor of production. It has done that by two mechanisms.

And they are?

One, the capitalist period involved such an immense material wealth and was accompanied by such high levels of savings (which is the source of capital) that at the moment the world is awash with financial capital - money. As such it is no longer the scarce resource in business. Just as the raw materials, iron ore or wheat were replaced as the most important resources, so financial capital is no longer the critical factor.

So that's one mechanism. The other for which a case can be made is that in the capitalist industrial sort of company we were constantly replacing labour with capital. We were constantly replacing people with machines.

But perhaps we have now reached the point where people cannot be replaced by machines any more.

The last hope was that computers would do this.

But there is now a growing school of thought that says machines will not be able to replace people. Computers can help people, make them more effective, but not replace them.

So the role of people is now the critical success factor in the production of goods and services.

This is true even in capital-based industries like the oil business and the car industry. The critical success factor is whether you are better at extracting more of the oil from the ground or have a car that is more attractive to the consumer. That is about human talent and ingenuity.

Companies have been saying people are their most important asset for years, yet they are often quick to lay off workers in a downturn?

Yes, and they still do. One of the many aspects of this particular theme that has kept me busy for the past five years is: why do they do that?

One of the reasons is that we still use the words from the capitalist era to talk about modern business, in which humans have become the decisive factor.

The minute you use terms like human capital you are beginning to think in terms of yield, in terms of cost, and you are back into the old paradigm for managerial success, which is efficiency.

So how would you characterise the new rules for managerial success?

The media industry, where you work, is a 100% people-based industry. It is not about efficiency. The production of a good article or book that sells is not a matter of capital efficiency, it is about effectiveness.

So, the word capital leads to thinking about efficiency whereas the word people leads to thinking about creativity and effectiveness. As long as you use the wrong words you will think in the wrong way.

Do we need a new business language then?

We certainly need to change some of the processes and the way we think. One obvious example is legislation.

We still have the legislation from the previous period, which gives ultimate power to shareholders and not employees.

Then we have to change accounting.

Accounting is not a science; it is an agreement about how we report information and distribute benefits. We have this term "bottom line". Very few people query the fact that the bottom line doesn't necessarily belong to the shareholder.

In a company where all the revenue and production of services and goods are based on human talent, there is a strong case that the company is a living community which belongs to its members. You can argue that a greater share of the profits should be distributed to the employees rather than shareholders.

There are other consequences of using the wrong language. But some of these changes are in the system now and are undeniable.

Can you give an example?

I see signals like the $20-million club in Hollywood. Films are totally dependent on the quality of the people who make them - the director, the writer, the actors. T hey have upped their remuneration to the point where you have this $20-million club, where they expect to be richly rewarded.

I look at soccer clubs. Here again, the results of the club are totally dependent on the talent on the field. Yet we have just gone through a period where some people still living in the 19th century have converted most of the best clubs into limited liability companies with shareholders and we are trying to run them in a way that will make a return to shareholders.

So there is a massive denial and use of the old language - but with the reality creeping in and creating pressures.

But the reason for the denial is that a huge power shift is involved?

Oh yes. When it comes to explanations, the vested interests are enormous. Absolutely enormous.

Think about Wall Street and the City of London. They are wiped out at the moment this reality comes through. Capital, in my view, has become just another raw material.

All you need is an auction process - that's the place where you buy your wheat or minerals and that's where you go for your capital. Money would be a commodity like crude oil.

What does that mean for big companies?

My original theme in The Living Company is the nature of companies. Let's assume they are living systems - would that change the way we run them?

I'm now convinced we are very close to having the theoretical evidence to say that companies are as much living systems as you and I are - as is every cell in our bodies.

What are the consequences of this for business?

If we accept that companies have a material content of which the most important part is people, then that is very important.

If we accept that you and I together make up a group and with many others we make up a company and that company with other companies and others will make up a nation state - like the Russian Doll idea, where each doll contains smaller dolls - then we are getting close to proving that we are a living system.

The combinations in which we work include our family, but the company in which we work is also a living system. If that is so then we should change our language.

What does it mean for managers?

If companies are living systems then the goals change. Living systems do not live to maximise shareholder value.

They live to survive and to increase the potential of their components because that is how they increase their own potential.

Preparing For Conversations With Leif Edvinsson

Perspectives on Intangibles and Intellectual Capital

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Editor's note: This is the reader to members for our "Conversations with Leif Edvinsson" held in June, 2001 as part of the AOK STAR SERIES.

Introduction

Leif Edvinsson is the sixth KM luminary in the AOK STAR SERIES.

In 1998, he won the prestigious award, Brain of the Year, in competition with such people as Microsoft founder Bill Gates and the Beatles' Paul McCartney. In so doing, he followed in the footsteps of former winners Garry Kasparov (World Chess Champion), Professor Stephen Hawking and Poet Laureate Ted Hughes.

But Leif Edvinsson is not just a "thinker." He's a "doer."

He rose to prominence in a budding KM field in the mid-90s as then-vice-president and world's first corporate director of Intellectual Capital at Skandia of Stockholm, Sweden. He was thus a key contributor to the idea of Intellectual Capital (IC) and oversaw the creation of the world's first corporate IC Annual Report. He has been recognized by both the American Productivity and Quality Center (APQC) in the US and Business Intelligence in the UK for his pioneering work.

Leif Edvinsson also has a rich background in training and development as well as KM. That combination led to his appointment as special advisor to the Swedish Ministry of Foreign Affairs, the Swedish Cabinet on the effects of the new digital economy, the United Nations International Trade Center and he is co-founder of the Swedish Coalition of Service Industries. In 1997 he coauthored the book - "Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower."

He is also founder of his own consulting consortium, UNIC (Universal Networking Intellectual Capital) also in Stockholm and since April 1, 2001, he holds the worlds first chair of professorship on Intellectual Capital at the University of Lund in Sweden.

In preparation for conversations with Leif Edvinsson, we encourage you to read the following paper on his perspectives on intangibles as intellectual capital.

Some Perspectives On Intangibles And Intellectual Capital 2000

Leif Edvinsson
UNIC (Universal Networking Intellectual Capital AB), Stockholm, Sweden

Keywords: Intellectual capital, Organizational structure, Human capital

Abstract: After posing some questions regarding the nature of intellectual capital, the paper explores IC through observing the changes in market dynamics and organizational structure.

An IC growth model is discussed which involves IC, human capital injection human capital transformation into structural capital, and structural capital injection.

Emerging Questions - A Kind Of IC Quest

When thinking about intellectual capital, the following questions come to mind:

- What are the hidden value drivers of nations or regions? Does the old economics help to explain this?
- Do we really see or have a taxonomy to describe the value drivers of companies on the stock exchange?
- How do we explain the growing gap between market capitalization value and book value?
- Is there another pattern of value creation and new business logic emerging, other than the often-quoted value chain logic?
- Is IC about value creation versus cost savings? Is it about outside the firm versus inside the firm? Is it about communities or corporations?
- Is IC only about knowledge and competence management? Or is it about future earnings capabilities and potentials?

Some Marker Observations

It might look as if there is a new economy. But could it just be a new sphere for value creation? The so-called intangible sphere or intellectual capital sphere.

Looking at some of the investment patterns in the USA, based on research from Professor Baruch Lev (1997) at Stern University, New York, shows a very different investment perspective since 1929. Then approximately 70 per cent of the USA investments went into tangible goods and some 30 per cent into intangibles. However, by 1990 this pattern was inverted, and today the dominant investments, both in the USA and Sweden, go into intangibles, such as R&D, education and competencies, IT software and the Internet. On average, more than 10 per cent of GDP in OECD countries is estimated to go into intangibles or IC. For countries like Sweden this input is estimated to be more than 20 per cent of GDP. It is becoming more and more essential to visualize the IC of nations.

This is also reflected in stock prices. According to Professor Baruch Lev (1997), the average relationship between market value and book value in the late 1970s was one time, in the mid-1990s it had increased to an average of three times, and now it is more than six times the book value. For some companies, like America Online (AOL) and Microsoft, around 90 per cent of their market capitalization value is in intangibles. Such intangibles or IC might be visualized systematically as has been done by Skandia, as well as Turn IT, a stock market listed company in Stockholm.

Furthermore, a big proportion of the global stock market value is in PC companies, estimated to have a joint market capitalization of some US$6,000 billion. This value might then be contrasted by the global market capitalization of Internet companies, estimated to be only US$1,000 billion, i.e. around 15 per cent of that for PC companies. What will the future earnings potential of those companies be versus PC companies?

These aspects are leading, among other things, to the fact that a growing proportion of policy and political initiatives, both at the company and society level, often are distorted due to lack of a relevant map of statistics, accounting figures related to intangibles, value impact and

effectiveness. Therefore, several global initiatives, such as that of the Brookings Institute in Washington, are addressing these issues

Some Organizational Observations

Industrial value chain processes no longer dominate value creation. Value creation is in the shaping of information, knowledge and innovations - sometimes grouped under the label of intellectual properties (IP). Value creation or value extraction of such intangibles is also often done through another business logic in the shape of value constellations with temporary role participants, leading experts or unique artists. The flow is increasingly going digital in the form of c-commerce. This new type of value transaction has been projected to grow some 15 times over the next three years. The metaphor for this transition is sometimes described as a shift from bricks and mortars to clicks and portals.

In this emerging business world, small business operations interacting in knowledge clusters and global networks employ and engage people, while large corporations deploy them, The average proportion of self-employed people, often referred to as knowledge nomads, in the Group of Seven countries is estimated to be 11 per cent by Hamish Mcrae, London. In the UK this figure is already 15 per cent. Just imagine the potential trend in Asia for free, self-organizing knowledge nomads. Furthermore, Asia is expected to have about 100 per cent more Internet users than the USA within five years. The new economical sphere will be shaped by the soon-to-be 700 million new users in myriads of organizational combinations solving old problems, shaping new opportunities.

This trend will change the way value-creating interactions are done. New organizational rules will emerge, such as much looser organizational structures based on the Internet. The Internet is described by Eric S. Raymond less as a global cathedral and more as a self-organizing bazaar. Sometimes described as chaordic ones by Dee W. Hock (1999), they are characterized by a combination of order and chaos. It is also a tremendous power shift, challenging traditional management of both corporations and societies to a transformation policy - to see the options to reshape the existing to something new and better. Old intangibles and intellectual properties such as brands might get new values through mergers with new companies with global soft technology assets. One illustration of this is the merger between Time Warner and AOL.

The value creation is going to be in shaping new ideas, exchanging information globally, and interacting through networks with high organizational speed in order to take action. Therefore, it might be more relevant to visualize the new economical sphere from a biological perspective, as a nervous system with energy flows and cells being split, mutated and evolving. It describes life, renewal and movements. Consequently, it will highlight the institutional failures versus the emerging global networks. According to the report by Stall from the corporate executive board in Washington, 45 per cent of failure is related to strategic neglect, 38 per cent is related to organizational ineffectiveness and only 17 per cent is related to exogenous factors. In other words, a lack of organizational renewal or bad organizational float.

Owing to demographical development there is also an emerging talent war. One of the leadership consequences is the need to focus competence and talent inflow by development of organizational or societal attractiveness, instead of competitiveness as a key driver for value constellations and value networks. This will result in more and more management attention on culture, values, ethos and story telling around intangibles (versus traditional historical cost accounting). Sometimes this is also described as an emerging Dream Society,

according to Professor Rolf Jensen (1999), Copenhagen, Denmark, in a recent book with the same title.

Global Growth Curve Of IC

The following pattern of market capitalization growth and IC global growth phases might be discernible. They are based on the above global context evolution and the personal experiences of being the world's first director of intellectual capital, starting in 1991 at Skandia AFS. There the IC value has grown from a very minimal value in the early 1990s into some US$15 billion at the beginning of the year 2000.

This might be a guiding vision based on the IC logic of sustainable earnings, to be seen as a tree with roots to be cultivated for the future financial fruits, and as the IC value scheme with its various IC components, as well as the extended organizational capital development prototyped in the Skandia Future Center (see Figure 1).

Figure 1. Market capitalization value over time
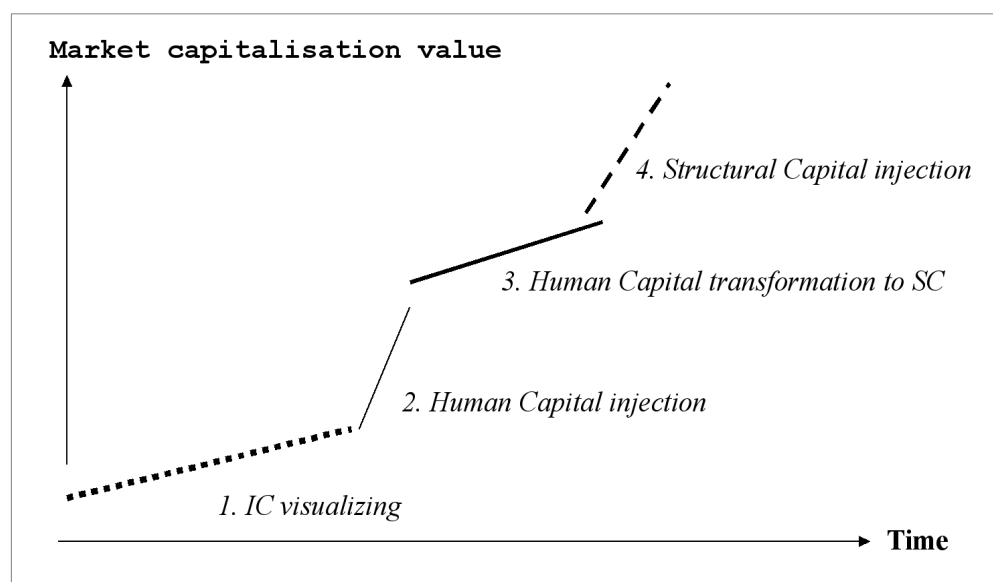
Each phase often results in a stock market appreciation shift, based on increased transparency, as well as new expectations from the future value creation of the intangibles investment.

Phase one is very much about the visualization of intangibles from a reporting perspective. This is supplementary accounting, now being called for by some organizations, such as the Securities and Exchange Commission (SEC) in the USA. A special methodology for this has been developed as an IC rating by Intellectual Capital Sweden AB (http://www.intellectualcapital.se/).

Phase two is very much focused on human capital injection, often labelled competence adding or knowledge management. It is both the search for talents to be added, e.g. by

mergers between companies, and the effectiveness from knowledge sharing and installation of IT based knowledge systems, or emerging knowledge exchanges such as http://www.knexa.com/.

The third phase is the systematic transformation of human capital into structural capital as a multiplier, with much more sustainable earnings potential for the organization. It is a refined approach based on the second phase, but very much focused on the packaging of knowledge into recipes to be shared globally and rapidly. It is a shift of leadership focus from human capital on to structural capital as a multiplier for the human talents. The IC multiplier is to offer organizational springboards to human talents. This is very much the case of Skandia AFS, also described in their 1998 IC report, called Human Capital in Transformation (http://www.skandia.com/).

The fourth phase is structural capital injection externally. It is a turbo effect on the IC multiplier by combining different types of structural capital constellations for co-creation of new opportunities. It is expanding the space of co-creation as the unique space of imagination, and organizational stretch where human capital and structural capital meet. As discussed by Kevin Kelly in his book on the Digital Economy (Kelly, 1999), here the marginal cost is zero while the upside is on the revenue potentials. One illustration of this is the recent merger between AOL and Time Warner, combining different organizational capital components with complementary customer capital potentials. Another illustration might be the proposed Deutsche Bank and Mannesman alliance for new mobile and Internet banking. It is a shift of perspective from a local and physical focus to a global and intangible focus that will shape innovative prime movers. There also is the new, more intangible intellectual entrepreneurship, such as in the TINIE (telecom, informatics, media and entertainment) sector.

These discernible phases of global IC growth are gradually increasing the value creation potential of organizations.

The intangible or hidden values of the organizational competencies will be developed around fast learning, organizational networking and relationship building, as well as ethos and aesthetics for the brain, leading to more of a symbolic management and meaning of leadership.

The challenge for the IC leadership, both on a corporate level and society level, is therefore both to shape the context for these growth phases, each of them being a huge challenge, and also to communicate these intangible value phases to the stakeholders in a repetitive, auditable and trustworthy way. Just as the old accounting system might be viewed as the first generation of knowledge management tools, now it is time for another generation focused on intellectual capital.

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Visual Thinking With Arie De Geus

by Stuart Silverstone

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Preamble

Learning assumes not knowing the answer, which makes people feel vulnerable-that they are taking a risk. Trust within the group is the foundation of inventive teamwork.

The Article

What's the key to implementing knowledge management?

Learning assumes not knowing the answer, which makes people feel vulnerable-that they are taking a risk. Trust within the group is the foundation of inventive teamwork.

What about career development?

Filter new recruits based on a strong intention to stay. This provides you with a bundle of potential. Strength comes from success in transforming that potential into real capability over time. This is accomplished not only through training and development, but also by career charting-moving people around the organization, taking care in the promotion process-all reinforcing the relationship between the institution and the individual, making it clear that the basic intention is to develop people and to keep them.

Any unanswered questions?

How do we organize a company to distribute power? How can we possibly measure the effectiveness of the ideas we've been discussing? How can we know that one state of affairs is better than another state of affairs? What is the best legal form for an organization? A limited liability company, which has all sorts of consequences for power and effectiveness, might be exactly the wrong environment in which to foster knowledge creation.

What does this say to management?

Management has to give up controlling activities and outcomes and accept that learning is an open-ended process. Management should set the context for learning and create the path inside which creative activities take place. This can be a very strange experience for people who have been trained to manage assets by controlling them.

Does this differ from common practice?

The production of goods and services in business was at one time based on the dominating factor of capital-access to capital and application of capital. Now, accumulated savings have made capital available in what has become a buyers' market. Capital is just another commodity rather than the critical success factor in doing business. Today success in business depends on strong management of knowledge, maximizing the use of available brain power. That brainpower sits in the minds of your workers, not in your machines, which

changes managerial priorities. Focusing on the return on capital or shareholder value puts the emphasis in the wrong place.

How does this affect hiring?

Create a community by recruiting members who not only have the right qualifications, but also subscribe to your value system-a series of ethical rules-and share the same priorities for your company. It's not a matter of recruiting skills when demand exceeds the capacity to produce. Think long-term to guarantee the continuity of your community with sufficient succession of generations-what I call a "living company." Subcontract when you need capacity.

How might companies look different in the future?

The human element will be dominant as communities, managed for longevity rather than for profit, evolve in harmony with changes in competition, technology and values.

How should performance be measured?

Set wide performance targets, in terms of final outputs. Leave lots of room for people to organize themselves to achieve that output. Go for effectiveness, rather than efficiency. Effectiveness means achieving the highest quality output in the shortest possible time, rather than at the lowest possible cost. Count on your people to take care of efficiency-if you trust them and if they trust you.

How can learning become operational?

Maximize intellectual output by establishing a learning process. The best learning takes place by play. Play has been defined as experimenting with a representation of reality-a simulation that you have created yourself-rather than experimenting with reality itself. A team at play comes to a satisfactory end result in, measurably, about one half of the time that it would take in a reality-based situation.

Is there an analogy in nature?

Biology teaches us that birds, being mobile, propagate innovation by flocking. When individuals are hired for their skills and kept static-not moving around organizationally-there's very little flocking, which results in an ineffective transfer of innovation. Knowledge travels best as individuals move around the organization through regrouping, promotions and career changes, which promotes "action learning" in the new destinations.

What about the power relationships?

Aim for distributed power. Concentrating power in a few people at the top is contrary to competitive output. Concentrated power creates the expectation that decisions are made "somewhere up there." It sub-optimizes available brain power, creating an enormous under-utilization of the intellectual abilities available lower down in the organization. While distributed power may be time-consuming and frustrating, history has shown it very effective in business. When top managers end the frustration by stepping in, they destroy the conditions for maximizing available talent.

Every Institution Is A Living System

Conversation with Arie de Geus
London, September 22, 1999
By Claus Otto Scharmer

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The Interview

COS: What are the underlying or deep organizing questions that you are trying to address through your work?

I. What Is Planning For?

Arie de Geus: After I was appointed as the planning coordinator in Royal Dutch Shell, the first question I addressed was what the hell does planning actually contribute? What is planning for? I'd been in decision-making positions at the same seniority level for quite some time, and wondered did I really need a plan to help me? And the answer was yes, I needed a plan because planners were people who were talking about the future. The future plays a very important role in the decision-making process. So you could say that my original questions had something to do with the nature of decision-making processes in large organizations. How did Shell arrive at its important decisions? I had more than 30 years in Shell, and had been at the senior level for quite some time, so I should have known. But the fact was that I didn't, really. I didn't really understand how we made our major decisions. I don't mean operational decisions, I mean the really important decisions, like What were the developments in the oil business? Where did we come from and where were we going to? The senior level had a "planning role" role, but–planning in what? For what?

II. Decision-Making As Learning

Thus, the second element in my question was the nature of the decision-making process. So one was just the role of planning and the second one was what was the nature of the decision-making process in a large institution? It was the large decision-making processes in which I was interested, not the operational ones, which are clearly the application of knowledge that is codified and available in the organization. I knew the decision-making process was important, and thought that fundamental structural decisions were in fact learning processes. But that was a hypothesis, very much a hypothesis.

COS: Do you remember when that hypothesis first crossed your mind?

Arie de Geus: I started thinking about these things in '82 or '83. It was really only in the ten years before that that I had read some of the more modern American literature on learning. Notably I had read two little books that had made an immense impression on me, because I had young children at the time. They were by John Holt. One of the books is called How Children Fail, and the other one was called How Children Learn. They are both phenomenological studies and they emphasize something that I had picked up many years earlier as a student. It is also a sort of folksy knowledge in the cultures where you and I come from, which is that learning and playing have something to do with each other. The whole study is about the power of discovery, of experiential learning, learning by experimentation. This is opposed to the learning that takes place by authority from a teacher imposing

knowledge on a class. I must have recognized certain analogies in what I was seeing in the business situation, where the acquisition of new knowledge was imposed, it was hardly team work. It was experiential in many respects. That curiosity led me in several directions because I hadn't a clue as to where to go. I couldn't talk about it in Shell because this was a highly unpopular statement.

COS: What was?

Arie de Geus: To say that the real decision-making process is a learning process rather than the application of knowledge. Many at high levels of management are convinced they are there because of what they know and how they represent what they are. These statements were saying you're not there because of what you know. You're there because you're reasonably good at intuitively or otherwise finding your way to a learning process together with your colleagues, such that you learn and arrive at new conclusions that are more or less successful. That was not a welcome message. It was undiscussable in the beginning in Shell.

COS: What sort of reaction did you get?

Arie de Geus: I could talk about it in my own unit, in the Shell planning unit, because that's where the more adventurous minds were. I went outside in various directions at the time, more or less simultaneously. The first step was towards the Tavistock Institute here in London, where I met Harold Bridges who is one of the original people there. The folks there had been leaders in one of the major learning processes of the century, which was the preparation of a million people in the allied armies for the invasion in France. They had learned that the best learning takes place by creating experiential situations that did not carry the same risks as the real situation. I had several discussions with Harold, who is now 90, with whom I still have occasionally contact.

Seymour Papert, who was the back at MIT in the media lab, had published The Mind Storms in 1980, which was about children learning mathematics by playing with computers. Papert's work had very important consequences for my next steps of thinking. One was that it helped me to realize that computers could be a toy. And the second one was that Papert himself came out of the Piaget school. He had spent most of the 1970s with Piaget in Geneva, and I think that Piaget is still one of the most impressive theoreticians about the role of play in growing up. It took years before these ideas finally penetrated my brain. The underlying work of Papert and Piaget says that play is the most important tool of the human being as he evolves through life, in growing up through the different phases of our development as a human being. From being a baby, to becoming a toddler, from being a toddler to going to school–each stage is a whole new world. The only way we are able to cope with these is through learning. Not play, it's through learning. That was the second line that only very gradually made me begin to think of the analogy between the development of the human being and evolution of a company. Later this allowed me to begin to talk about companies as living systems with much more confidence.

The third line was that I went outside Shell to reconnoiter and see what I could discover. I was going to the System Dynamics group, as Peter Senge will remember, because I'd made the step that decision making was learning. The best learning takes place through play, and you play with a toy or a transitional object, and the computer could well be an effective transitional object. The next step was to think, what do you need to make a computer useful to grownups to actually play with it, to experiment?

Those were the last years of linear programming. Those were the last years of organization programs on computers, and we had tremendous experience in all this. We were looking for a

computer program that could be worked with by the people who were sitting in front of the screen at any state. It was clear that linear programming did not and could not represent well the organization of programs that we were looking at. We couldn't even represent simple things like refinery programs, or shipping programs for our tank fleet, by using video programming. It was pure that someone said to me that "Why don't you do and talk to Jay Forrester?" And that's what we did.

COS: So you first went to Jay Forrester?

III. Meeting with Jay Forrester and Peter Senge at MIT

Arie de Geus: We first went to Jay Forrester, and Jay organized an afternoon in that awful building there where the System Dynamics group is.

COS: That was back when? What year was that?

Arie de Geus: Maybe '83 or '84. I'm not sure. Two or three of us went there, and Jay said, "I sure have a roomful of people." Peter Senge, Barry Richmond and quite a number of other people from in and around MIT were there. Jay said, "Well, here are the Shell people, I'm not sure that I understand what the hell to talk about." But he seemed to think it could be of interest to us, and let's listen.

I had prepared a very limited talk, probably along the lines that we have just been discussing. I said we were looking for a way to boot into a computer model a representation of managerial situations, and we heard that System Dynamics might help with that. And Jay and several other people said, "Yes, yes. The only thing is our software isn't good enough," and did I know much about software. I didn't know much about computers either. They had something called Dynamo, but even the simplest program in Dynamo took them months. I then learned that people like Peter Senge and Barry Richmond spent years of their time working on a complicated program of the US economy. We said we at Shell are not looking for a way of thinking that will help us clarify the future, we are absolutely not interested in predictions. We are looking for System Dynamics as a means to represent what is happening in a living system like our organization. And we recognize that there may be something in the way you think, with your causal loops. Peter Senge and Barry Richmond picked up on this immediately. That relationship developed and was the most practical. Over time they began to generate things that allowed us to start doing experiments. We talked with Peter, and I went to Peter's course, which I greatly enjoyed. But Peter and some of his acolytes came to London, talked with us, and did some experiments. Barry developed the first piece of software. I still remember walking into the room and him saying, you now have the software and it's a hundred times more effective than Dynamo.

COS: In retrospect, would you say that these programs adequately captured the complexity of business reality?

Arie de Geus: At the time we were very specifically looking for a means of representing the business reality, and getting that into a computer into a way that would allow us to --

COS: Simulate.

Arie de Geus: Yes. If you say that simulation and play is analogous, , you can say that the definition of play is that you experiment with a representation of reality. And that is what we were looking for. We may not have framed it as that then. There were also parallel parts that were sometimes confusing, like what is the role of the future in decision-making processes?

The Shell path was the simple use of scenarios. It was only much later that I realized that scenarios are also transitional objects. They are representations of future realities with which teams can experiment without having to feel the consequences.

This led to a much more detailed questioning process. We were talking about decision-making processes and we were beginning to talk about these decision-making processes with a little bit more academic grounding, and with a little bit better terminology. The literature up to that time about decision-making processes was absolutely naive. No, it was less than naive, --

COS: Between naive and false, right?

IV. What [Entity] Is Making Organizational Decisions?

Arie de Geus: Right. The next question became, what is the nature of the thing or the being that is making those decisions? Is it the mind of the CEO? Is it just the sum of all the individuals on a team, or is it something bigger?

I minored in psychology. And of course, as a Dutchman, I have a very strong dose of Central European philosophy and psychology, so many of the people who influenced my thinking have German names. I also have been influenced by a lot of Gestalt theory. I was deeply convinced that the whole is more than the sum of the individual parts. So it was very easy to say, well, that then probably applies to the decision-making processes. The whole is something separate from the parts. It's something bigger than the parts. And so in those days, I was thinking in terms of Personen. To me, you and I are ein Person. And Shell ist auch eine Person. And it is possible that you have a big Person like Shell that consists of many little Personen like you and me, and yet the whole is more than the sum of the parts. That sort of thinking was deeply embedded via my academic journey and my experience at Shell. So I easily then went that route to begin to ask the question, Und was ist dann die Persönlichkeit? And the word personality in English is not exactly the same as the word Persönlichkeit for you and me.

COS: Even persona is not the same than Persönlichkeit.

Arie de Geus: Even that is not. I find it extremely difficult to explain to an Anglo-Saxon what the question Persönlichkeit exactly means. It's asking for what is the characterology of this whole, and what are the motivations? What is the background? It also has a time element in it, a Person has a past, a present and a future.

COS: Always, yes.

Arie de Geus: By this time, in the late 80s, I really began to follow that path. I was very lucky that I was beginning to meet people like Francisco Varela, and the Swedish neurobiologist David Ingmar. I quote Ingmar extensively in a book that I have written. He always places living beings on the timeline. There is a present, and between the birth point and the present there's a past. And from the present forward there's a future. And there's an end point, which is death. All these things started to influence my thinking about the institution as a living being. Learning falls in place because learning is the most powerful instrument of intelligent living beings to evolve from one phase in life to the other. Varela had heated arguments with other academics about whether any living being with a brain has intelligence. But I was thinking not in terms of snails, but of what you could call the superhuman living systems. The ones that consist of human beings and therefore enclose whole systems, of the family, the tribe, the company, the ministry, the church, the trade union.

The fastest growing populations in the world are the populations of the superhuman institutions. 150 years ago there were very, very few inhabitants of the superhuman institutional life. But that shift is probably growing –in relative terms it will be growing faster than the population of human beings. And so that began to impress me. What then are these questions that we're asking ourselves -- that is, what is the nature of these institutions? How do they live their lives? How are they born? How do they die? Why do they die? How long does it take them to die? What are the causes of death? These became very important questions. Our individual human lives are more and more influenced through what is happening in that upper layer where we find the human institutional population.

I'm rattling on much too far, but you can see probably how this developed. The question started with what is the role of planning? What are we planning for? What is the nature of decision-making processes? How do you make your decisions better? Through play. That easily leads to the question of who is making the decisions and what is the real nature of that "who"?

COS: So your question really developed like a living being through three embodiments, right? Planning, decision-making, and --

Arie de Geus: Well, I like to think of it as a path. Somebody who helped me a lot by pushing me to follow my thinking is Nan Stone. I never had, for instance, a book in my mind. There are people who have a book and they have a problem, and the problem, it's hard to get the book out of their head onto paper. That wasn't my case, I was the wanderer along the path, and every step I did led to a new step. I couldn't have written twelve years ago the things I wrote two years ago. And the things I wrote twelve years ago, like "The Planning of Learning" article, I couldn't have written in 1982 or 1983, when we had our first contacts at MIT. And that's absolutely true.

COS: Do you remember any experiences that made you aware that organizations could be conceived of as living beings?

Arie de Geus: That goes back to my student days. I told you earlier that I minored in psychology, but I also did a year of philosophy. This was just after the war in the Netherlands. The Netherlands has a very strong core in psychology which has a philosophical background, and it went in the Netherlands by the German name of Personalismus And Personalismus comes from a German philosopher-psychologist. He is a developmental psychologist and he's a forerunner of Piaget, and his name is Stern. Stern was thrown out of Germany in 1933. He went to the States and he died. He never wrote in English, so he's hardly known in the Anglo-Saxon world. But in my time every Dutchman was able to read and understand German. So Stern was very well-known in the Netherlands.

Stern's thinking was based on what nowadays we would probably call rather simplistic 19th century reasoning. The reasoning was that the world consists of two categories: dead objects and living beings. Nowadays we know that it isn't all that sharp, that there are objects that are neither fully alive nor are fully dead. But one of the aspects of the organization of life on earth, of these Personen, was that they are hierarchically organized. Stern used to say that the hierarchy is you have the human being, and then you have the family, and then you have the village community, and then you have das Volk, and you have a clear hierarchy.

Arie de Geus, 50 years later, said yes, and there are more of these hierarchies. And there is also the trade union, and there is Shell, which is a hierarchy. I am one of the thousands of

human beings who make up Shell. We are individual cells in Shell. We have Shell UK, and we have Shell USA, and we have Shell Australia, and these are individual cells. And even inside Shell USA you have individual cells. As an individual human being I belong to the planning department which is part of another part of Shell. And there is this whole hierarchy and I'm a member of that professional hierarchy. But as a Christian I can be a member of a religious hierarchy. If I'm a worker I can be a member of a trade union hierarchy. As a human being I can be a member of quite a number of these hierarchies. But they're all hierarchies. There are next steps that go up, the number of people go into a cell. A number of those cells come together and they become a division. The divisions come together and they become a local operating company. The operating companies come together, they are the European region, or the North American region. My young student mind had been conditioned, if you like, so my mind was very ready to actually perceive it, to see that. Then I went into my business and over the years I found strong confirmations of this.

I also found more and more contradictions with the other view of the nature of these institutions, which was the machine view. And I knew, because I climbed the ranks. I knew how it worked down there and I knew how it worked up there, and I knew it didn't work like a machine at all. And it worked in a way that was much, much closer to Stern's definitions and depictions of the way living beings act and go through life. I reread Stern in the early 80s. His books are extremely difficult to get hold of, because in Germany they don't exist, they were burned. With great difficulty I found a copy many years later through Shell in the dead archives of the School of Economics in Sussex. I had photocopies made of a thousand pages of that, because it's philosophical work. It was three volumes, at least a thousand pages.

V. The Living Company: Metaphor Or Reality?

COS: It sounds like the organization as a living being is not a metaphor for you. You are talking about a reality?

Arie de Geus: In the beginning I did mean it as a metaphor. But I think now I am no longer prepared to accept "the company as a living being" only as a metaphor. I think it is much, much deeper than that.

COS: Could we go into that a little bit? Because that is really also at the very heart of the conversations that Joseph, Peter, I, and a couple of others have had over the last two or three years. I guess a question that could be the lead into that domain would be, what is the nature of that reality? What is your experiential base for making that judgment that, yes, this is a reality and not just a metaphor? How does it show up? Where do you see or sense this reality, and what is its nature?

Arie de Geus: Well, you heard me talk earlier about a growing world population of institutional persona. If there is a population, then you can apply demographics, you can actually make population statistics. For the commercial parts of the world's institutional population there are very, very good population statistics. These statistics are open to very similar interpretations and techniques as we apply when we study the human population. So you can make very accurate calculations about average life expectancy. Then you can make reasonably good calculations about maximum life expectancy. You can begin to see in what part of life high death rates occur. When you do this you're beginning to see all sorts of analogies with human demographics. Then you come to the conclusion that the institutional population is at a very, very low level of development compared to the human individuals. The very high infantile death rates, the enormous gaps between average life expectancy and maximum life expectancy occurred in human demographics at a much, much level of development, either in geographic pockets or historic pockets. If I accept that analogy, then I begin to realize that

apparently the institutional population is a recent one. As we said earlier, 150 years ago there were hardly any. So it is a very new population and it is at a very low level of development.

Then the next question is, what do we mean by a low level of development? I think it is admissible to say that development has a lot to do with what the species has learned to make of its major biological weapons, which in the case of institutions, even more than in the case of human beings, is the use of the brain. We are not as human beings, it's not our claws, or our jaws, or our teeth. The power, the motor of development is in the development of the brain and the use we have learned to make of it. And I see, again, an analogy in the institutional population, except that they are at a level, roughly, with the Neanderthals. That led me to think with a little more precision about what actually is the role of intelligence in the institutional population.

We are very close to at least a demonstration of the role of intelligence in the institution in decision-making processes. We're beginning to come back to the original questions, that in the decision-making process, how do we take care of the future? How actually do decisions occur? And if it is learning, then what is the best way of learning? What is the difference between the use of intelligence as it has been wired in my brain, as compared to the use of intelligence as it takes place in the institutions between individual human beings in a language based process of knowledge. Language is the carrier of the decision-making process. That is, the carrier of the institutional member is the jargon that's being developed in this process. There are differences but the analogies are very, very strong. So your question was what sort of happenings or events led me to think in terms of companies as living beings. Now it will be clear that these are seeds, if you like, seed corns that have been planted in the night. I'm beginning to see more and more loops that strongly reinforce the idea that there are hierarchically, higher placed living systems, higher than the human being. I called them "A Living Company," because basically I talk about the commercial population of the institutional world population. I talk about commercial tribes, but there are many other tribes. There are government tribes, trade union tribes, and there are Ford tribes. But I don't know much about government ministries, or people's clubs, and even less about trade unions. So I talk about the commercial population that I can. So does that make sense to you?

COS: Yes, it makes sense. It's just I feel torn between two sides. On the one hand, I, of course, see the analogy. I mean, everybody can see what you pointed out. But I'm even more intrigued by your saying no, it's not just a metaphor, it is a reality. If that were true it would have radical implications.

VI. Cellular Structures

So my question is what is the nature of that living being, and what are its laws? How can we as individuals relate to that?

Arie de Geus: Varela helped me to gradually drop the idea that it was a metaphor. He says that in biology they have now learned that life essentially builds up in the same way as Stern described 50 years ago. Life is moved by two or three basic principles – one is cooperation, another one is competition. And the third principle is that very early on, successful life organized itself in relatively small groupings that created the cellular structure. The human being itself already stands at the top of quite a high pyramid of building up of individual little bits and pieces–bacteria that came together and introduced themselves into, and organized themselves in a cellular structure. Then the cellular structures organized themselves into muscles or nervous systems, etc., which Varela talked about as sort of interim institutional constructions, that together then create the institutional construction that we call the human being. The explanation for the explosion in the world population is we increase our conditions

of biological success by always competing and cooperating at the same time, and we do that in cellular structures. So whether we do that in religion, or we do that as a trade union, or we do that in a university, we cooperate and compete, and we do that in a cellular structure, and that is at every level. That creates universities, and in that sense the university is as much a living being as you are.

Now I said, Dawkins asked the same question. He said, this human life, is it human being centered? Or is it gene centered? And that's a very, very good question. The minute you ask that question, your mind opens and says, well, the center of gravity doesn't necessarily have to be the human being. There is clearly a hierarchy. You can either follow Dawkins and say that whole hierarchy is actually built up by these individual people, or you can say it's somewhere in the middle. If you're the pope in the Catholic Church you can obviously not accept Dawkins.

Another reinforcement in that reasoning is that this institution of population is just the next step in the staircase. We continue building the staircase. Global organization is another step beyond the human being, that we started to build back in classical times when the Greeks organized the first army. Institutional population really only exploded from the middle of the 19th century. Before that we had the family, we had a few governments, we had a few nation states. We are becoming even more successful because we are members of an ever-larger and ever more specialized and able group of superhuman institutions. To me, this is a force, and I don't need an academic debate. I'm sure you can find a few exceptions and you can ask nicely academic intelligent questions: what is the role of a retrovirus? But again, I'm a practitioner, and I find sufficient evidence. I know that with every step down this road those are ever more interesting questions and this hypothesis really seem to be helpful.

VII. Every Institution is a Living System

COS: Would you say that every organization or institution or company is a living being? Or would say that, for example, some machinelike bureaucracies may have been living beings, but maybe now --

Arie de Geus: I think every institution is a living system. What we see is that the life conditions of these living systems are being threatened from the inside by participants in the institutional living systems. They have no idea what they're doing there and what their institutions do, and they have no idea how to create better conditions for the survival of the institution of which they are a member. On the contrary, they do all sorts of things that reduce the institution's life expectancy. A lot of the things they do make the company mechanistic. A mechanistic behavior inside an institution is usually a controlling behavior. Controlling in the sense that it reduces the internal space, which in turn reduces the learning ability, because there is no space to learn. There is no space to experiment, there is no space to act differently. The minute you take the learning ability away, you take away the viability of the institution. As Piaget has clearly indicated, that is the powerful tool in evolving from one phase to the next in life.

COS: What is nurturing to organizations as living beings?

Arie de Geus: What do you do with your daughter? Do you nurture her?

COS: Well, it's love, milk–it's a whole environment.

Arie de Geus: It's creating space, but not too much. It is finding that equilibrium. Could that be nurturing? If you say that is a reasonably good definition of nurturing, then I think, it's also

applicable to the management situation. Nurturing is very important. You see, it isn't an either/or, it isn't either creating space or controlling. No, at any moment in time --

COS: It is playing between.

Arie de Geus: And it is balance, and depends on the environment. If you take your daughter out in a busy street, you pull in, you control her more than you create space. But if you place her in a learning environment like a playground with other children, you immediately open up, you give her more space. So again, we are getting to the proven utility of the thinking of a Piaget.

Learning is the relationship of changing environments. The learning that we talked about is learning by accommodation. Making internal structural changes allows me to live in harmony with the environment as it is at the moment, knowing that this environment in a couple of years down the road will again change fundamentally. When I leave the cradle and I'm allowed to crawl on the floor, all of a sudden the world becomes fifteen times larger. Then I learn to walk and the world becomes yet another four or five times larger. And then I go to school and everything changes. I spend the day in the presence of totally different people and they play in a totally different way. So the child just makes internal structural changes which allow it to live again.

I think the same applies for the institutional population, where each individual institution goes through different phases in life and can only go through these phases by learning by accommodation. And if it doesn't do that, or if they have managers who do not understand that this is the major mechanism, they will die, as they do. We know that the mortality rate is incredible: 50 percent of all young commercial institutions in the Northern Hemisphere die before they're ten years old. We've checked those figures from North America to Europe to Japan. I've never seen figures from the Southern Hemisphere. I don't know how it works there. But in the Northern Hemisphere 50 percent of all just born commercial institutions die before they're ten years old. The average life expectancy in Europe of commercial institutions born in the last 10 to 15 years seems to be coming down to 14 years. Demographic studies show that since the early 1970s, early 80s, and the mid-1990s, that the average life expectancy of the commercial babies has come down from just under 20 years to 12 to 14 years.

All I have to do is open "The Economist" or "The Wall Street Journal" to see all the talk there is about companies as money machines. This is the antithesis of companies as living beings. I know as an experienced manager that running a company as a money machine does exactly all the things that will reduce the learning capability of that institution. I'm beginning to ask my management audiences, I'm basically saying, "You're killing your companies. If that's what you want, fine. But if you think that you have a responsibility vis-a-vis the next generation, you ought to consider this. If you want to give them an opportunity to actually enter and be a member of an evolutionary developing institution–but then people look at you with big eyes and say, but that's what Darwin is about, isn't it? And then I say, well, you know, Darwin is not entirely the latest thinking anymore on this subject. There is other thinking now that is beginning to say, some species seem to evolve better and faster than other species, but it isn't just survival of the fittest, there is something other there.

COS: What would it take for us to move into a world that consists of living companies rather than money machines?

Arie de Geus: I think what it means is that, first of all, people see profit not as the purpose or goal of institutional life, but as the result of a successful institutional life. That is an enormous

difference. In other words, to quote Russ Ackoff, it would mean that we're beginning to realize that profit for commercial institutions is the same as oxygen is for you and me. Without it we cannot live, but surely it's not the purpose of our life. It's an enormous task to change that managerial thinking and business thinking. If you companies as living beings, and as part of a hierarchy that is still constructing itself, then you have to give an awful lot attention as the managers, as the mentors in those institutions. You have to give a lot of attention to the individual living components, in the same way that you have to give an awful lot of attention to your nervous system, your muscular system, your digestive tract. You have to keep an eye on it to see that it all functions properly, and if it doesn't, you have to do something about it.

Institutional life expectancy depends how well we succeed in developing the intelligence of our institutions. This is why you always hear me talking about decision-making courses. I see in the decision-making process very strong analogies with learning processes. Many psychologists give definitions of learning processes which are very similar to my personal definition of the decision-making process. That is where institutional learning comes in for me, and therefore, to me, institutional learning is not a method of choice. Institutional learning is an instrument in a much more basic life event, of evolution and of an evolutionary development whose goal I don't know.

VIII. Every Startup Is The Birth Of A New Being

COS: So every startup is the birth of a new being?

Arie de Geus: I think so. Some of them develop very quickly. One highly successful commercial institution is Hewlett-Packard. It's 35, 40 years old. It formed very, very quickly because of the conditions that were created. And not just techniques of learning; there were a lot of other facets...the constantly changing equilibrium between control and creating space, the quality of the genes and the cells that you are checking into your institution… It is almost certainly the food that you take in as an institution --

COS: Which is?

Arie de Geus: -- which is the acquisitions that you digest. But not mergers, like with Mercedes-Benz and Chrysler.

COS: What would that be?

IX. The Absorption Level Of Immune Systems

Arie de Geus: I am close to thinking that since companies are living beings, they have something like an immune system. Varela can tell you very interesting stories about how the immune system works. But the immune system, as I understand it from him, constantly creates an equilibrium between intruders from the outside and the internal population of the living being. The immune system is not an army that goes out and fires at every intruder, on the contrary. Space, the creation of space is not only internal space, it's also space towards the outside world that is part of the learning, allowing insight of new elements coming from the outside. But the amount and the speed at which it takes place, and the multiplication of the intruders inside the body, are controlled by the immune system. You can never know at the moment of intrusion whether that intruder is going to work as a parasite, or whether that intruder is willing to live in symbiosis, or whether that intruder is just a visitor who will come in and disappear. But the parasites can do tremendous damage, and you only find out that it truly is a parasite at the moment of exit, never before. The immune system is the one that

keeps the equilibrium and Varela has made me understand that the human immune system can deal with intrusions up to 25 percent of its own total population.

COS: Really?

Arie de Geus: That is very, very high.

COS: What happens at the level of 50 percent?

Arie de Geus: Very often 50 percent is way beyond the capability of any immune system. The minute there is an invasion that goes beyond the capability of the immune system to maintain an equilibrium, the immune system goes into a fighting mode. It increases the body temperature, it starts creating very different cells, killer cells.

When I think in those terms about mergers and acquisitions, it is exactly the same thing. But below the absorption level of the immune system you can actually buy and then basically digest. If you do that in the right way it's just like if you get the right genes or the right chemicals and minerals. That's very different from today's management style, which is all about globalization. Globalization is about growing bigger. And the fastest way of growing bigger is mergers and acquisitions. There must be some truth behind what I'm saying about the immune system. As you know, there's plenty of objective evidence that the failure rate of mergers and acquisitions is --

COS: Overwhelming.

Arie de Geus: The figures that I read are either 60 percent or 70 percent over a ten year period. So there must be an area here. Again, when you say, what would the consequences be of realizing that companies are living beings–for one thing there would be a totally different way of thinking about mergers and acquisitions. A totally different way of thinking about what is the nature of profits? A totally different way of thinking about what is the purpose of my company? Is the purpose of my company the maximization of quarterly profits? Or annual profits? Or is it the increase in the average life expectancy? Or is it something else like making people happy by creating the best widget. Whatever. But a purpose outside yourself. That is way beyond anything you'll see in "The Financial Times" or "The Wall Street Journal."

COS: Let me ask a last question.

Arie de Geus: Yes, we're way over time.

X. Questions For Future Research

COS: What are the three most significant questions of future research from your point of view?

Arie de Geus: I think we should continue doing what Peter Senge and you and other people have started to do at MIT. I think we should have more a multicultural research center about the nature of decision making and the nature of public institutions. As long as we realize that institutional learning is about decision-making processes. I think that is very important. I've been saying the need for successful evolution of the institutional species is dependent on the extent to which we succeed in improving the quality of the institutional advantages.

Another important question would be to do a little bit more demographics about this institutional population. Is it really true what I'm saying about this explosive growth? I would

like to see a lot more demographic work done on the institutional population in the world. And notably, it would be interesting to see whether there are demographic differences between different tribes in the institutional population. I see universities as a species, and they seem to have different demographics than commercial institutions. Religious institutions seem to have very different demographics than trade unions, for instance.

If we could discover demographic differences between the different institutional tribes, we might also begin to get a better idea about what determines death or evolution.

I think it would be a much better idea if we did a lot more demographic work on the institutional population. I'm also intrigued by the role of language in institutions. I'm not sure that is part of the institutional learning process. Does language in itself play a role there? Are there languages that improve the conditions, or there languages that make institutional success less possible? It would be interesting to know a little bit more about it. So if you want three questions, the first two I am very certain about. The third one I'm less sure about. But language is an intriguing subject, because it clearly plays a key role in our institutional individuals and institutional living beings.

COS: Thank you very much

XI. Reflection

During the 1980s, Arie de Geus proposed to conceive of planning and decision-making as a learning process. During the 1990s, he enhanced this key proposition with the notion of seeing companies as a living system. Every institution, claims de Geus, is a living system. The implications of this perspective include a different role of profit and purpose in which we're beginning to realize that "profit for commercial institutions is the same as oxygen is for humans"; as well as a "limited absorption capacity" of organizational immune systems that explains the extraordinary high failure rate of mega-mergers among global companies, which because of their enormous size exceed the natural absorption capacity of the system.

I left the conversation with de Geus with two questions: One, when we are living and working in our institutions, how can we relate to the "living being" de Geus talks about and that is embodied through the way we collectively enact the organizations in which we participate?

Two, what is the nature of the relationship between individual human beings and the larger organizational whole? I was struck by hearing de Geus characterize the relationship between individual and whole (organization) in a strictly hierarchical manner: "Stern used to say that the hierarchy is you have the human being, and then you have the family, and then you have the village community, and then you have das Volk, and you have a clear hierarchy." In this view, "the whole is something separate from the parts." This view differed from what science philosopher Henri Bortoft and the Japanese philosopher Ryosoke Ohashi had told me in their interviews (see conversations with Bortoft and Ohashi). In their view, you cannot separate the whole from the parts, for the whole presences itself in the parts. Accordingly, the parts are not determined by the whole in which they exist. They are the locus in which the whole is enhanced, contradicted, or even transformed by them, or all of the above. So, I guess the deeper question I am trying to articulate here concerns the the differences between biological and social systems.

I recently asked biologist Humberto Maturana, the author of the theory of autopoietic systems, about his view on the numerous recent approaches to applying his biological theory to the realm of social systems. His response: "If social systems are autopoietic, I do not want to live in them." "Why not?" I asked. "Because in autopoietic systems the part is totally determined

by the whole in order to reproduce certain functions of the larger system. Its like Orwell's 1984. It's the end of freedom and choice in social systems." Thus, there seem to be two different notions of the whole-part relationship in social systems. The first one is what Maturana calls the 1984 version of society: the part (individuum) is determined by the whole. The second notion is closer to what Ohashi and Bortoft suggested in their interviews: that the individuum is not determined by the whole but rather conceived of as a place in which an emerging new whole can come into being. The first whole, I would call the traditional [and often oppressive whole] of social systems. The second whole belongs to an emerging social art, which yet needs to be developed and created in the years to come. I did not have the time to ask de Geus where he would position himself on that spectrum. I heard him describing elements of both notions outlined above.

XII. Bio

Arie de Geus joined Royal Dutch/Shell in 1951 and remained with the company for 38 years. He worked in Turkey, Belgium, and Brazil before returning to the United Kingdom in 1979. Arie assumed regional responsibility for Shell's businesses in Africa and South Asia and then, in 1981, became coordinator for Group Planning. During his last 10 years at Shell, Arie became increasingly interested in the nature of large corporations, their decision-making processes, and the management of change and he is widely credited with originating the concept of the learning organization.

Since his retirement from Shell in 1989, Arie has headed an advisory group to the World Bank and consults with government and private institutions. He is a visiting fellow at London Business School, and a board member of the Nijenrode Learning Centre in the Netherlands. Arie is also the author of the award-winning bestseller, The Living Company(1997).

The Amoeba Corporation

By Shari Caudron

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Preamble

Adaptability is the key to corporate longevity, but many companies are too rigidly organized to adapt to constant change and seize new opportunities. Here's how companies are lengthening their life span by reshaping internal systems for flexibility, modernizing their cultures and monitoring the ever-changing environments in which they operate.

Introduction

The average life expectancy of a multinational corporation is somewhere between 40 and 50 years, according to Arie de Geus, author of "The Living Company: Habits for Survival in a Turbulent Business Environment" (Harvard Business School Press, 1997). In fact, one-third of the companies listed on the 1970 Fortune 500 had disappeared just 13 years later, thanks to mergers, acquisitions or being broken apart.

But just because most companies don't live very long doesn't mean they can't. Just take a look at Stora. This company began life more than 700 years ago as a copper mine in central Sweden. Over the centuries, as the business and political climates changed, Stora changed right along with them moving from copper to forestry to iron production and eventually to paper, wood pulp and chemicals. At one point, the company even organized as a militaristic guild. Two years ago, Stora metamorphosed once again when it joined forces with Enso, a Finnish company, to create Stora Enso. Today the company is a global leader in the forest products industry.

The difference between Stora Enso and today's short-lived companies can be summed up in one word: adaptability. Like the single-cell amoeba, which continually changes its shape and direction based on external influences, long-lived companies are sensitive to their environment and know how to adapt and evolve to fit ever-changing conditions.

Although, as Stora's history indicates, adaptability has always been important to business success, today it is crucial. The life span of products is shorter; technological advances are coming faster; and companies are having to compete on many more dimensions, including product, service, customer segmentation and distribution options. Furthermore, in the midst of all this constant change, it's become almost impossible for companies to sustain a competitive advantage. Why? Because in an era when information travels at the speed of light, businesses can figure out what their competitors are doing and copy it seemingly instantaneously.

How does a company become more adaptable? How do executives learn to evolve quickly? How do finance executives make decisions and allocate resources when change, uncertainty and high risk are the norm? Is it possible to become more amoeba-like and still maintain control?

These are questions executives are starting to ask themselves as the speed of change in the business environment increases exponentially. In searching for answers, what they're finding

is that adaptable companies act very differently from their rigid, command-and-control counterparts. This is not only true of the organization as a whole, but also true of the corporate finance department.

While there is no one-size-fits-all approach for developing evolutionary management and finance practices, adaptable companies share many common principles and practices.

What Adaptable Companies Do Differently

More than anything else, managers in adaptable companies realize they can no longer conduct business the old-fashioned way. Gone are long-range plans, task-oriented job descriptions, rigid functional divisions and top-down decision-making. Instead, in adaptable companies:

- **Employees are given more freedom**. Margaret J. Wheatley, president of the Berkana Institute in Provo, Utah, and author of "Leadership and the New Science" (Berrett-Koehler, 1999), has spent years studying how organizations become more adaptable by following the natural laws of science. She believes that the primary source of adaptability in organizations is the employees.

For this reason, adaptable organizations treat people differently. They allow greater participation from employees and give them the freedom to decide how they will react to change. "Nothing alive accepts bosses or being bossed around," Wheatley explains.

William E. Fulmer, author of "Shaping the Adaptive Organization" (Amacom Books, 2000), agrees. "Biologists believe that complex systems are self-organizing, meaning that if you don't interfere too much, they will find a way to operate reasonably effectively," he explains. "Species evolve without some sort of overriding hand directing everything, and the same should be true in business. Human beings by their very nature will make reasonable decisions if you let them."

- **Management sets broad goals and objectives**. Because executives in adaptable organizations recognize that employees are capable of making good decisions, the executives themselves make far fewer day-to-day decisions. "Executives in adaptable companies may articulate a direction for the organization, but they don't dictate what needs to be done," Fulmer says. By setting broad goals and objectives, as opposed to determining specific tasks, these executives allow employees the room to respond to an opportunity in a way that makes the best sense for that opportunity at that time.

The trick with setting broad goals instead of defining specific tasks is that executives must know how to maintain the balance between complete control and total unpredictability. "Adaptable executives have learned to provide enough guidance so that people aren't floundering, but not so much guidance that employees lose their creativity and initiative," says Fulmer. "Think of it like water and ice. Ice is very rigid and controlled, whereas water is very fluid and always moving. What companies want to do is become like slush — slightly solid but with enough flexibility to move around."

- **Executives regularly conduct scenario planning**. Companies used to be able to plan projects five and 10 years ahead of time and then outline the specific steps needed to make those projects happen. But this is no longer possible in today's business environment. For this reason, instead of creating specific long-range plans, adaptable companies integrate scenario planning into their management practices. Simply stated, scenario planning is the process of identifying the kinds of things that might affect the business and then preparing a response to them.

- **Managers create accountability around projects, not position**. When the marketplace was more predictable, work was relatively routine and employees could be held accountable for doing the tasks that were outlined in their job descriptions. But today, employees are more likely to be working in groups to complete projects than working alone to complete individual tasks. For this reason, employees should be held accountable for the projects they take on, rather than the tasks they were hired to complete. "The classic business unit structure with clear accountability and clear stability in your structure is no longer a solid operating paradigm," explains Nathaniel Foote, principal and leader of the organizational design practice at McKinsey & Co. in Boston.

- **Organizational learning is ongoing**. A fundamental characteristic of all adaptive organizations is their ability to constantly receive feedback from their environment. "Adaptive companies are always looking for information from customers and suppliers through focus groups, surveys and even suggestion boxes," Fulmer explains. But they also maintain a close watch on their competitors. "Adaptive companies don't just follow their competitors' stock price or financial performance," he adds. They use solid intelligence-gathering processes to anticipate the moves their competitors will make.

But organizational learning does not stop there. According to David Dotlich, managing partner of CDR International LLP in Portland, Ore., adaptable organizations also place a high value on human development, growth and learning. As a result, they invest heavily in employee training and development.

The Adaptable Finance Function

Clearly, to become more adaptable in response to ever-changing market conditions, companies must rethink how they set goals, organize work and manage employees. But the need for adaptability goes beyond that. Every functional unit within a company, including the finance function, must change the way it operates. In fact, the need for adaptability is placing more demands on financial systems than ever before.

While achieving more adaptable financial processes isn't easy, it can be done. Here are several ways:

- **Evaluate opportunities from multiple perspectives**. With the marketplace changing so rapidly and continually, it's becoming much riskier to allocate resources and make financial decisions. For this reason, instead of relying on one stable way of evaluating financial data, companies need flexible financial systems that allow them to aggregate along different axes.

For example, Foote explains, "If I'm looking at pursuing a new piece of business in Romania, I will need to review the opportunity from the customer angle, the product angle, the channel angle and the geographic angle in order to make investment and resource allocation decisions along each of those different dimensions." Adaptable companies understand that costs and revenues must be assignable to all these dimensions so that the potential for profitability can be identified.

- **Develop more open accounting systems**. In order for managers to predict costs and revenue from all these different dimensions, a company's accounting systems must be much more open than they have been in the past. All data must be available to all parties involved. Giving more people access to financial information not only allows them to make decisions more quickly and thoroughly based on changing market conditions, but also creates the kind of project-based accountability that is necessary for adaptability. "If an employee doesn't have the right information for making decisions, you can't hold them accountable for those decisions," Foote says.

- **Track different measures**. Traditional financial measures are, by definition, historical measures of performance. But in an ever-changing environment, managers need metrics that will give them a better sense of what the future will hold. Fulmer calls these "managerially meaningful metrics." The metrics may include such things as:

    - measures of customer satisfaction
    - the amount of business customers do
    - the average length of time a customer stays with the company
    - the percentage of revenue from products that didn't exist two or three years ago
    - cash flow, which Fulmer believes is one financial measure that has become absolutely critical in a rapidly changing environment

Other metrics that support adaptability include measures of employee satisfaction and turnover. "In a volatile market, you are not only trying to hang on to your customer base, but you also have to make sure you have enough employees who are able to take care of those customers," says Fulmer.

- Make planning, analysis and resource allocation an ongoing process. In adaptable corporations, the planning and resource allocation process is dynamic. Instead of assigning annual budgets to functional areas, adaptable companies take a process view of budgeting. Opportunities are prioritized and funded as they arise, instead of just once or twice a year. "CFOs must recognize that in a much more volatile financial market, you don't have the luxury of doing the kind of analysis you used to," explains John Clippinger III, founder of Lexeme Inc. and editor of "The Biology of Business" (Jossey-Bass Publishers, 1999).

The need for adaptability requires the finance function to be more flexible, but that does not mean finance professionals should become any less disciplined. "The finance and accounting world still requires some degree of rules and order and discipline around which a lot of this chaos occurs," explains Dotlich. To help their organizations become more amoeba-like, finance people have to learn to live in two worlds: the world of rigid predictability, control and discipline, and the world of flexibility, creativity and scenario thinking.

In order to be effective in these two worlds, it may be helpful for finance executives to remember that adaptability is as much a mind-set as it is a practice. By letting go of the need for certainty and control, finance professionals can let their own natural ability to adapt and evolve lead them where they need to go. Amoebas don't fight change; they work with it.

The Keys To Business Longevity

While adaptability is a key contributor to corporate longevity, there are other factors that help companies live long, healthy and profitable lives. In his book, "The Living Company" (Harvard Business School Press, 1997), Arie de Geus explores the factors that allow large companies to thrive over a long period. After studying 27 long-lived companies, he reveals that four common factors explain their success:

1. Long-lived companies were sensitive to their environment. Whether they had built their fortunes on knowledge or natural resources, they remained in harmony with the world around them. As wars, depressions, technologies and political changes surged and ebbed, they always seemed to excel at keeping their feelers out, tuned to whatever was going on. They did this despite the fact that there was little data available, let alone the communications facilities to give them a global view of the environment.

2. Long-lived companies were cohesive, with a strong sense of identity. No matter how widely diversified they were, their employees, and even their suppliers at times, felt they were all part of one entity.

3. Long-lived companies were tolerant of activities, experiments and eccentricities that kept stretching their understanding of possibilities.

4. Long-lived companies were conservative in financing. They were frugal and did not risk their capital gratuitously. They understood the meaning of money in an old-fashioned way; they knew the usefulness of having spare cash. Having money in hand gave them flexibility and independence. They could pursue options that their competitors could not. They could grasp opportunities without first having to convince third-party financiers of their attractiveness.

Patching for Adaptability

Kathleen M. Eisenhardt and Shona L. Brown recently co-authored an article in the Harvard Business Review in which they discuss how organizations can become more adaptable through a process called "patching." Here is an excerpt: "Patching is the strategic process by which corporate executives routinely remap their businesses to changing market opportunities. It can take the form of adding, splitting, transferring, exiting or combining chunks of businesses. Patching is less critical when markets are relatively unchanging, but when markets are turbulent, patching becomes crucial.

"At first glance, patching may seem to be just another name for reorganizing. But patchers have a distinctive mind-set. While managers in traditional companies see structure as mostly stable, managers in companies that patch believe structure is inherently temporary. Patchers also develop strategy differently. Traditional managers set corporate strategy first, whereas managers who patch keep the organization focused on the right overall set of business opportunities and then let strategy emerge from individual businesses.

"Patching changes are usually small in scale and made frequently — think evolution, not revolution. Managers at patching companies pay extraordinary attention to the size of their business units, which should be small enough for agility and large enough for efficiency. They've also learned that patching won't work without the right infrastructure: Business chunks must be modular, business-unit-level metrics should be fine-grained and complete; and compensation within the company needs to be consistent. Finally ... patching should be done quickly. The emphasis is on getting the patch roughtly right and fixing problems later."

Source: Kathleen M. Eisenhardt and Shona L Brown, "Patching Restitching Business Portfolios in Dynamic Markets." Harvard Business Review (May-June 1999)

Rethinking Management Methods

by Steve Barth

© www.destinationKM.com

Preamble

Dave Snowden's new Cynefin Centre takes an innovative approach to organizational complexity.

The Article

We caught up with Dave Snowden to discuss his plans for IBM's new Cynefin Centre for Organisational Complexity. Coined for a Welsh word (pronounced kun-ev'in) literally translated as "place of origin," the centre is both a physical and virtual meeting place where a global network will meet for "action research" into how complexity theory might be applied to public and private organizations. The goal is to use new sense-making methods and models to solve problems where structured approaches have failed.

But Snowden, the centre's founder and executive director, isn't looking to throw the baby out with the bathwater. "We've had a hundred years of management science and management consultancy based on Newtonian physics and Taylorist principles. A lot of good things like process reengineering and quality management happened by applying machine metaphors to the firm," he says. "The trouble is that when you move on to trying to manage areas such as knowledge, learning and strategy you are moving into a completely different frame--a system which is inherently complex. At that point you have to completely rethink management methods."

WHAT IS THE GOAL OF THE CENTER?

"The goal is to create the Linux of consulting. We're united by a hatred of Taylorism with a vague idea that there is something better in complexity."

WHAT ARE THE STARTING PRINCIPLES?

The starting point is contextual. We've had a hundred years of management science and management consultancy based on Newtonian physics and Taylorist principles. That's been very useful. A lot of good things happened by applying machine metaphors to the firm. Process reengineering is brilliant--within boundaries. It went wrong when it went outside those boundaries to tackle things for which it was not appropriate. Quality management is fine within boundaries. Scenario planning is great within boundaries.

The trouble is that when you move on to trying to manage areas such as knowledge, learning and strategy, you are moving into a completely different frame--a system which is inherently complex. At that point you have to completely rethink management methods.

USING COMPLEX ADAPTIVE SYSTEMS?

Our approach to complexity contrasts with a lot of Santa Fe people very much focused on agent-based modeling. That's great for ants, but it doesn't work universally for human beings

because of the element of free wheel. Humans can choose to stand above a pattern. Or they can choose to impose a pattern.

WHAT'S YOUR APPROACH?

The way we contextualize the Cynefin model is to legitimize four spaces: known, knowable, complex and chaotic. Each of them has a different dynamic, not just a different analytical method, but a different diagnostic method, a different intervention approach, a different set of supporting tools and technologies.

HOW DOES IT WORK?

Take corporate strategy, where we think we have something genuinely exciting. Look in the known quadrant, where cause and effect relationships are defined and actually predictable. So in that domain, we sense incoming data and respond to it in predetermined categories. This is the legitimate domain of standard operating procedures and best practices, which only work when you can understand the world of cause and effect.

The knowable space is the systems thinking quadrant. There are cause and effect relationships, but there are many of them, they are separated over time and space, and you may not have the time and resources to discover them.

In this space we become heavily dependent on experts and if we lose trust in those experts we're dead. In knowledge management, this is the communities of practice space. In strategy, it's the scenario place.

Whereas the response model in the "known" space was sense-categorize-respond, the response model here is sense-analyze-respond. In both of these cases, the assumption is that, once you've got the data, there is a cause-and-effect chain that you can discover, which is empirically verifiable and repeatable. Repeatability is the heart of empirical science and the basic assumption of most management science.

Then you move into the complex domain, where cause and effect relationships exist, but they are intertwined, knotty and retrospectively coherent. That's one of the ways you detect them. When people in the States look backward through the lens of the events of 9/11 over a huge landscape of information, they see a bright red line that connects the dots. But the point is that it's only coherent in retrospect.

In the complex space there are cause-and-effect relationships but they are unknowable because they are constantly changing and shifting. You can't break it down; the whole isn't the sum of the parts. You have to look at it from many, many different directions.

All of the Cynefin research programs operate in this domain. They increase the interactivity between agents/agencies so that new patterns of meaning emerge.

Because patterns are forming, the key things are weak signals. And we don't see weak signals because our brains entrain themselves. We say that we make rational decisions based on evaluations between choices, but what we actually do is a first-fit pattern match with our prior experience, and act on that basis. Then, when we are interviewed, we pretend it was the logical choice.

In the complex space, the issue is whether we should respond to a pattern with a flight reflex, or should we stand still because this is a boundary condition and life is about to change.

Instead of sense-analyze-respond, we need to probe, sense and respond. We need to do something to reveal the patterns within the space.

The final domain is chaotic. There are no cause and effect relationships whatsoever. The whole thing is a mess and there's no point in analyzing, probing or categorizing. What we do is act. Somebody has to impose their will on the space in order to structure it.

So the four spaces are:

- KNOWN--Sense-categorize-respond

- KNOWABLE--Sense-analyze respond

- COMPLEX--Probe-sense-respond

- CHAOTIC--Act-sense-respond

Cynefin says all of those spaces are legitimate and what we focus on is how can you understand the difference between those spaces, whether it's knowledge management, customer relationship management, supply chain management or corporate strategy. And then we develop tools and techniques for all of those spaces, although we focus particularly on the left hand ones, because there are already a lot of tools on the right hand side.

HOW DO YOU USE THE MODEL?

It isn't some model that is imposed by a Harvard professor, it emerges from people's own perception of their past and future.

We contextualize the model in the context of a firm or a government or of a situation. Having done that, we then identify the appropriate tools and technologies for the space. But, critically, we sensitize people to the boundary conditions. It is absolutely key to know when you are clearly in, say, a knowable space because analytical techniques are great. But you need to know when you are approaching a boundary into one of the other spaces. So we contextualize this with multiple visions of the past and future. This gets to the concept of "resonant meaning" in narrative. We take people's own histories, which they understand profoundly and we find things in their own past that are relevant to the current state and create filters that allow them to see the current state through something we already understand.

When most people try to understand a situation, they try to impose their own political view of it because different parts of the situation are resonating with different parts of their own memory. So by creating two or three common perspective filters doesn't force them to agree on how we should solve problem, but enables them to agree on how to describe the problem.

New Paradigms: Innovative Forms of Organization

Interview with Liisa Valikangas

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The Interview

Mention innovation today, and most people think of the hot new products that come out of an organization's R&D labs: new technology, new software, new manufacturing methods. Things that are faster, better, cheaper. But the focus on products, services, and methods that R&D labs turn out can be short sighted, according to Liisa Välikangas, Director of Research at the Strategos Institute, a Menlo Park, California firm specializing in innovation. "Companies that seek to lead in innovation need to look beyond the R&D lab to identify innovative organizational structures and forms that can help them identify and exploit opportunities ahead of their competitors."

Novel organizational forms can shape

- how knowledge is controlled—or released,
- how ideas are shared and developed,
- how people are motivated,
- how resources are allocated, and more.

Välikangas has explored a wide range of emerging organizational forms, and identifies three in particular that have the potential to alter the competitive landscape in significant ways.

Peer-to-Peer Organization

Peer to peer (P2P) is much more than architecture for downloading free music from the Internet. "It's also a socio-economic philosophy that says, 'what's yours is mine,'" Välikangas says. "The P2P form of organization is quickly spreading from applications such as distributed computing and MP3 file sharing to corporate training and telecommunications."

Välikangas points to companies that have started holding peer-to-peer brown-bag internal training sessions as a way of reducing costs during a weak economy. The peer-to peer training sessions do more than offer inexpensive training. Välikangas reports, "Companies using these peerto peer approaches to training find that they lead to more open communication among employees and across different departments."

In telecommunications an increasing number of P2P-based community wireless networks are starting to appear. Guerrilla.net, for example, is a network in the Boston area that allows enthusiasts to talk to each other and share computer files via a wireless Internet. "These pioneers would rather build their own network than continue to use traditional modes of communication," Välikangas says. "They are advancing wireless networking in the way that mavericks in the 1980s smuggled PCs into businesses behind the backs of the people running the mainframes."

Välikangas argues that the P2P model may present opportunities and threats across several industries, as its use in corporate training indicates. She predicts those who figure out how to capitalize on P2P organization will find new opportunities and new markets.

Social Network–Supported Organization

Organizations are also finding ways to incorporate separate social networks in new ways, Välikangas says, citing the wellknown Grameen Bank. Founded in Bangladesh, The Grameen banking system helps poor people obtain small loans, and now boasts two million borrowers. Everyone who takes a loan must become a member of a five-person borrowers' group. Members of the group share responsibility for loan repayments. Only if a loan is repaid can another member of the group obtain a loan.

The system was hugely successful in developing nations worldwide as well as in under-developed regions of the United States. Indeed, just 3% of borrowers defaulted on their loans — a rate that compares with Chase Manhattan's. (However, Grameen Bank has recently encountered difficulties: it may have overextended its activities, making the crucial social controls on which it relies on less effective.) The Bank nevertheless remains an example of complex adaptive systems in action. When five potential borrowers get together, they engage in a new kind of interaction that involves obtaining and repaying loans. These interactions are far more intense than any banker could possibly have with a traditional small borrower. They also provide better monitoring and support among the borrowers.

Social network–supported organizations like the Grameen Bank harness complexity by using existing social networks in a new way. Churches and other religious organizations also make use of existing social networks to acquire new members. And some companies have long used social networks as a powerful sales tool, as exemplified by, the Tupperware Corporation, the $1.1 billion company that uses it's famous Tupperware Parties as a major marketing device.

Open Source

Välikangas' third example of a new organizational form is the open-source organization. Open-source organization exploits an open development process to harness the distributed resources of a community. The Linux operating system is the prime example of the power of an open source organization. "Linux, a highly complicated piece of code, is more reliable and faster than rival operating systems from hierarchically organized corporations such as Microsoft, Apple, and IBM," she says. "Evidently, the thousands of scattered volunteers who collaborated to create the Linux code are able to organize very effectively."

Open-source initiatives are now emerging in a number of other areas, according to Välikangas. For instance, the Openlaw project of Harvard University is an experiment in crafting legal arguments in an open forum. And Innocentive, an Eli Lilly company, is trying to change the process of scientific research by using open-source principles to break barriers to intellect.

The principles of the open source organization, specifically transparency and openness, are also key to many new approaches to supply chain management, according to James Champy, author of X-Engineering the Corporation. According to Champy, the future belongs to the company that "can tap the full sum of the intelligence and experience of all the people in its network of customers, suppliers, and partners."

Välikangas believes that the success of open-source organization may lie in its adaptive nature. Adaptive systems are characterized by components with the capacity for autonomous action. The strategies of these components change over time as they search for improved performance of the system.

Conclusion

These are just three of the novel approaches to organizing work that Välikangas has identified. She says, "We would do well as a society and as managers to learn from these emerging organizational forms that exploit the dynamics of self-governance, adaptive network interaction, and openness to anyone with something to contribute."

Arie De Geus : 'A Keynote Speech'

Summer Workshop, 13-16 July 1995, organized by 'Stichting Netherlands Foundation for Organizational Learning', hosted by Center for Organizational Learning and Change.

Ladies and gentlemen,

This was not supposed to be an after dinner speech, but as it is after ten o'clock, it is going to be an after dinner speech. And yet I want to be a little serious, because I personally have invested a lot in this workshop and in what, I hope, is behind it.

This room reminds me of how we started three years ago at Nijenrode. Peter Senge and I happened to be at a systems dynamics conference in Utrecht and we were invited to come and give a talk in this very room. I remember that evening. There was a table standing over there behind which the president of Nijenrode, Peter and I were sitting. The room was filled with Dutch business people and we were giving our talks about organizational learning. My contribution was about scenario planning.

The important point I wanted to get across was how wrong it is in business to deal with the future by trying to predict it. The much more intelligent way of dealing with the future is by visiting various versions of it and by asking yourself, what you would do if a particular future would come about. In other words, do not rely on predictions!

To get the point across -I like telling stories- I tell this story about the mayor of Rotterdam in 1920. "Suppose", I said, "somebody comes into his room and tells him about what is going to happen to his city in the next 25 years". Now, 25 years is a scenario period. What happened from 1920 to 1945: the Weimar republic in Germany, the crash of the stock exchanges in 1929, the big depression, war, Blitzkrieg, German bombardments of the city of Rotterdam, at the end of the war demolition of all port facilities....

Deep into the story I ask my audience: "....imagine you are the mayor of Rotterdam; what would you do if somebody foretold you all this....?". All of a sudden I notice that I am losing my audience. The door had opened and somebody had come in. And the audience is looking at the person entering and starts muttering and chuckling. Then the president of Nijenrode whispers into my ear: "That's the mayor of Rotterdam". Talking about scenarios....!

Now let me go on by saying a few words about my aspirations for this meeting. I would like to start by saying how encouraged I am to see all of you here, knowing many of you and where you come from. That you have taken the trouble to come as late as this in the summer season to Nijenrode, I translate -I hope I am not arrogant or preposturous when I say that- as meaning that the subject for which we have come together is probably worthwhile.

Each of you will have different reasons for being here and for paying your trip and your fee. But allow me to express my reasons. I thought about them when I flew over. As I pondered I concluded that my reasons possibly would sound a little dramatic. You know, though I haven't lived in Holland for more than 30 years, I am still a very calvinistic Dutchman, having guilt feelings about saying grand things, about losing modesty.

First allow me say something from my former background as a Group Planning Coordinator at Shell. We did a lot of interesting research in that time. What struck me most, was the discovery of the very high corporate mortality; the discovery that the average life expectancy

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at birth of commercial institutions across many continents, is between 40 and 50 years. Companies die like flies..! And every corporate death is a social misery story with lots of human suffering.

The second part of what we found was that the maximum life expectancy of companies is in the hundreds of years. My neighbour here comes from a company that is 200 years old, DuPont. My Scandinavian contacts made me discover, ten or fifteen years ago, Stora, sevenhundred years old!

So here we have a species, the corporate commercial species, that is really still in the Neanderthaler age. Any species that has a gap between maximum life expectancy and average life expectancy, that ranges between three, four, five hundred years as a maximum and fourty, fifty years as an average, such a species really is still in the Neanderthaler age. We are looking at a species that is underdeveloped, that is way below its potential. So you can not help but ask the question: what are the reasons for this state of underdevelopment of business?

I can certainly give no answers, just a number of considerations and questions, gradually building in my mind, lately.

First, I think we are wrong in the way we build and run those working communities that are our companies. There is a distortion in our minds, put there by economic thinking. To believe that the purpose of life in business is making profit, is denying what Russell Ackoff told me a number of years ago: "Profit is like oxygen, you need it to live but it is not..., it cannot be the purpose of life".

There is something very wrong here. We treat people as instruments to get profit, rather than as constituents or members of a work community.

A second question that comes up in my mind is the way companies tend to concentrate and centralize power. I am a European in heart, blood and tradition. I am steeped in the trias politica. I come from a company that is built on checks and balances, on equilibrium, where it is impossible that anyone can grab final power. But that is not a normal situation. Generally, we see it as totally normal in the corporate species that power is clung to at the corporate level. There are lots of books written about how power naturally floats to the top.

A third reason for the underdevelopment of the corporate species may be the neglect of the alternatives to the economic goals, I already mentioned.

My other neighbour at the table is the chief executive of a number of shipyards here in the heart of Holland, many of which go back 300 years. When he started telling his American neighbour about them, he told about how the shipyards and the community of which they were part, used to be one, equal and the same.

That is not in the first place an economic story, not one just dealing with economic goals. He didn't talk about the maximization of shareholders value. Companies play a societal role. Companies are the associations through which people pursue goals of wealth creation in life, in the same way as churches are the institutions where people pursue religious goals in life.

However, I was told at university that companies are associations meant to produce goods at minimum cost, to sell them at maximum price in order to maximize profit.

If, in the face of what we just said about the social and societal function of the enterprise, one

keeps talking exclusively about the maximization of shareholder value or strictly adheres to the above purely economic definition of the enterprise, I think that we have travesty of reality. Yet we let our thinking about companies and about the way we run them, completely be dominated by this partial view of the species.

And, last but not least, I think we are very bad at utilizing the intelligence available in companies.

Work done at MIT and going on here in Europe in a number of companies, including Shell, corroborates there are effective ways to mobilize more of the brain potential available in companies. We've run experiments, so I can be fairly confident about the figures.

We know that applying methods, like the ones the MIT OLC is experimenting with, can accelerate decisions by a factor two. I use the word acceleration; it is really something you can measure, since you can measure time.

You can take a particular set of decisions and measure how much time they took to be made under the old way of dealing with them in the company. Then you look at how long similar decisions take when the newer ideas about play, learning, learning by play, simulation, computer models, etcetera were applied.

Acceleration of decisions in business, in big businesses especially, must be worth many millions of dollars of cost savings!

A second question is, of course: did we get better decisions? Usually, people that took part in those decisions are inclined to say that, yes, they think, it looks, it feels like they actually found better decisions than they would have by the old process. But, of course, that is a statement you cannot prove. There is no way you can run a double blind experiment on this sort of situation.

So, there is promise: if the goal we put our minds to, is to try and make better use of available brain capacity, that goal is worth all our time. Because there is a reward!

Yet some of the results are also alarming. Yesterday I was called by one of the sponsors of the MIT OLC who said that she was parting with her company. She is not the first person to tell me this. We are looking here at a remarkable phenomenon: in a number of companies, where successful experiments have been going on, the promoters and organizers of those experiments paid with their job. We must try and understand this.

The question put to this meeting is "introducing learning to organizations, making better use of the brain potential that we have in the company, what does it take?". Clearly the proceeds are, as I have just said, high but, as usual, there is no free lunch in life. The proceeds being high means risks are high. Have you ever seen a business with high profits and low risks? There are risks and we should understand and manage them.

So what does it take? What do we aim for? Let me start by saying what my hopes and aspirations are for this meeting.

I hope that this meeting will be the start of a European network of academics, consultants and business people, who know each other and who are beginning to share a language, who are able to call each other and call on each other.

My second hope is that we will indeed learn, in those two and a half days, something about

the conference question. What does it take? I put it to you, the stakes are high enough. It is worth an effort. It's worth the risk, and as good managers we have to understand the risk and manage it.

My third hope for this meeting is that it may help to get a group of European companies and European subsidiaries of companies together to start an initiative in Europe to set up a series of experiments. Experiments in organizational learning. And that we will be willing to allow others to look into our own shops.

And my fourth hope for this meeting is that it may plant the seeds for the European members of the international alliance of learning centres that Peter Senge and I have been talking about since the very beginning.

The idea behind it is the following. Yes, we know already a little bit about institutional learning. Yes, we know a few tricks. Yes, the MIT learning centre already has a number of `sponsors', that have access to those tricks.

But the original idea of setting up the organizational learning centre was that we really did not know about the subject. We needed -and we still need- serious, high quality research. We need people in the tranquility of the academic environment to take the time to think, to take the time to set up experiments together with business. So we need learning centres.

Learning centres are about learning. Naively, a number of years ago I thought that fact could possibly interest universities; I thought universities were about learning....!

Now, I believe that especialy business schools are in real need of some new thinking. Business schools are open to an increasing competition, in Europe probably even more so than in the States. Until very recently national students went to national business schools. A united Europe means that a top student in France is looking around and chooses between, let's say, Insead or London Business School or maybe Nijenrode or a German business school.

Business schools in Europe are wide open to a competition they are not used to. We all know then a virtuous circle starts: if you're a good business school, you get good students; if you get good students, you get good faculty, if you.... etcetera. There is a direct feedback loop at play here.

However, in business schools the last renewal in their educational methodology took place 50 years ago: the introduction of case studies. The school that took the risk and put that on its agenda is still ahead in the competitive game: Harvard.

My case is that it is time for a methodological renewal of educational methods. The international alliance we have in mind, opens the opportunity for universities to be in the game in which, in partnerships, research is done about new learning methodologies. The results are available to both the business partner and the academic partner.

The idea of the international alliance is: let's try to get five or six academic centres that are prepared to take the risk of setting up academic research centres in partnership with a circle of business partners.

Last year we had a meeting of two days at MIT about how we should go about this sort of expansion. The obvious option is to make clones. What until then we had seen happening in practice was that some professor, somewhere, would write MIT or the Sloan School, saying

"...we are terribly interested in learning. Tell us how to do it and send us a few people and we will start a learning centre..".

To cut short the two day discussion, the final conclusion of that meeting was that MIT will no longer do anything of the kind. It will look for academic partners that make it. Those that generate the energy to set up a serious research centre out of their own volition.

The next question MIT will ask is whether the new centre will have something to contribute. And I think that is the right sort of attitude towards cooperation.

So, my hope for this gathering is that we are able to plant a few seeds that will possibly germinate in some European academic institutions.

Now it would be miracle if even one, let alone more, of these four wishes would come out. I am not going to give away which is the one that I would give priority, because here is something that we ought to be talking about together, if that at least is what we want to do.

Now, you have been a great audience. Thank you very much for listening to what I wanted to say.

Conversations With Leif Edvinsson

Perspectives on Intangibles and Intellectual Capital

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Editor's note: This is a synthesis of the "Conversations with Leif Edvinsson" held in June, 2001 as part of the AOK STAR SERIES. Each month one of our four discussion groups enjoys the visit of a KM luminary as guest moderator. During the course of 11 months, the STAR SERIES will have delivered the best "conference" of the year to the desktops of AOK members around the world for a fraction of the cost of a physical conference and with the convenience of continuous education that is at the right place at the right time.

Introduction of Leif Edvinsson

Jerry Ash, AOK chief executive: I hope others are as aware as I of the unique opportunity we have over the next two weeks to exchange experiences, ideas, knowledge, and the need to know and learn with one of the founding fathers of the KM movement - Leif Edvinsson.

Five years ago when I first began to research the impact of the Digital Age on the way we work, I discovered the KM movement, its quest for credibility in a skeptical bottom-line world, and Leif Edvinsson all at the same time. It was a fortunate combination. Leif's impact on me was no different than it surely had to have been on hundreds of other KM neophytes who scoured the Internet and the bookstores for wisdom about managing the knowledge asset.

That was "distant learning" of the most remote kind. Leif taught by example while working at what Fortune magazine called "the world's first CKO job." The story came to me through mass communication and second hand reports. I learned what I could, but I had no opportunity to engage in the dynamics of interactive thought and communication with this icon of knowledge professionals. Now, for the next two weeks, together with the members of the KA CoP, I have the unique opportunity to think with one of the world's best thought leaders on converting the elusiveness of tacit knowledge into bankable intellectual capital.

If that sounds like more rhetoric, stay tuned. Leif Edvinsson was stepping beyond rhetoric to reality while the KM movement was in its infancy. The "world's first annual report on intellectual capital" at Skandia was not just another meaningless PR piece about "our people, our most important asset." It was part of a larger initiative to put a real value on the IC of Skandia and to report it to the stockholders just as the financial assets had always been. For more about Leif:

http://www.unic.net

With such a background, Leif Edvinsson's Perspectives on Intangibles and Intellectual Capital, which he has shared with us as a background think piece in preparation for these "Conversations with Leif Edvinsson" is a must read. Go there now and then return for my initial follow-up questions on the Skandia experience and Leif's response.

Come back often over the next two weeks and please - don't be backward about engaging in the conversation. Members at all stages of KM development are welcome here. I surely wish there had been an AOK five years ago when I was first struggling to understand the complex issues of a whole new way of doing business.

Leif, on behalf of the members of the Association of Knowledgework, we want you to know we respect the value of your time and knowledge and thank you for the giving of it.

Outcomes of the Skandia KM Initiative

Jerry Ash: Thanks again, Leif, for being here.

In my welcoming remarks I recalled the exceptional effort you made at Skandia several years ago to raise the awareness of Intellectual Capital to your stockholders. And, I noted that it was more than a slick addendum to the annual report; that it was part of an overall initiative to put a value on tacit as well as explicit knowledge.

Now, I don't mean for you to get into a long rehash of the initiative, except perhaps an overview as a foundation to the answer to this question:

Five years later, what has been the outcome of that initiative? Major lessons learned? From successes? From mistakes? Yes, even from failures? If you had it to do over again . . . ? Or what did you do over again?

Oh my goodness, Leif. I realize that could fill the whole two weeks. Just pick a point you think will best get the "Conversations with Leif Edvinsson" off to a good start.

Leif Edvinsson: First of all, thanks for the kind introduction.

It has been 10 years since I was appointed the world's first director of Intellectual Capital at Skandia. And now I have been also appointed the world's first professor of IC at the University of Lund (here in Sweden).

Right now I am trying to summarize my 10 years with the IC movement and wave. It will be put on my web site in late August this year.

But here are a few aspects or reflections:

- IC is about future earnings potential, i.e., a 180 degree shift of perspective.

- IC reporting is about (building) trust on future prospects.

- IC accounting is about the future put into numbers and narratives, i.e., future accounting instead of historical cost accounting.

- accounting is the knowledge nerve system of an enterprise, and therefore the world's first CKO might (actually) have been an accountant in the 1490's in Italy.

- a lot of learnings have emerged. But what is more interesting is that the movement is on its way, with hundreds of companies in Europe following the Danish government, putting together guidelines and recommendations; the SEC is doing the same; the European Commission is funding an EU project called Meritum on the subject, etc. So tentatively in some years down the road we will have supplementary reports on IC and intangibles that today stand for most of the investments in modern economies.

How Can We Capture What We Know but Cannot Tell?

Denham Grey, CEO, Grey Matter Inc.: Greetings Leif. Thanks for being with us and for the opportunity to share your experiences. I would like to jump right in and ask about tacit knowledge.

We read and hear about tacit knowledge all the time, how it is the most valuable intangible resource that companies have, how we now have tools to capture and make tacit knowledge explicit and more.

If you accept the description of tacit knowledge as "what you know but cannot tell", how can we even begin to capture this stuff let alone allocate a fair value to tacit knowledge? Just to get terminology straight, let me say I do recognize the value and the feasibility of gathering, extracting and sharing 'implicit' knowledge, but I regard this (implicit knowledge) as something different from true tacit knowledge, as it can be verbalized, explained and even modeled in a qualitative fashion.

I'm very interested to hear where you sit on this one.

Storytelling Useful for Communicating Knowledge Assets

Leif Edvinsson: Tacit knowledge is what makes an expert an expert. It is the backbone of insights that, when applied, creates value added. Ikujiro Nonaka - author of The Knowledge-Creating Company - has a very good model on the balancing between tacit and explicit knowledge as well as the other dimensions of internal versus externalizing.

Implicit knowledge is another twist to it. Tacit knowledge can be shared by story telling, which is possible to read about through narrative pioneers such as Steve Denning as well as from Dave Snowdon, IBM. In my work at Skandia we tried to put those narratives into our supplementary IC report, together with some spicing indicators and numbers. So in essence tacit knowledge becomes more visible and thereby shareable.

Catapulting Thoughts on IC for the Next 10 Years

Debra Amidon, ENTOVATION International: Welcome to the AOK Star Series! I believe that many of the participants already know that you are featured on our Global Knowledge Leadership Map; and Jerry Ash will soon join the group as the ENTOVATION 100!

There are so many topics we could query with our precious time with you. Your contributions to the knowledge field have been numerous, such as the Skandia Future Center, the annual report Supplements, the language of the evolving economy; but for me your vision of the future has been most profound. And so as you reflect upon the progress of the last decade, catapult your thoughts forward to what you envision might happen in the next 10 years - especially in terms of Knowledge Economics (which I understand is your specialty with the University of Lund).

I am particularly interested in the prospects for developing the IC Reports for national economies - a topic we featured in a recent I3 Update/ENTOVATION News article (http://www.entovation.com/whatsnew/ic-nations.htm).

Looking forward to your timely insights.

Greater Intangible Asset and IC Appreciation in the Future

Leif Edvinsson: Hello Debra and other IC Friends, I appreciate very much your interest and

very kind words.

Being a knowledge entrepreneur on the subject, I also appreciate very much the challenging questions that will stretch my mind. Debra's question is of that type.

I do think we will see much more of Intangible Asset and IC appreciation during the forthcoming 10 years. The big waves are now emerging with SEC, IASB, EU, banks, universities, media, political organisations and institutional investors. So the awareness level is growing. The insight level is still behind.

There are some key areas that will be highlighted, among others:

- mind shift to see the organisation less as a machine with people as raw material, and more as an organic and biological cell, or even bacteria, mutating faster than the response time of traditional competitors

- the business on oneself, or i-commerce instead of employeeship, challenging the old concept of the firm

- knowledge care instead of knowledge management, as a new leadership paradigm

- organisational innovations to offer springboards for individual talents

- a tremendous quest for more rapid learning, knowledge sharing and innovations, both for individuals, organisations and societies

- knowledge automation and knowledge technologies to reduce lead time for knowledge evolution and knowledge sharing

- C ergonomics in a search for a better work context for knowledge workers, both within the firm as well as in the shape of new urban design and city planning

- rating, reporting and assessment of IC will become a standard grammar to create wealth out of the tremendous global intangible investment

On a society level, this will be extremely challenging for the USA and Europe, with around 4-5 percent each of the global talent and brain potential of today. How will these brains be working smart enough to create wealth and intellectual capital output to sustain the wealth and society of tomorrow. Therefore, it is essential already today to look for assessing IC potential, or IC in waiting, to be tapped, by social entrepreneurship, not only in organisations but whole regions and nations. Such reports that we started to prototype in IC of Sweden some 5 years ago.

Those are some illuminating early observations that will be refined during the years to come.

Skandia Future Center Sets a New Standard

Debra Amidon: Thanks, Leif. As usual, you have provided considerable food for thought. I love looking into your crystal ball!

I'm wondering if you would comment on another pet topic of yours - The Skandia Future Center in Vaxholm. With your progressive concept of integrating all the senses to envision the future, you set a new standard for executive conference/retreat centers. We wrote about the

center in one of our newsletters. In fact, I encourage others to get a copy of the publication written by Ingrid Tidhult - "Memories from the Future"! I can still remember our first workshop there when the paint was not even dry on the building!

Anyway, perhaps you can comment on your aspirations for the Centre, rationale for its existence and your reflections on what's actually happened as a result - both the expected and unexpected?! Tell us what you can about plans for future centers in various parts of the world . . . and if/how you plan to network their activities.

IC About Future Earnings from Human Perspective

Jack Vinson, Knowledge Manager at Pharmacia: Leif, thank you for joining our ongoing conversations at AOK. While this discussion forum is for Knowledge Architects, I am sure the conversation will range outside the boundaries. I have been reading a variety of articles and books that bring together your ideas on IC with the idea of knowledge audits or knowledge maps and ideas around innovation. As a result, it is a nice coincidence to have you as this month's Star.

If we believe John Seely Brown; that it is just as important to reinvent the process of innovation as to have innovations themselves, how does one place value on companies that seem to have a better "meta-innovation" process? How does a company claim to have competitive advantage in this arena? Or is the idea of valuing a company based on its ability to rethink how it innovates too abstract in terms of return on investment? What are your thoughts, Leif?

Innovation Involves Rule Breaking

Leif Edvinsson: Excellent reflection. I do think there is a core in this reflection that is very much in line with IC and what I have been working on in Skandia, and still does (apply) outside Skandia.

IC is about future earnings capabilities with a human perspective, i.e., a living flow, or capability for sustainability. A mental shift from focus on the past harvesting capabilities to future cultivation. This demands a focus on innovation capabilities, that is about continuous renewal. Just think about your body, and you will consider the ongoing cell process in your various parts of the body. Without this process of renewal, there is no life. The same goes for organisations. Consequently it is important both to focus this and to visualize to stakeholders the renewal indicators.

The other dimension is that renewal contains innovations, or mutation, i.e., a kind of breaking out of the box - "rule breaking" according to Gary Hamel. So how do we invite and nourish this rule breaking in an organisation. It becomes a kind of schizophrenic leadership, both to focus the ongoing business as well as breaking out into new dimensions, and the second curve dimensions. Another concept for this is chaordic, according to Dee W. Hock, founder of VISA. See:

http://www.chaordic.org

Therefore I fully agree that we must quest for new ways of innovation. We started our Skandia Future Center which was to focus on shaping an arena for prototyping and innovating the organisational capital dimensions of IC. As you know my theme is that organisational capital and structural capital are springboards for the human talent. So, therefore, the innovation processes should focus not only new services, but also new

organisational formats.

Knowledge Ergonomics for New Organizational Formats

In that (new organizational formats) knowledge architects will have another important role around IC ergonomics, i.e., the working context innovations for knowledge workers. Therefore we tested different kinds of room shape, furniture, materials, knowledge technologies, sound, colors, smell, light, as well as locations. On of the learnings is that a kitchen is more nourishing for knowledge exchange than a board room. Another is that the IC ergonomics might have a strong impact either to shape or prevent burn out and brain stress.

In that learning emerged, another insight is that burn outs and brain stress are leading to a tunnel perspective of the victim, i.e narrowing the perspectives and therefore reducing the mental space for innovation.

So back to your questions:

- innovation capabilities, or even better, meta innovation capabilities, implies a better future earnings capabilities, that could and should be included in the future financial flow analyses. To do that the organisation has to reveal and show indicators of the process. Those become proxies for the processes behind. That is what we showed in the Skandia Navigator, and is described in my book "Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower."

- the competitive advantage is the sustainability earnings capabilities, i.e., the edge versus tomorrow, or the generic little window of information advantage that is the essence of business to be traded for some value exchange.

- this is somewhat abstract for traditional financial analyses. But innovation is the essence why R&D intensive companies, such as pharmaceutical companies, are valued higher on the NY stock exchange, due to its capabilities to shape knowledge capital/intellectual capital. Something that professor Baruch Lev, Stern University, New York has been financially calculating and reported in among others various business magazines, as "The smart companies of the USA".

So what I advocate is both innovate the innovation process per see, the value of it, as a sub-component and driver for IC, and also the visualization and communication of these very hidden, tacit processes to the various stakeholders, including shareholders. It is, among other things, more fun and attractive to work in innovative companies.

What do you think?

Is There a Definable Line between Software and Wetware Solutions?

Paul Cripwell, J.P. Cripwell Associates, Ontario, Canada: As I have been reading the latest messages I have the following comments leading to a question.

Throughout the KM/IC industry I am seeing a large number of companies that are creating software solutions and then marketing them. Most profess to have created a wonderful solution to a perplexing problem in management, CRM, KM or whatever.

Looking back over the past decades, in fact, the software industry has pushed into many

markets and industries where they have never been, seeking to create the ultimate program or "killer app". These past years could be labeled as a trend from hardware to software.

What is happening now in the KM area in particular, is a push of the software industry into the wetware world. (Wetware meaning people.) Creating intricate process and decision tools may be a good area for software development but at some stage you need a person.

My questions to you, and other listeners:

Is there a definable line between software solutions and wetware solutions? Will we be depending too much on "processed" solutions (form software) and less on "created" solutions (from wetware)?

Joe Katzman, C.A.T. Consulting, Toronto, Canada: In response to Paul Cripwell's question, that's a possible danger, but it need not be so. Ideally, the software's distribution and sharing capabilities simply provide a channel and possibly a structure for the wetware.

For instance, I'm currently doing work with a large manufacturer around its e-procurement processes. We're using a software tool that helps us capture information about business processes and how to execute them successfully. It then automatically publishes the results as Visio flowcharts and even as a web site with attachments and hyperlinks (in this case, some of those hyperlinks are into working SAP screens etc., so that people can read about it and then Just Do It).

Is the tool great? We like it. The common structure it brings to discussions about processes is nice. The way it helps people to see the holes in their current thinking and have more intelligent conversations about what they do is significant. But as our client noted in the review at the end of the last session, the tool depends heavily on good facilitation - even requires it. This didn't come as a huge surprise to us, it's something we've seen in other deployments too. It becomes even more important later as you take the results to people in other areas who have created solutions of their own, and you have to work through normalizing best practices. Plus, new ideas and improvements will continue to happen afterward - so the tool must be maintainable and changes have to be easy. If the front line cannot maintain it themselves, or their managers cannot, then forget it.

So is this software? Or wetware? It's both - as it always is. But there are certain parameters to meet in that relationship if you want a solution that is likely to create success.

Transferring Insights and Experience Known as Backbone Knowledge

Leif Edvinsson: I do appreciate your insights on the deeper dimension of tacit knowledge issues. That is why I once formed Skandia Future Center to experiment, prototype and develop context for knowledge evolution or knowledge navigation, as I call this, i.e., how to explore what we do not know that we do not know; while, KM is more about what we know that we know.

To transfer tacit insights and experiences is also the old so-called backbone knowledge; that is, knowledge such as that used by professional pilots, surgeons and others when there is no time for reflection, just acting. This is also what the old German apprenticeship and master training system is about.

Ikujiro Nonaka, "The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation" tried to put a theory around this that is very good - how to go from

tacit to explicit inward and outward. What is the real challenge is to go from explicit knowledge back to tacit again.

This is also a dimension referred to in a book reference from one of my former colleagues, and actually the first IC controller in the world, from a chatboard on IC at Skandia. (Note: full text is included below).

As you point out, it is not about numbers per se, but it is about context. It might be called shaping the IC ergonomics for knowledge flow. A fluid context. There, one of our insights is that knowledge flows more easily in a kitchen then in a boardroom. So conditions are very important. Numbers are serving two purposes; to give conversations platform and, secondly, to give navigation information that there is a flow, i.e., movement that is hopefully forward, so the situation is not eroding and is moving with the right speed.

To illustrate with a question: Are you upgrading your insight in the right direction with the right speed? Our Skandia IC Navigator serves this purpose - individual purpose, as well as organisational purpose. A new type of accounting goes beyond historical cost accounting and rather, provides knowledge navigation accounting for future earnings potential.

Skandia Chatboard: The Perfect Boss

For 25 years, Gallup has performed the largest ever survey of what distinguishes a good manager and thereby a good company from a bad one. More than 1 billion employees in different companies and industries have been interviewed. The persons interviewed were asked to say what made them confident at work and what made them do their best at work. One common denominator was how visible they were to their closest manager, if they were encouraged, if they were given training and so on.

Gallup found that it is the psychological environment that decides if people do their best, i.e., it is not related to salary, pension, conditions etc. Successful managers realise that each person is unique and you have to capitalise on each individual talent. They help each person to be more of what he already is. Employees should not be compartmentalized and controlled down to the smallest detail. Instead, try to create involvement, give people responsibility, encourage them and teach them. This is described in a new management book by Marcus Buckingham and Curt Coffman named "First, Break All the Rules."

Roles of Tools and Processes

Jack Vinson: There has been an interesting discussion at Brint regarding the purpose of Knowledge Management. One aspect of the argument has to do with the question of why companies think about knowledge management at all. Is KM strictly something companies "do" because it helps them make money? Is KM something that companies feel give them competitive advantage - but how long will that last? Does the organization simply know that KM will bring something new to the organizational toolbox from which they can build the next generation of their business?

So my question / comment isn't so much about measuring the value of Knowledge Management per se. Instead, I wonder about any tool that the organization holds. How do organizations value these tools? What value do organizations place on activities/tools that do not have a clear impact on the bottom line? (What if the company isn't so worried about the bottom line?)

This starts to get at the heart of your Structural and Organizational Capital, does it not? Some

companies simply do a better job of developing the right set of tools to fuel their future growth. Ideally, they will get the nod of the markets with higher stock prices.

Three Dimensions to IT Usage

Leif Edvinsson: A very interesting aspect of KM is the usage of IT. Here are some reflections:

- The first dimensions is about effectiveness of knowledge, and improved decision making. There is a huge definite need to go for more knowledge automation, as the industrial evolution shows, to speed up process time. We are better served by weather radar instead of bellmen and search tools instead of librarians. So what we see is how professional decision rules are codified into knowledge technology tools, that will make insights transferable and possible to share with others.

- The second dimension is about efficiency, and value creation. There the sharing dimension, will make it possible to reach the multiplier effect of knowledge recipes, and this is almost endless. That is what Professor Paul Romer, Stanford, is calling the wetware multiplier effect of the knowledge economy.

- The third dimension is how to do that so we do not loose the creative synapse capabilities of the brain. One illustration of this is what Tony Buzan is trying to offer with a computerized mind map system.

There is much more combined brain research and KT-knowledge technology research to be done, but the process approach do still seems to be too linear to be creative.

So let us nourish more creative software solutions.

Use Knowledge for Innovation, Not Reinvention

Debra Amidon: It is wonderful to see the conversation shift significantly to a discussion about innovation. We have seen this happening in most of the knowledge communities. Innovation is no longer the domain of R&D! And here - with all due respect to John Seeley Brown, why would we want to 'reinvent' anything?! This is part of the problem, we do not take advantage of the learnings and insights of one another to build upon our collective knowledge.

Leif's comments are right on target. The agenda has been to 'innovate the process of innovation!'

Prior to 1987, most of the innovation writings were a function of defining the process according to the 'flow of technology.' With the 1987 Roundtable on Managing the Knowledge Assets into the 21st Century, the process was reviewed according to the flow of knowledge and the inherent learning therein. It was illustrated that knowledge could come from anywhere - both inside and external to the enterprise. Arie DeGues and Ray Stata subsequently wrote about "learning as the competitive weapon" in the Harvard Business Review and the Sloan Management Review respectively.

Further, now there are numerous books on the topic that address this new innovation landscape. For those who would like to investigate further, check the AOK pages that document our innovation conversation a few months ago and visit the Web page for several definitions of innovation as food for thought. We've actually collected 40+ if you need more.

We now know that innovation - properly (re)defined - may be the 21st Century management

weapon to build collaborative advantage. In fact, success may no longer be just a function of best practices! In other words, innovate with strategic business partners (e.g., suppliers, distributors, strategic alliances, investors, customers, et al) faster than the competition to create the industry standards to emulate.

Leif Edvinsson: Brilliant Knowledge Navigation from both you. As you say the heart or edge for the future is in the space between Structural Capital and Human Capital. I do think that the leadership focus has to much more be moving from "what we know that we know" to "what we do not know that we do not know," i.e., knowledge navigation or knowledge innovation. A shift from the Librarian approach to an Exploration of the unknown. This takes a cultural shift of the mind, to have courage as immigrants into the future. See more about the excellent work on innovation dimensions pioneered by Debra Amidon. She was the first one to put the knowledge focus under the rubric of innovation - and has been a Global Innovation Strategist since 1989, even had a Knowledge Exchange staff in 1982. Together we started to look into the innovation assessment and process development at the Skandia Future Center.

In Skandia we shaped Future Teams consisting of different age, different cultural background and professions. So we can see a Future Center as a tool for this knowledge navigation. And the value of the innovation tools is the opportunity lost, i.e., the cost of not exploring the opportunity, taking that market position, etc. Therefore traditional cost accounting has to be supplemented with other numbers that are much more lateral in their core.

The only way to move into the future is to put money, time and efforts on intangibles or intellectual capital. Therefore the R&D intensive companies are assessed by Baruch Lev to shape a lot of knowledge capital. But how close to the opportunity cost are they; can the knowledge recipes be leveraged even further, beyond the rather narrow Intellectual Property perspectives. Gordon Petrash, pioneered that at Dow Chemical.

Wrap Up - A 10 Year Journey for Skandia and the World

Leif Edvinsson: Appointed as the world's first director of IC in 1991, I have been on this knowledge journey of intangibles, for more than 10 years. It is now very stimulating, being addressed as the "grandfather of IC," to participate in various meetings - virtual as this one at AOK, or in face to face meetings - to cultivate the insights even further. A lot of learning has emerged. But what is more important is the learning movement around intangibles.

What has been the outcome for Skandia, you have asked? I am still summarizing the learning perspectives, but here are some tangible illustrations of direct or indirect effects of the IC process:

- Transformation of the Nordic insurance enterprise into a global innovative financial service company.

- IC accounting was prototyped internally in real terms and IC reporting became public in 1995.
    - The board of directors was given new and deeper insight about internal intangibles and their potential.
    - The hidden values became more appreciated and the market cap/shareholder value increased 100 times.

- Made revenue more sustainable based on structural capital and globalization of knowledge recipes.

- The organization became more attractive to customers, alliances, investors and people.

- Skandia Future Center opened as an arena for prototyping organizational innovations.

- Recognized as the Most Admired Knowledge Enterprise in the world both 1999 and 2001.

- Put on top 20 list of Most Admired Knowledge Leaders in the world 1999.

- Became global benchmark learning organization for intellectual capital and innovations.

I was appointed in April 2001 with a professorship chair on Intellectual Capital at the University of Lund, Sweden. One of the most important insights for the future, as well as effects at Skandia, is the IC multiplier dimension, showing how human capital can be multiplied by structural capital, increasing the sustainability, reducing volatility of earning and showing potential of organizational capital. An article on the subject can be read at http://www.intellectualcapital.se/

IC is the multiplier effect into the future as an exponential. Knowledge capital gives organizations the capabilities to be innovative and to transform intangibles into wealth.

It is the responsibility of a leader for any organization to fill in the gap between the existing IC multiplier ratio and the potential ratio. Leaders must then address the infrastructure of knowledge technologies for increased knowledge automation as well as the design of workspace for knowledge workers for released knowledge innovations and increased value generation of the human talent and brain potential. This will involve how to shape cultivating context for knowledge to migrate, highlighting the importance of innovations of the organizational capital, such as we did in the Skandia Future Center, and now are doing in Future Center International. The old organisational arena for knowledge exchange was the firm or the corporation, where you were employed and traded on your knowledge for a salary and career. The arena of tomorrow is increasingly the knowledge exchanges on the Internet, such as http://www.knexa.com/

As the IC wave now is spreading to FASB, SEC, IASB, EU and other institutions for regulatory evolution, as well as universities for new curriculums I am looking forward to the increased measurement, reporting and appreciation of the global wealth creation of intellectual capital.

The challenge ahead is to shape a new theory of the firm, beyond the industrial paradigm, for the intangible value creation. As the value creation in the knowledge society lies in shaping new ideas and continuous innovations, exchange information globally and interacting speedily through networks and experiential deliveries, the new economic sphere is outside the firm. It is much more like a biological and organic metaphor as a nerve system with energy flows, and cells splitting, mutating and evolving. It is about intelligent enterprising: life, renewal, and movement.

Best wishes for the future.

Thank You for the Wisdom of an IC "Grandfather"

Jerry Ash: Leif, on behalf of the members of AOK, please know that we are both honoured and enriched by the wisdom you have brought as a an IC "old timer." It is amazing to think that in just 10 short years the knowledge movement could "age" you so. The knowledge movement is flying at warp speed and those who were there from the beginning are now the "grand old men and women" of the field.

But the beauty of this "aging process," is that (unlike the biological process) we grow and learn and become more vital with every passing moment. If you are a "grandfather," Leif, you are a young one focused not on the past or the accomplishments but on the future. It took me two weeks to get you to finally share with us the success of the Skandia story.

For those AOK members who are in the early years of their own metamorphosis, the Edvinsson/Skandia story has to be an inspiration.

I'm always sad when the tenure of a "star" has ended, even though - like all the others - Leif has chosen to remain with us as an AOK member. So, Leif, it isn't goodbye - it is "Hello. Welcome to AOK." Please continue to be one of our most valued members by engaging in conversations with the core group in the interactive discussions among themselves and with other "stars" to come - Carl Frappaolo, July 16-27; Nick Bontis in August; David Weinberger in September; and David Skyrme in October.

Thank you, Leif.