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Japanese Chi : Edge of Evolution

Part 1

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The Knowledge Forum 2005 Timetable

March 18, Friday, 2005 (Draft)		
09:30- 9:45	Registration Reception	
09:50-10:15	Opening Ceremony	Welcome Speech & Introduction of KMSJ Hisaya Nara, Chairman of KMSJ, Adviser Director of Mitsubishi Research Institute Congratulatory Address Mitsuhiro Kayama, Undersecretary, Ministry of Public Management, Home Affairs, Posts and Telecommunications Opening Remarks of The Knowledge Forum Tomohiro (Tom) Takanashi, Dr. Executive Vice President KMSJ
10:20-11:00	Special Lecture	The Japanese Institute of Anatolian Archeology His Imperial Highness Prince Tomohito of Mikasa
11:05-11:45	Keynote Address I Ikujiro Nonaka Dr.	Concept of Chi (Knowledge) Professor Emeritus of Hitotsubashi University
11:55-12:35	Keynote Address II Takeo Fnkui	Honda Way,Succession of knowledge DNA President of Honda Motor Co.,Ltd.
12:35-13:35	Lunch	
13:35-14:15	Keynote Address III Robert H.Buckman,Dr.	Building Knowledge Driven Organization Chairman of the Executive Committee of Bulab Holdings, Inc. (Buckman Laboratories)
14:20-15:00	Keynote Address IV Leif Edvinsson,Dr.	Intellectual Capital CEO of Universal Networking Intellectual Capital
15:05-15:45	Keynote Address V Naohiko Jinno, Dr.	Looking for Economics of Human Dean Graduate School of Economics Tokyo University
15:45-16:15	Networkng Break	
16:15-16:55	Keynote Address VI Peter Salovey, Dr.	Emotional Intelligence Dean of Yale College
17:00-17:40	Keynote Address Vll Matsutaro Morita	Origin of Chi in the West and Japan President of KMSJ
17:45-18:15	MAKE-Japan Presentation Ceremony and about MAKE Rory Chase	Managing Director of Teleos
18:15-18:30	Moving	
18:30-19:30	Welcoming Reception, Party Kimio Agata	TKF Committee Chairman

Special Lecture

The Japanese Institute of Anatorian Archeology

His Imperial Highness Prince Tomohito of MIKASA

What I would be discussing today is the Japanese Institute of Anatolian archeology. Some of you may know, but my father is a historian, and he has studied ancient history of the orient Mesopotamian where civilization has supposed to have started. Since the war, he has been a historian of the Middle East. About 30 years ago, he has set up in Mitaka the Middle Eastern Culture Center of Japan, basically studying Turkey and Egypt. Now, the center is dedicated and focused in conducting excavation in Turkey, and they have been doing that for the last 20 years. I believe it was in 1997 that a site, Comonholehoyuq, was selected which is really at the cross roads, and it is located in the Chafrika Village in Anatolia. It is a cross roads of eastern and western civilizations. The site was chosen at that time, that is the Commonholehoyuq historical sites, ruins. You see the green on the verge. If you have green that is water. Of course, we cannot live without water. From ancient times, this was a very rich piece of land with plenty of water. Why is it raised in Jomon and in Yayoi sites in Japan? We build homes in paper and in wood and from Hokkaido to Okinawa, north and south of the archipelago. We have plenty of water, so we could live everywhere. Middle East is basically a dessert, so people lived around oasis where the water was. To build homes, they had to use bricks and stones. So if you had an A ethnic group who lived here, the B group would attack them and killed them and send them out, so their buildings were destroyed. But of course, the other latecomers would use the bricks and stones to build again. So after centuries, you have the rise and fall of many empires. If they had water everyavhere, maybe the sites might have been a threat, but because this was a choice site where water was, they kept building on top of that. So there were two huge gates on both ends. It was rather a large city. The small one would be like cross-shaped. There is a 10-meter square frame that has been blocked, and they are excavating layer after layer. They use the brush which is a very delicate work trying to analyze history. This is about 4,500 years ago when they have dug that deep. There is all together a history of 8,000 years still undiscovered in this. This is the cross section of Commoncolehoyuq, perhaps not very visible from behind. The green layer on the bottom is the Stone Age (8,000 years ago or 7,000 years ago) . The next layer, people used bronze. After Bronze Age, humans learned to use iron, so that is about 3,200 to 2,000 years. The yellow layer is the famous Ottoman Empire period. That is about 500 to 80 years ago. The Kemal Pasha, Artichoke is another name, the famous general wanted to destroy the feudal state and create modern Turkey. That was 80 years ago. At this Commoncolehoyuq site,

they started excavating the Ottoman Empire period. It was a huge empire, so they were able to excavate many artifacts. They would study each one. They would be labeled and preserved so that other people can visit. Gradually, they would dig layers below the Ottoman Empire, 1,000-1,500 years before that. This was at the northern end. At the southern end, the same digging is done and they compare whether or not they are the same. Sachihiro Ohmura, who is 59 and comes from Iwate, studied History at Waseda University. He is very capable leader of the excavation team. There are many people in the audience who pioneered archeology in Austria, England, and France. They were the pioneers of archeology. They ave been involved in excavation for the last 150 years trying to write world history. Our children learn in primary school, secondary school, and higher education. When they study world history and look at the dates, that is the result of their work starting from the Stone Age, New Stone Age, Bronze Age, etc. That is the product of their study done in Europe. For 30 years, Mr. Ohmura joined other pioneering excavation groups. He learned how to do that. He realized that the world history we knew was just too rough and the chronological order was missing something. He thought that one day he is going to dig himself to elucidate the missing details of world history. 20 odd years ago, he met my father who was the president of the Middle Eastern Cultural Center of Japan. My father instructed him to be the chief of the excavation team. My father was going to send him to Anatolia that gave him the ticket to do exactly what he wanted to do - to review world history and to rewrite world history himself by excavating. If you go to China, there is Tombu civilization. If you go to Latin America you have the Maya civilization. Of course, Encore Watt is very famous. Another famous site is Egypt, you know too well. But why Anatolia and why Turkey? In the ancient times, this was the cross roads of the civilization coming from the north, the south, the east, the west. From the east to the Silk Road, people traveled through Anatolia to trade in Europe. Merchants from Europe wanted to go to China, but they had to go through Anatolia. Iran, Iraq, Syria, countries that lie south of this part would go through Anatolia to go north to eastern central Europe. The Russians would also pass here. In Tokyo it would be 4 chome, the number 4 block of Ginza. That is really where people cross to go anywhere. Just because this was the site of the cross rods, right in the center, that is where we are digging. You come across many artifacts, China from Min period, Alexander treasures, and those cultural assets that have been used by many people. But beyond this green belt, you can dig but cannot find any-thing. This is where all the artifacts can be found. They come from the east, they come from the west, north and south. When this site was chosen, the professor Tafching Ozugeche who was the president of the Turkish University helped us. He is now researching. He is digging for 50 years where the Hittides lived. He is as same age as my father that is 89. Two days or three days a week every week, he goes to the site. He is there in Quiltac. He has no time and no money. If he had more years, he would have more funds. He would have loved to dig the Commonanohoyuq, because that is the cross roads of civilization. He shared his dream with my father. The professor's students were members of the excavation team that was sent by

the Middle Eastern Cultural Center of Japan. I do not think that western professors would tell your students they are students, but he is Asian after all. He gave his dream to the Japanese team so that the Japanese team would, on his behalf, realize that dream. They chose this because if you were digging in Egypt such as the King's coffin, many of them are being excavated now. According to what my father says, for very many years the advanced country's excavation team has been sponsored by museums and art museums. Today, many government and countries are supporting these excavation efforts, but not in the old days. It was the British museum, Hermitage, who was one of the sponsors of the large excavation efforts and wealthy persons would if you could dig something to be displayed. Nobody would dig to rewrite history. Small little things that might be meaningitil to rewrite world history would not be interesting, so it has to be a huge emerald bearing knives something that could be excavated. That would be what the western excavation team would be looking for. It is treasure hunt. Maybe it is going too far. Of course, the Middle Eastern Culture Center of Japan has an exhibition, but they were not digging for treasure hunt. They wanted to revisit and rewrite world history. They dug vertically so that they could elucidate every chronologi-cal layer. In the very near future, I think in the Japanese excavating team is going to send a message saying that 8,000 year this was how the world was, the Ottoman Empire contributed this, we would have a vertical record of human footprint in the world history. I hope you can look forward to that, too.

Another thing that I am very much looking forward to is on the top here where we have the Iron Age, which is the violet colored area, as I have been saying before in Japan, after World War II, we finally started taking up the academies of archeology. But when we compare that to the United States, Austria, France, or the United Kingdom, they have been in archeology for 200 years or 150 years digging around the world. We looked up to these countries that have more experience. Here is the lron Age, which is from 3,200 to 2,700 years ago. This is said to be the Black Age in the chronology of history. In English it is called the Dark Age. Please consider the Dark Age to be this purple area. As we have been explaining, our team has been carefully digging from the top using sand strainers and brushes following the different ages. We start from the top, so we start from 2,700 and we go down to the 3,000 years. We were discussing that it is maybe the time that we see the Bronze Age, but we dig further and we still do not see it. We believe that is the 450 years of Dark Age we were digging. We fortunately found many ruins that have letters on them. We also found ruins of people using power and wheat and people living here. The western people have been making world history over 200 to 150 years, but because we were trying to recreate this cultural chronology, we were finally able to find some hints as to how we can solve this Dark Age. I cannot feel more encouraged about this finding. As I mentioned, it is lead by Mr. Ohmura, and we have 4 other Japanese who are in the team.

This archeology is almost like a holistic hospital. It is not done by just one professional. You have to have somebody who is a professional in human bodies, a professional in soil, a professional in biology, or somebody who can read letters or clay boards. We have from

many people dispatched from the Tokyo Science University to this digging site. They actually use x-rays to determine the ages. They have to judge the age of soil by looking at the chemical reactions. In the old days, you might visit a home doctor who would be able to cure anything, but today, we go to a general hospital. I personally have had 7 operations for cancer. I visited the cancer center in Japan. There, it is segmented - for those people who need chemotherapy, those people who need operations, people who are in different parts of the body urology. It is all divided. If you need different types of testing such as cardiovascular or electro gram, you go to the different sections of the hospital. This applies to this digging site as well. You might be very much surprised, but you will find various different specialists and people who work as a team to find out the accurate time in history. You might find a clay board one day, but you will not be able to find exactly how old it is right away. It is not that simple. Now Japan is taking the initiative, and there are people from 17 different countries who are jointly researching in this Commoncolehoyuq area. Through the works of these people, I believe we will soon be reporting a new history or new cultural chronology. I also strongly believe that we will be solving the mystery of the Dark Age. My father is involved in this area, and as the eldest son in the family, I had been looking up to my father thinking that I would never be like him. I was not interested in studies or academics at all, but even for somebody like myself who is not an academic person, it is so fascinating to be able to look into world history and new cultural chronology because it is such a great finding that we would be republishing all of our textbooks. I felt as the person from Japan that I must support their work. Over the past few years, I have been working in Japan to raise some funds. Fortunately, we were able to raise 440 million yen. Some of the local government or prefectures were not interested, but 44 out of 50 prefectures gave us some funds. Originally, we had a pre-fabricated building, but we are now going to dismantle with that and will be creating the Anatolian Archeology Study Center. This pre-fabricated building was built in 1985 but through our funding we now have built the basic structure. We are now in the second stage of construction. We have just finished the month of February, and I believe we have closed the contract with the local constructor for its second construction. Currently because of the war in Iraq, there are high oil prices and we are seeing a raise in construction materials as well. The price went up by 40%. Initially, we had a budget for the total construction but it is going to exceed by 100 million yen. To meet this need, we are going to continue our fund raising efforts, and we are going to extend the date of the completion of this building. We will be continuing the research. For those of you who are interested, I would like to welcome all of you to come to the ceremony on the first of October when we will have the launch of the accommodation for the research team. There are various other countries such as the United Kingdom who are active in Turkey. They have their research center in the big cities such as Ancara. From the cities, they commute to sites, but Mr. Ohmura mentions that archeologist's dream is to be able to deal with findings right on the site so there can be documentation made immediately. Therefore, this research center, which was built right next to the site, is the

first in history. In that sense, we are leaving as milestone in world history of archeology. At the same time, this academic center is very international, and I hope that this will be the Mecca or the main center for Anatolian archeological studies. I would like to finish talking about archeology now and I would like to talk about the relationship between Turkey and Japan. When I listen to the reporters making news in Olympics, they say there are 200 countries joining Olympics. I have had an experience in studying in Britain so I have relations with the Japan-British association. I am also active in ski association, but my father is active in Japan and Turkish association so I would support him. There are various associations or friendship associations that we are in charge of or we look after. These are all very important when we think about the diplomacy of Japan, Britain, Turkey, and Northern Europe. They are very important countries, and that is why there are such associations. There is the Japan-Turkish association as well. When we look into the country of Turkey, I think that Turkey is one of the top three countries in the world that is Pro-Japan country. We often say that Hungary and Finland are also pr(>Japan countries, but Turkey is definitely one. In 1887 is when we had the official visitor from Turkey. There was his Imperial Haines Komatsunomiya who first visited Turkey in 1887. Next year, in 1888, the Meiji Emperor offered the sultan of Abdul Hamid, the highest metal or decoration. He sent some traditional Japanese gifts. Because he received these gifts from the Emperor, in 1889, which is 2 years after the first visit of Prince Komatsunomiya, he sent a fighting ship called Atour. He had dispatched the ship to Japan. After a long trip it arrived to Japan and there was the meeting of the Emperor. The Emperor received a metal from Turkey. But for some reason, maybe it was due to mechanical reasons or somebody who was ill, the return date of this ship was delayed one month. This ship left from Yokohama or Yokosuka, and it reached the side shores of Wakayama, there is a shore called Kashiozaki. This area is well known for Its rocky area. This fighting ship, Atour, because there was a typhoon, got stranded in Kashinozaki, and it sank. There were 609 sailors on board. At that time, the fishers of Kashinozaaki went out to do their best to help these 609 people ; however they were able to save only 69 sailors and the rest went down into the sea. This tragic news traveled immediately into Tokyo (Edo). It went into the ears of the Emperor Meiji and it also went into the ears of the prime minister. The institute of Anatolian Archeological Study launched its funding activities last year and it was Initiated by myself, but at that time as well, there were fund raising activities. I think it must be the first of its kind. In the Meiji era, I doubt that there were such activities for fund raising. The government worked, and there were media that was activated. Throughout Japan, there were fund raising activities to support the Eltour ship. Meiji Emperor was extremely hurt about the fact the ship was destroyed by the typhoon. He created or gave funding for his own ship and the 69 sailors were able to go back to the BonnoNafa port in Turkey. This activity touched the hearts of the Turkish people. In 1887 was when the prince first visited Turkey, but actually. I should think that 1889 was the beginning of friendship between Japan and Turkey. There were 100-year celebrations, which took place in Kashiwazaki Port and also in Melsin in

Turkey, which also has a celebration of 100 years of friendship. When I arvived in Turkey and after the celebration, I was asked to sign a huge book, and I wrote my name on it. Looking to the right hand side of this book, there was beautiful water in a flask. There, water and soil. They asked, "please do not be surprised, but this water and soil are from Kashinozaki. We try not to forget the friendship that occurred 100 years ago. Japan is in the Far East, and Turkey is in the Far West. There is the Bosforus Sea and below that is all Asia. I felt that Maybe Asian people have the same think-ing. Soon we are going to have a high school baseball tournament. The teams that lose always take back the soil from the pitch. So maybe the Turkish people did the same. They brought back the soil from Kashinozaki and they still worship it. I think this incident touched the Turkish people greatly. 84 years ago, Kemal Pasha was the first president who created the modern Turkish country. Though they are in an Islamic country, they are not radical Islams. It was very interesting that when there was rustle Japanese war, they were very excited that in a small island nation, people there would fight the large Empire of Russia and defeat it. They adopted 'Togo" which was the name of the admiral as their family name. The protocol officer was called 'Togo" when my father visited There was no Togo" protocol vrsit when I went there, but I dropped into a shoe shop and the shoe shop was called 'Togo". I should have worn the Turkish shoes with Togo on them. Finland also has beer called 'Togo". This is the story of the Turkish people and the Japanese starting with the accident of Atour. Many Turkish families have adopted Japanese names as their family name. Much later, Iran, Iraq, fought each other over many years. Just at that time, I think it was Turkish Airways ; there were some Japanese people who were left over in Teheran. They remembered how the Japanese fishermen had saved the 69 men. So the chairman of Turkish air-ways, of course must have talked with the Turkish government officials, sent a charter flight out of the ordinary schedule. They said that if the Japanese saved the Turkish people from the sea, they would pay back by saving Japanese people via air. I do not know how many hundreds of Japanese people who were left there, but they did not have to become a human shield. So after 100 years, salvation out of sea was repaid by Turkish people by air rescue. We tend to think that diplomacy is done by diplomats and politicians, but it was the fishermen who were the best diplomats for Japan. We will have soon, the Japanese Institute of Anatolian Archeology. It all started with the fishermen and ordinary people. I think there is so much the civilians can do. You do not have to leave it up to the diplomats and politicians.

The other wonderful thing about the Japanese team was that when the site was selected and when they researched, there was not enough water. Adjacent to this area is an area called the Visants, a small hill. It is the period of Visantim that was under the cushion heritage. Beyond that Visants hill, there was water. So the Japanese drew water using a pipe and they decided to use 1/3 of the water. There were about 1,000 villagers. They did not have enough. 2/3 of the water was directed towards the village so that the village people could enjoy that water. That is how the Japanese evacuation team excavations team started. The more you dig, you have land (extra soil). I do not want to say this, but the non-

Japanese dig and dump the soil there. The Japanese excavation team knew that tit was good earth, because that is where people lived. They provided gratis to the villagers, this very rich earth so that they would mix it with rough soil and grow good vegetables, etc. Whatever agricultural products they could grow, they paid the excavation team so this was the exchange of goods. The other wonderful thing is to teach the children so that they can be proud of what was on earth nearby in the neighborhood. Mr. Ohmura has given many lectures to the children, 100 dollars per day was paid. The Japanese team would like to educate the workers so lectures were given to the workers. When the Japanese history students go on summer holidays to the site. The Turkish diggers know much more about history than the Japanese history students. The Japanese excavators want the children, when they grow up, to be proud of their country and heritage. Every time the Japanese visits, they would make a donation. Donations are put together for a scholarship fund, because this is a secular state but it is a Moslem state and women cannot advance. But 7 women or university students could be educated by this scholarship fund. It is a wonderful exchange between the Japanese diggers and the local diggers. After the 1*t of October, we will complete the building of this institute. I hope those of you in the audience would at least make a stop once. I am sorry for speaking beyond my time, but I do thank you for this opportunity and for your attention.

Keynote Address I

The Knowledge-based Firm

lkujiro NONAKA

We have many famous and influential people in this forum. We have, Mr. Fukui, the President of Honda, one of the leadingcar companies in the world. There is Mr. Bachman, a leader in the field of knowledge, and there is Mr. Leif Edvinsson, a leader in the field of intellectual capital. Having all these famous people here, I am honored to be selected as a keynote speaker. The title of my speech is "the knowledge-based firm". I will discuss about the knowledge creating firm, a concept I have been working on for many years. During my presentation, I discuss basic aspects of knowledge in organizations. We create knowledge through social interactions as parts of the surrounding world. All human beings have thoughts and feelings, and aim to realize their ambitions. Those are subjective beliefs that people validate through social interactions. When validated, they become “justified true beliefs", social knowledge. In a way toward the higher stages of truth, we like to justify our thoughts. This is something that can be done only by human beings.

There are subjective and objective dimensions of knowledge. Subjective knowledge comes from your personal experiences or practices. Objective knowledge can be expressed in languages or sentences - something objective that can be expressed in a manual. These knowledge dimensions have different nature. Since the ancient Greece, there has been a separation between the mind and the body, thoughts and experiences, the right and left part of the brain. Although we are talking about the same knowledge, it has two different dimensions.

New knowledge is created in interactions between subjective tacit knowledge and objective explicit knowledge. These interactions between tacit and explicit knowledge are also interactions between subjectivity and objectivity. Analytical approaches in which objects and subjects are separated are objective. The problem here is that extreme objectivity makes one a detached spectator. As a given phenomena is explained through static causalities, one is unable to explain how companies create knowledge.

When it comes to tacit knowledge, one is subjective looking at a given phenomena from within. In this insiders' perspective, something that is first experienced and consequently socially validated, can become socially constructed truth. In contrast to objective analytical approaches, a given phenomena is not analyzed through the subject~0bject separation. One is involved in it, committed to it, and attached to it. Situations differ depending on the context.

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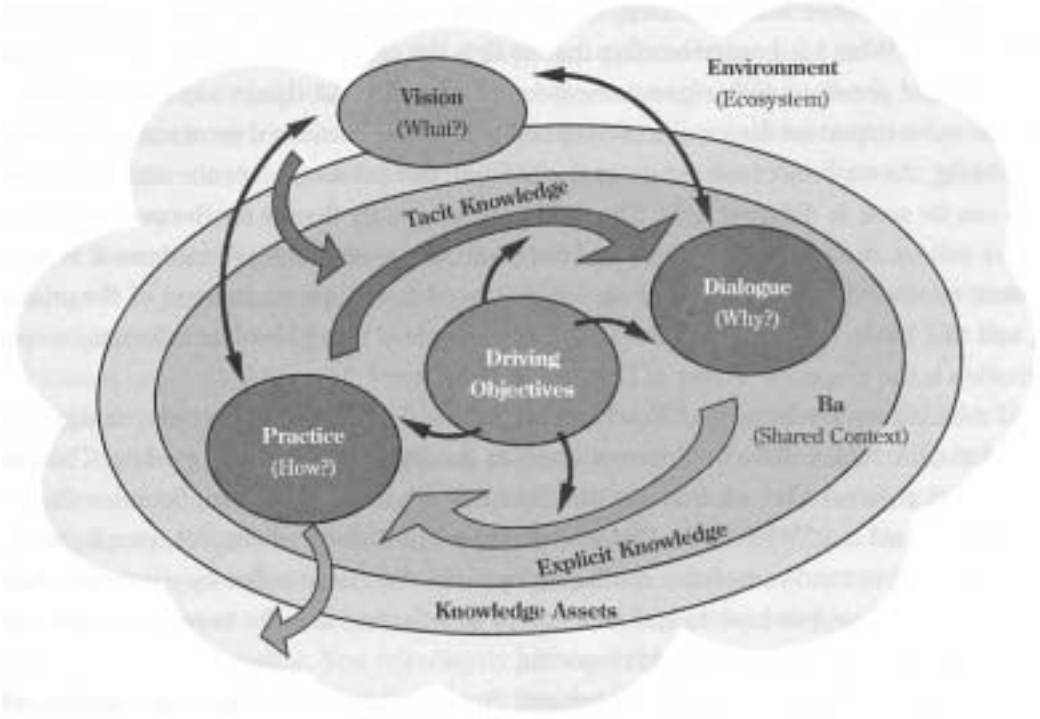
* Professor Dr. of Hitotsubashi University, Graduate School of International Corporate Strategy

We have started to create a knowledge-based theory of the firm. In this theory, the focus is more on knowledge rather than tangible resources. If knowledge is brought in the center of attention, then what becomes different from the past theories is that knowledge is something only humans are able to create. The root metaphor of knowledge-based theory is philosophy. Important issues are "What is the truth?" "What does it mean to live better life?" Our theory building is still incomplete, but we are committed to create a new paradigm.

Behind subjectivity is Kitaro Nishida's philosophy and European phenomenological philosophy. Humans use their subjective intuition to look at the reality. A person who tries to synthesize objectivity and subjectivity may discover new things. This individual tries to identify the essence that is behind what he or she has noticed, and try to thoroughly analyze it. In the process, intuition is used.

The pursuit of the truth is behind this methodology. Our subjective thoughts, when expressed genuinely as an idea or prototype, are behind it. But if one tries to model or analyze it, he or she is using analytical methodology. There are various methodologies in the SECI model, which need to be synthesized to create knowledge. In the process, there is a constant interaction between individual and collective knowledge. Knowledge increases qual-itatively and quantitatively through the SECI process.

Knowledge management makes the SECI process into an upward spiral. Companies need strategies and leadership to do that. Because knowledge creation is a dialectic dynamic process, what we are talking here is dynamic synthesizing capability. It takes place constantly, just like dialectic of thesis => antithesis => synthesis. In the process, compromises should not be made. Step-by-step, you go up in the spiral. What you are aiming at is to create a dialectic company.



This is the simplest way currently to look at the knowledge creating company - how to exert the knowledge synthesizing capacity.

First, you have to create a vision, which is followed by dialogues and practice. This trinity is very important. To energize the process, there is a need for driving objectives, which are shown in the center of the slide. The interaction of tacit and explicit knowledge between dialogues and practices is essentially the SECI process. However, the SECI is not explicitly shown in the model because it would complicate it.

Let me say a few words about visions. What visions mean? This is an important issue. It can include corporate ideals and ideal dreams of each individual employee. In positivist social science, vision has become a static entity due to its emulation of natural science. In that science, all that exists is measurable. The problem here is all things cannot be measured. It is important to note that the most integral component of vision is the value system of humans.

Some things to consider are : Who and what is a human being? How does he or she want to live? Unless you exclude these subjective components, you cannot compare social science with natural science. The most important issue in social science is that of subjectivity, such as values, dreams, and visions.

While subjective parts of knowledge are important parts of social science, people still need to be objective and validate their subjective knowledge to go as near as possible to the truth.

Of course, you will never get to the objective truth, but you can make corrections when you realize to be mistaken. This way, people make their subjective knowledge more objective.

German Philosopher Martin Heidegger's Being and Time is a difficult book to read and get much out of it. What I got out of reading that book is the only certainty in the future is death.

Time does not present a linear past-present-future causality. All things are in temporary, in flux. The most important dimension of temporality is future because it presents the potentiality-for-being. As we project our future in the present, our present existence and past experiences can be seen in different light. The world opens up only thanks for the past and future.

Relative values, such as market share and net profit, are measurable. Sometimes it is useful to check relative values of others. However, you need to sustain excitement of the employees, and that has to be your absolute value. One example of using absolute values to increase motivation Is the slogan of "Power of Dreams" at Honda.

As I said, visions are important. You have to create visions linked to everyday reality. I call that a dialogue. Again, dialectic does not imply to duality. It is not black or white. The most used logical argument is ; all humans die, Socrates a human, therefore, Socrates dies. So what? One would ask. What is the dialectic dialogue? In dialectic dialogues, people need t お appreciate dlfferent and sometimes conflicting opinions. You have to live by your convictions, but at the same time, you have to embrace others' beliefs. And in order to respect others con-victions, one needs to be humble and respectful.

Is it possible to have productive dialogues? One time, I was having conversations with

Toyota leaders. They said that duality is not enough. They said ; "we have three conflicts and quadruple conflicts, and we do not want to compromise. Everyday, we try to do desperate communication beyond compromise". The only way one can talk it out is dialectic dialogues. I do not want to sound psychological here, but I think truth lives in that statement. An innovative company like Honda and Toyota must have a place for dialectic dialogues. And there must be a leader that leads dialectic dialogues. Participants of dialectic dialogues need to share the same thought process and enhance the successful and creative company.

The other important thing is practice. Why is practice important, you might ask? It is because the tacit knowledge that is the repetition of reality, it is all contextual. The practice would differ from time to time, who is involved, when it was that, you cannot generalize it. To repeat the process of practice is to improve tacit knowledge. That is where real know-how is accumulated .

That is the picture of baseball player Ichiro Suzuki of Mariners. If you read about him, when he stands at the batter's box, he is able tacitly to understand the game. He says, 'The second base defender is a few inches towards the first base." He can foresee by the gesture of the pitcher what sort of ball he is going to throw. This allows him to prepare. As he is running toward the first base, he is analyzing why it was not a bigger hit and was a short hit. For the next time, that explicit knowledge is converting to his tacit knowledge for next batting. This phenomenon is called meta-cognition. It is the ability to see your self from outside, objectively. That is what Ichiro the batter does. He is continuously searching ways to develop batting. That is the relentless pursuit of perfection. We have learn => break => create, as it has been in a Japanese tradition.

There are different models of knowledge. Honda talks about three realities. The Honda way is to "Go to the field, look at the real thing, and understand the reality." Honda also thinks that theory is important. Toyota, too, says its people, "Go to the field," and repeat "why" five times in order to look beyond for the essence. Toyota does not stop there. Toyota has a collective discipline of "not yet", which means constant development of practices beyond compromises.

There is another important factor, ba. Ba is where context is shared. It is not just a formal meeting. It is people coming together with ideas, thoughts, they share their context, and they engage themselves in real dialogue. No one is an on-looker in a place like that and everyone is committed to create knowledge.

Companies can be conceptualized as multilayered ba. All corporations are linked with customers, suppliers, partners, competitors, university, and local communities. They overlap, and interactions need to be managed and continuously recreated. In fact, organizations do not collaborate. It is the key persons in organizations that create the places for dialogue.

What is the knowledge-based firm? It involves values, what one wants to be. You have to have subjectivity and objectivity, tacit knowledge and explicit knowledge. It is realistic. One has to have eyes on reality. You relentlessly pursue the truth through idealistic pragmatism. Business is not a tool only for profit making. It is the way of life. Thank you.

Keynote Address II

The Honda "Knowledge" DNA and its Transmission Regarding Corporate Culture conducive to the Creation of New Values

Takeo Fukui*

1. Introduction

In light of the fact that the main theme of this collection is "Evolving knowledge in Japan," how Honda's corporate culture, conducive to the creation of new values, was established, and how the corporate culture, the "Knowledge DNA, "will be transmitted to the next generation will be explained. The title of this paper therefore is 'The Honda Knowledge' DNA and its transmission."

2. Half a century of dreams and technology at Honda

First of all, the history of Honda since its founding, will be looked at, along with the products, challenges and technology judged to have played a major role in building the company s corporate culture and in the process, explanations of what "Honda DNA" is all about will be provided.

(1) The challenges to become a world champion

First, Honda's challenges to become a world champion in motorsports, and lessons learned from these challenges will be described.

In 1954, only six years after the company's founding, work toward participation in the "Isle of Man TT Race," the most prestigious motorcycle race in the world at that time, was begun.

In the announcement of Honda's intent to enter the TT Race, Soichiro Honda, the company's founder, stated that it was his "dream since childhood" to "become a champion in world racing with a machine I had made myself," calling on all company associates to "put our best efforts together and take home the championship!" However, although emerging as a leading motorcycle manufacturer in Japan, the company was a complete unknown on the world stage

* President and CEO of Honda Motor Co., Ltd

The announcement states that one purpose of the challenge for a world championship is to "assess and show the world the true worth of the machine industry in Japan," and goes on to say that "a mission for us at Honda Motor is to contribute to the advancement of the Japanese industry." Therein lies the starting point of the motorsports activities, and there is the hope of continuing with this ambition into the future.

After the announcement, four years of preparations later, Honda took part in the TT Race in 1959, and in its third season in 1961, went on to gain sound victories in the 125cc and 250cc classes, with Honda vehicles winning the first to fifth places in both classes.

The company has since continued to be active in motorcycle racing, and in 2001, achieved its 500th victory in the FIM Road Racing World Championship Grand Prix series. Aside fron the World Championship Grand Prix, there has also been involvement in various types of motorcycle racing, including the World Superbike Championship, the Endurance races, the Motocross, and the World Outdoor Trials Championship. In the latter, Takahisa Fujinami of the Honda team became the first world champion from Japan.

As for automobile racing. Honda entered the Formula One World Championship, one of the top races in the world in 1964, a little more than 40 years ago, at about the same time as the company entered the automobile business itself.

With barely any real experience in automobile development, it was an uphill battle race after race ; especially in the first year, it was often impossible for its machines to even complete the races, due to overheating. However, being trained by the actual racing experience, along with continuing improvements led to a victory in the Mexico GP, the last race of the 1965 season, the first victory and the second year for the team.

Later, the company took a break from Formula One racing in order to concentrate its financial and human resources on the development of a low-emission engine. The return to the Formula One occurred in 1983, marking the start of the "second era" of Formula One racing activities. During this second era, Honda dominated the world of Formula One, winning 15 out of a total of 16 races in 1988. After another break beginning in 1992, new challenges were attacked for the "third era" in 2000. While Honda's role was limited to that of an engine supplier in the second era, collaboration with BAR in chassis development in this third era is providing opportunities for creative challenges to engineers in charge of the vehicle body as well.

Next, the technologies involved will be discussed.

The engine output performance of Formula One machines has generally improved by about 3-5% each year, even though there have also been changes in the regulations. These improvements are thanks to improvements in intake efficiency, combustion and the limit of the engine speed, accomplished by significant reductions in the weight of the reciprocating and rotating components, among other technologies.

The same things can be said about weight reduction, with engine weight becoming 3-5%

lighter annually. Starting with the use of alternative materials, innovative technologies, including those for achieving improvements in valve shapes, have been employed to promote weight reduction. The weight of the pistons has also been thoroughly reduced and their shapes have changed considerably compared with before.

The rapid pace of performance improvement continues day in and day out without letup, and so even the best teams can quickly fall from the top if they become complacent and neglect to constantly tackle new challenges. Seen in this way, the world of Formula One racing is quite severe. It is said that there is a gap of a year in the lap times of the top team and the bottom team.

Such demanding conditions in racing activities are in fact a microcosm of the real-life situations encountered in daily business activities.

At Honda, motorsports activities are referred to as a "training ground for engineers," because racing provides the perfect opportunity for engineers to hone their skills and enhance their knowledge.

What makes racing the perfect opportunity for learning is the fact that there is the clear-cut goal of "winning" and the obvious results of the race. Using this clear-cut goal and these obvious results, the cycle of Results -> Analysis -> Countermeasures -> Actual race is repeated over a short period of time.

According to the current Formula One schedule, there are a total of 19 races, roughly every two weeks, in each season from March to October, moving from one place to another around the world. Not only when a race is lost but also it is won, a thorough analysis is conducted, investigating the reasons why, discussions are carried out, countermeasures are created, and then the resulting new technologies are applied in preparation for the race to take place only two weeks later. This process helps cultivate among the personnel an attitude of "make the most effective use of time," a reason why the racing program is so useful in training engineers.

A summary of lessons learned through the motorsports experience would be as follows :

* Set high-level goals
* Proactively tackle challenges without being afraid of failing, and learn from any failures
* Make the most effective use of time
* Never give up

In motorsports activities, there is a never ending succession of hardship and joy, failure and success, and frustration and glory, but the reason for a continued involvement in racing is that a "training ground" for the new engineers joining the company will always be necessary, and that the personnel trained in racing have served as the driving force in the company's business activities on the fiercely competitive global stage, by making extensive contributions to the development of new products and technologies, particularly environmental technologies.

It is believed that Honda's "Knowledge DNA" has been passed down to new generations through this training ground called racing.

(2) The challenges for cutting-edge technologies

Now, an example of what the challenging spirit forged through racing can lead to, in the field of new technologies ; the challenge of a new dream technology, the FC-X, Honda's fuel cell vehicle.

With the conventional fuel cell design, moisture is created in the power generation process, resulting in freezing and making it extremely difficult to start the vehicle in temperatures below 0^0C. The use of a fuel cell stack independently developed by Honda in the FC-X made it possible for the first time to start the vehicle in places with temperatures of -20^0C.

The creation of the FC-X can be traced to the strong "Initiative" of past company engineers aiming high in their challenge for a new dream technology, more than 30 years ago.

In 1970, against the backdrop of the ever-increasing seriousness of air pollution caused by automobiles in the U.S., the Muskie Act, or the Clean Air Act of 1970, was enacted. With targeted full-scale enforcement set for 1975, the Muskie Act strictly regulated the reduction of hazardous gas emissions to one-tenth of the level at the time. Honda had just started selling automobiles in the U.S. in 1970, and for a company with hardly any business experience in the market, the enactment of the Muskie Act meant a major technical challenge that would be the decisive factor in shaping the future of the company in the U.S. automobile market. The Muskie Act also posed an extremely difficult problem that the world's automakers, led by the Big Three in the U.S., claimed was impossible to solve.

In 1969, it was decided to suspend all of the company's automobile racing activities, including the Formula One, despite commitment up to that time to continue the challenge of motorsports, in order to focus on the company wide project of competing m the "development race" toward a low-emission engine, as required by the Muskie Act. As a result, in 1972, company engineers finally succeeded in developing the CVCC engine, and the prototype vehicle delivered to the Environmental Protection Agency (EPA) of the U.S. became the first vehicle in the world to meet the regulations of the Muskie Act.

That success was the fruition of the challenging spirit and the strong focus cultivated through racing activities. The experience not only elevated the confidence of the engineers but also enhanced the value of racing activities in the eyes of everyone at the company, with their passion for racing being far from diminished, but rather rising to a new level.

The enforcement of the Muskie Act was eventually postponed by five years, but mass production of the Civic equipped with the CVCC engine was started in 1973. The first oil shock came at the same time, and the fuel-efficient Civic sold briskly, making a decisive contribution to the establishment of the foundation of the company's automobile business in the U.S.

Honda went on to position itself as a company highly perceptive to wide-ranging social needs, including safety, environment and energy. The emissions regulation standards became more stringent in the U.S. over the years, but as the leading company in this area, the company successfully launched, for example, a vehicle clearing the SULEV standard four years in advance. Incidentally, the current automobile emissions level is about a thousandth of the level of 30 years ago, meaning that considerable progress has been achieved in making auto

emissions cleaner.

However, it is necessary to remain aware of the fact that social needs and challenges emerge one after another, forcing engineers to continue tackling new challenges.

As a major solution to the questions of post-oil energy and of reducing carbon dioxide emissions, in order to prevent global warming, the company has been developing fuel cell vehicles since the late 1980s. After completing several stages and a number of versions since the mid-1990s, Honda's fuel cell vehicle became the first such vehicle in the world to be certified by the U.S. EPA and by the California Air Resources Board (CARB) in the summer of 2002, leading to the announcement in December 2002 of the deliveries of fuel cell vehicles on the same day in the U.S. and Japan.

Just as in the case of the CVCC engine, this success was a result of the dedicated commitment and efforts of teams in the U.S. and Japan, who aimed for the goal of obtaining the world's first certification. With the development process for fuel cell vehicles, it was experienced anew how technical development can be accelerated by setting high goals and motivating the team members to take actions based on their own initiative. Furthermore, in the process, solidarity and a strong spirit of teamwork , in which pride could be taken, was developed, and a sense of confidence on the organizational level was enhanced.

The FC-X has achieved further progress since then, and through the independent development of the stack, the major problem of starting the vehicle in an environment in low temperatures has been overcome. The vehicle can now be started at -20^0C, which was not possible with the conventional stack. Significant progress has been achieved with the new stack aside from the low-temperature start, with both the weight and volumetric densities of the vehicle more than double the conventional designs.

One of the major challenges in the promotion of the widespread use of fuel cell vehicles is cost, which is still a serious hurdle at this point since each vehicle currently costs more than 100 million yen, or approximately 900,000 dollars.

Generally speaking, the costs of a new technology are greatly reduced as its mass production progresses. For example, within ten years airbags had become standard equipment, the output level had increased 200-fold, and the cost was lowered to about one-tenth of the initial level. This development made it possible for even mini-sized motor vehicles to have airbags as standard equipment. However, in the case of fuel cell vehicles, one-tenth of the initial cost is not enough ; the goal is at least a hundredth of the current cost level.

Also, in order to achieve widespread use of fuel cell vehicles, it is necessary to develop the infrastructure for hydrogen production and supply. Research is being conducted on a sustainable energy system, in which highly efficient solar cells would be used to electrolyze water to manufacture the hydrogen that would be supplied to fuel cell vehicles. This is indeed an extremely difficult technical challenge, but it is believed to be necessary to realize the system for the conservation of the global environment.

Now, Honda's challenge for the skies, a dream cherished for many years, will be examined.

In 1962, Honda cosponsored a contest hosted by the Asahi Shinbun, soliciting light aircraft designs from the general public, while a plan was under way for the development of an aviation engine to be installed in the aircraft.

This grand vision of becoming a pioneer of the age of "sky driving" received attention at the time, and although not realized then, the dream was kept alive by the company. In 1986, a research institute focusing on fundamental research was established and work was immediately resumed on a turbofan engine and airframe.

With "three-dimensional mobility," an airplane contains numerous parts, about ten times as many as an automobile, and with the obvious demand for high reliability, this was a valuable technical theme for research and a desirable dream to pursue.

Efforts led to the creation of a turbofan engine, which in a twin-engine configuration is capable of flying a six-passenger business jet. With a highly aerodynamic design and an extremely simple structure, a 10% improvement in fuel economy was achieved, in comparison with conventional engines. Although faced with difficulties associated with the small size of the engine, the results of the 20 years of research were highly rated by General Electric Co., the world's leading jet engine manufacturer. Honda is now collaborating with GE in the commercialization of the engine.

The development of an original airframe has also been pursued. This body's most prominent feature is an approximate 40% increase in fuel efficiency, and a unique engine configuration and wing section shape have been realized. It was believed that the ideal wing section shape had already been discovered, but it was learned that it was still possible to come up with new technology, if there is a willingness to go back to the essential aspects and to think the problem through, combining the ideas and the wisdom of the team members.

The theme of "pursuing dreams" leads to the humanoid robot development project.

Having offered two-dimensional means of transportation such as motorcycles and automobiles, the challenge of the "three-dimensional mobility" of the skies was taken on, resulting in the development of the HondaJet. As Honda was embarking on the challenge of developing the jet, what challenges lay ahead was contemplated, and one of the answers was an "alter ego" for human beings in remote places, crossing space-time boundaries in "four-dimensional mobility," ; that is, research into a humanoid robot was decided upon and the project was undertaken soon after.

Although the decision to create a humanoid robot had been reached, the project was begun with many people on the project and in the company wondering if it was really possible. The project members started out by trying to clearly establish "the principles of walking," and the members inched forward with the research and development process "step by step."

In those days, it was generally considered impossible to realize bipedal walking by a robot, and so this was truly still a "dream technology." After an almost infinite amount of trial and error, ten years after the start of the project, it was finally possible to debut the world's first humanoid robot capable of autonomous bipedal locomotion.

The P2, which was introduced in 1996 with a weight of 210kg, evolved a year later into the P3, with a height of 160cm and a weight of 130kg. This humanoid robot had an enormous impact on the public imagination, and it is clear how the development of robots in Japan moved forward at that time.

However, the P3 was still considered too large, and in order to create a people-friendly partner able to comfortably coexist with humans in society, the high-level goal of achieving a body weight of 60kg or less was set and this new challenge was tackled. The development team first focused on reducing the size, examining the lower height limit for being of practical use to human beings in real-life situations, and came up with the answer of 120cm. It was judged that a height less than 120cm would make it difficult for the robot to smoothly go up or down ordinary steps and to take care of other chores. Eventually, ASIMO was born In November 2000 with a weight of 50kg, far below the initial target of 60kg. Because the 120cm height of ASIMO was about the same as that of a small child, ASIMO was designed with the proportions of a small child, and this well-known cute figure has become popular all over the world.

In this way, it was learned yet again that if there is a clear-cut high-level goal, progress in the development process can be made.

ASIMO was created with the aim of a people-friendly robot in coexistence with humans in society and as such, is the embodiment of a dream technology, but there still remain numerous challenges to address. Aside from further weight reductions, it is necessary to achieve intelligence functions allowing for autonomous judgment, to further evolve kinetic functions, and to develop a power source capable of considerably extending the active time.

Such awareness led to the development of the new, next-generation ASIMO, Introduced in December 2004. With a height of 130cm and a weight of 54kg, the new ASIMO is slightly larger than the previous version, but considerable improvements have been made in terms of performance. Incorporating many new technologies, it is capable of quick and nimble movement, autonomous continuous movement, and movement in response to people. In the autumn of 2004, eight years after becoming the world's first bipedal walking robot, it finally became possible for ASIMO to run as well.

The humanoid robot development at Honda, aiming to achieve the coexistence of robots and people in society, has thus moved forward step by step. A summary of the lessons learned through the experience of these challenges for cutting-edge technologies would be as follows :

* Be highly motivated and envision dreams
* Set clear and high-level goals toward which all the members of the team can combine their efforts
* Create the necessary technology independently
* Never give up

The explanations have so far focused on large-scale research themes, but naturally, research work on a countless number of small-scale themes is also conducted on a daily basis at the company's R&D centers.

Honda is determined to keep up the research and development activities for pursuing the company's many dreams and visions, and based on the resulting new technologies, numerous products that create new values and bring joy and satisfaction to customers will continue to be introduced.

(3) The challenges for the creation of new values

Over the years, customers have been offered many products with new values, including the Super Cub, launched in 1958, the year of the company's tenth anniversary, which continues to be a best-seller around the world ; the CB750, which popularized the term "750" across Japan ; the Civic which already described above ; and such other trailblazing models as the Accord and the Odyssey.

What follows is an example of how the "Honda Knowledge DNA" born and cultivated in Japan lives on in the actual workylace environment of automobile development in the U.S.

This is the story of the development of the Ridgeline, the next-generation truck introduced at the Detroit Motor Show in January 2005. For the first time in the history of the company's automobile development, all the members of the development project team, including the project leader, were Americans working in the local market. Not only was the development of the Ridgeline itself a major challenge, but the fact that American associates were now developing a Honda vehicle on their own was also an entirely new challenge.

Most likely it is already well-known, but pickup truck models have proved very popular in the North American automobile market particularly since the 1990s. Becoming aware of the potential demand among the customers, research on pickup trucks was begun in the late 1990s.

In order to address the research theme of developing "a unique pickup truck befitting Honda," the project team came up with and established the following three requirements :

1. Honda Driving Joy
2. Passenger Comfort
3. Truck Cargo Capabilities

In addition to these basic requirements, the project team aimed at creating unprecedented new value for a truck by anticipating potential customer needs. This meant that the team was in essence trying to create an "innovative next-generation pickup truck." In other words, the theme to address was to find Honda's unique answer to the question of “What is a pickup truck?"

Even with such general directions as "a unique pickup truck befitting Honda" and an "innovative next-generation pickup truck" established, coming up with the product concept did not prove very easy. The team members held discussions each and every day about “what a pickup truck is," in the project room and also in the actual field where pickup trucks are commonly used. Rather than relying on conventional market research methods, the members repeatedly examined the question of “what is a pickup truck?" based on the conviction that "the answer lies within ourselves; "as a result, the "Machine Billet Concept," or the concept of a

block of steel image, was finally born. The image for the interior was also envisioned based on the "Machine Billet Concept," giving rise to the "Power tool image" and the "Fire truck image."

Having decided on the specific concept for "a unique pickup truck befitting Honda," and thus, resolving the most difficult challenge, the team was able to make rapid development progress. What the team considered of utmost importance was ensuring that the vehicle concept was thoroughly understood and shared by each member of the design team.

With the "Machine Billet Concept" at the core, the team's clear intention of creating a truck the members themselves would want played the role of the "lighthouse," effectively guiding the sometimes conflicting and contradicting technologies and ideas to harmonious solutions. At Honda, it is exactly for this purpose that each team conducts thorough discussions to establish a concept ahead of the actual development work. Because the concept established is one that the team arvived at through these exhaustive discussions, any difficulties revealed later on do not cause the members to waver. The sense of unity fostered through the lengthy discussions also help the team members overcome the various technical challenges that they face along the way.

One of the major product appeals of the Ridgeline is the compartment underneath the truck bed, with space equivalent to the trunk of a passenger car. In order to allow a customer to fully utilize the trunk functions, a new dual-action tailgate was developed. When using the trunk space, the tailgate swings open horizontally, and when loading large cargo onto the truck bed, the tailgate opens by pulling down. Because this was an unprecedented tailgate design based on a entirely new way of thinking, the team went through much trial and error in order to guarantee the strength and functions of the tailgate. Coming up with ideas for new mechanisms and using new materials enabled the team to successfully arrive at the product commercialization stage.

The team also took on many other new technical challenges, such as the creative devices to allow for efficient loading of motorcycles and four-wheel ATVs, the cabin space easily allowing five passengers to ride, and the storage space underneath the rear seats. As a result, the Ridgeline not only has the dynamic performance of a truck and a towing capacity of up to 5000 pounds, but it also boasts riding comfort that surpasses even the comfort level of a passenger car.

On the day of the Ridgeline's introduction, the Detroit Free Press newspaper featured an article which stated that "no one has ever come up with an idea that's better than the way pickups have been built since the 1920s. Score one for Honda." In response to the question of "What is Honda's own unique truck?", Honda found its own unique answer. This was also a defining moment for the company because it now became clear that the "Honda Knowledge DNA" born in Japan has crossed the ocean to take root in the U.S. among American associates, who succeeded in creating a wholly new value.

In order to create new values, it is believed to be important to give top priority to the focus on the customer's joy and happiness, based on which the company as the following aims :

* Consider "uniqueness" as Honda's core value and reason for being
* Set clear concepts and goals toward which all the team members can combine their efforts
* Try to fully carry out activities to achieve the goal

The corporate philosophy as outlined above can successfully transcend national boundaries and bridge different generations.

3. The Honda Knowledge DNA

Examples of research and development projects that can be linked to the existence of the Honda "Knowledge" DNA have been described. Such examples are not limited to the field of R&D, however, and there are many such examples to be found in the areas of sales and production or in overseas operations, with all of these activities combining to form the corporate culture. I will now proceed to explain what the Honda 'Knowledge" DNA means to me personally.

Over the years, numerous difficult challenges like the ones described thus far have been tackled.

When thinking about the high-level goals that are set for a company associate and the level of responsibility expected of each person, Honda may appear to be a very strict and demanding company, but I believe that it is a company that is very good at motivating each associate, a place where things are left up to each individual once the goal is established. Each associate is allowed a high degree of freedom and is capable of taking their own approach based on their own initiative. In other words, the Honda Way of working involves enhancing the initiative and creativity of each and every person on the spot, effectively utilizing the bottom-up approach.

If I was asked “What is the Honda Knowledge DNA all about?" I would give these three answers. First of all, it is about the challenging spirit to tackle new problems without being afraid of failing, with the aim of providing joy and satisfaction to the customer.

Second, it is very important to respect each and every individual tackling the challenges, with everyone as a “main player."

Finally, I think that the Honda Knowledge DNA is about the company's free and open-minded corporate culture, which actually supports the first two aspects I have just stated.

4. For the cultivation and transmission of the Knowledge DNA

How best to shape the corporate culture in order to further cultivate and transmit the Honda Knowledge DNA is actually a nagging question asked daily.

First, as for how best to sustain the challenging spirit, high-1evel goals need to always be set It is hoped that high-level goals that will effectively lead to the”creation of new values" and "innovation" will continue to be set. A spirit of defiance, sometimes against authority, has traditionally been a part of the corporate culture, and it is believed that such a spirit of defiance

has positive effects on company associates successfully maintaining the challenging spirit.

There is also extensive delegation of authority, which indicates that this is a compan3 where each and every person is the main player. This is why and how the enthusiasm, energy and actions of each individual combine to create the company's values, which cannot be easily imitated. The driving force at work here is the initiative, motivation and enthusiasm along with the hard work, of each individual associate aiming to give joy and satisfaction to, and to share dreams and visions with, the customer and the general public. Further reinforcement of this basic stance as a company is desirable.

In order to make this happen, a focus on the company's free and open-minded corporate culture is essential. At Honda, there is something called Y-gaya meetings, which allow participants to speak freely and discuss essential questions, in an open atmosphere where everyone can voice their opinions regardless of rank or position.

In order to sustain this free and open-minded corporate culture, there have also been attempts to make the hierarchical structure of the organization as flat as possible. This is because, in contrast to the case in which a decision is made simply on account of the vertical hierarchical relationships among the parties involved, simply sharing information and having free discussions often makes it possible to judge an opinion or view by virtue of its intrinsic value and not by any hierarchical considerations.

It is also necessary, when conducting discussions, to promote the presentation of many ideas from diverse perspectives. To ensure this process, securing personnel with diverse capabilities and characteristics continues to be a company objective. This is one reason why there has been an active promotion of the hiring of mid-career associates.

Finally, it is hoped that Honda will continue to be a company that the customers and the public want to exist. The company's starting point is believed to be responding to the expectations that "Honda is a company which will keep tackling new challenges and will provide
dreams and impressive visions beyond our imagination," more than just the products, technologies and motorsports activities.

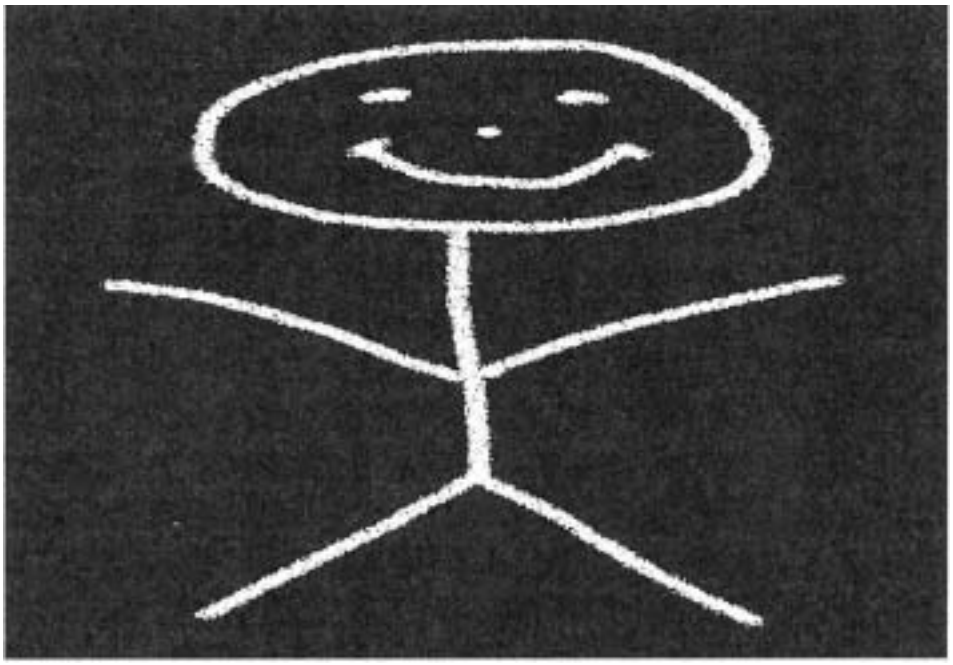
To be able to fulfill such expectations, there has been a focus on establishing and ensuring the following processes in daily work : review and improve the organization and communication in order to create a workplace environment where each individual can exercise the maximum level of positive energy ; and pay respect to the importance of working at the spot, or the actual workplace, and make decisions based on the real situation. This means, in other words, efforts to reinforce the actual spot in the workplace and the core elements, or the upstream processes of work.

It is important for each individual on the spot to think and act on their own initiative. Innovation and value creation are the culmination of each associate's passion. In other words, it is each individual's effort to practice the Honda Way- to move forward with strong initiative, to improve technologies and skills and to work together as a team to improve job quality. This is how it is hoped that the unique Honda Way will be further promoted in daily work situations.

Keynote Address III

Building a Knowledge Driven Organization

Robert H. BUCKMAN



This is Fred. This is his story about all those individuals in your organization that are out there day after day trying to do their best for the organization. The question is how can you help them achieve success in this effort? How can you release and leverage the capabilities of each person in your organization across time and space? How can you help them to be the best that they can be?

The challenge in most organizations is to get people to assume responsibility for making things happen. One way to meet this challenge is to follow the advice of Jan Carlson -Former Chairman of SAS Airlines who stated :

"An individual without information cannot take responsibility ;
An individual who is given information cannot help but take responsibility."

In other words, we should give them the information and knowledge and rely upon them to use their values to determine how to act But, do we really trust them to act responsibility?

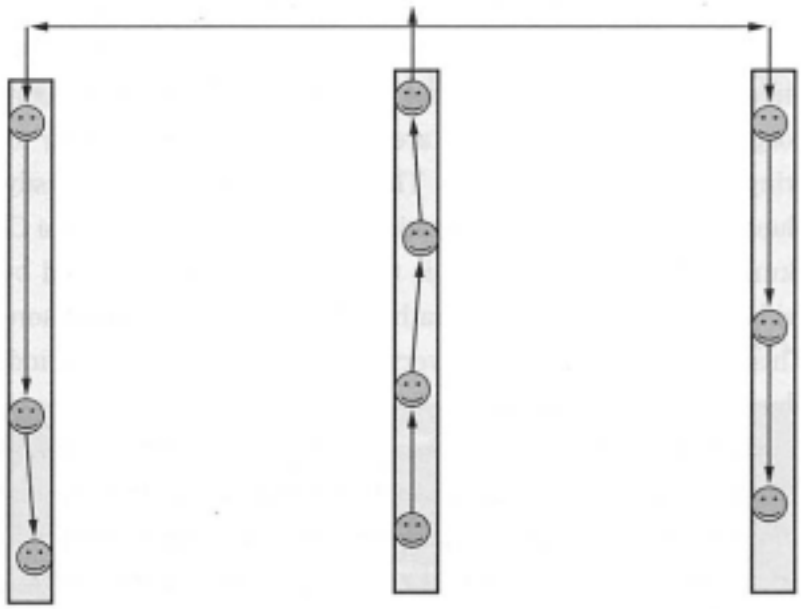
* Chairman Dr. of the Executive Committee of Bulad Holdings, Inc
(the holding company of Backman Laboratories)

Yet, you as an individual have to be able to trust the information that you receive to be the best that can be sent to you, and those that send it to you have to be able to trust that you will use the information in an appropriate manner. This trust is built on the common value sys-tem within the organization. These values are essential if you are going to have proactive Knowledge Sharing across time and space. The Value System can be easily embodied in a Statement of Values for Effective Communication and Collaboration or as a Code of Ethics as we have at Buckman. The important point is that it should be developed by a process that involves all individuals in the organization rather than it be the result of some promulgation from on high. This process that involves everybody is what helps every individual buy into the collective values of the organization.

We have found that all cultures prize certain behaviors - Justice, Temperance, Prudence, and Fortitude. Trust is a feeling you have which is highly subjective and hard to articulate. Yet this feeling of trust has a strength that is unique. It is because we feel before we know. If the company is represented as a ship, then you can think of the Statement of Values as the waterline of the ship. The higher the values believed in collectively by the organization, the greater the trust that will exist and the greater the depth of knowledge sharing across the organization. Tell your people "do not shoot below the waterline (do not violate the Values of the Organization) because you can sink the ship. However, you are free to be as innovative as you wish in changing the super structure of the ship to meet the needs of the customer." Key Point : As a result of this approach, your organization can become a very fast changing organization around the needs of the customer if you are willing to be adaptive and fast changing. Will the culture of your organization allow this? How might you shift your culture to re-define the speed at which you can do what you do? Let's explore some of the elements to consider.

Where does the knowledge reside? Does it reside in the heads of your people of in a data base somewhere? Knowledge can take many forms, but the principal ones that we are concerned with are either written down in some data base as Explicit Knowledge or it is in the heads of our people as Tacit Knowledge. Our experience indicates that about 90 percent of the knowledge in any organization is in the form of Tacit Knowledge. This is what we need to focus on if we wish to release the power of the organization for action. It is the most dynamic asset that you have as an organization. It is always changing, always growing In both quantity and quality. A key question is how should it move to satisfy the needs of the organization? Because it is this dynamic movement of the knowledge of the organization that will result in new value creation.

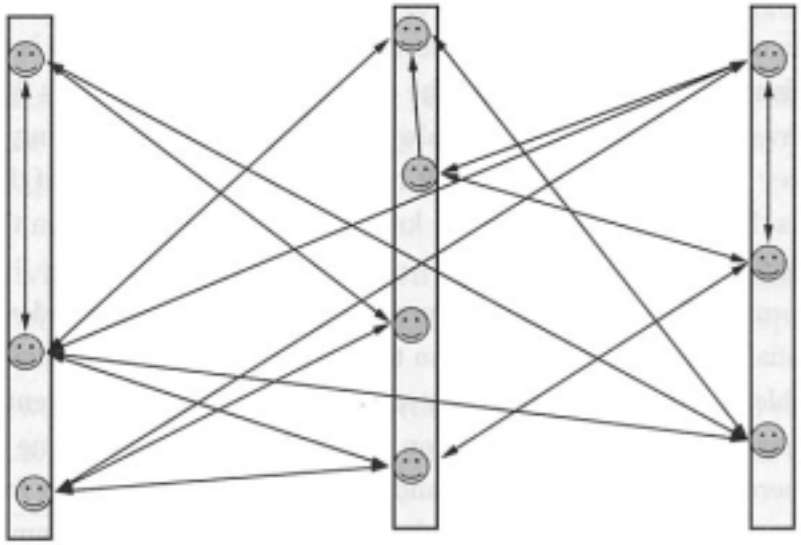
In a typical Command and Control Structure knowledge moves up and down the organization in a sequential manner from one person to another. But this sequential movement creates its own problems. Knowledge deteriorates as it moves through different individuals in a sequential manner. Information is gathered on the front line, passed to some manager so that he can put his perception on the situation and so forth up the line, going from in-box to inbox until it gets to some guru somewhere, who then puts his infinite wisdom on the situation



and sends it back to the front line. No wonder there is confusion. While we cannot eliminate the Command and Control management structure in most organizations, we can poke holes in the silos and establish a networked model of communication.

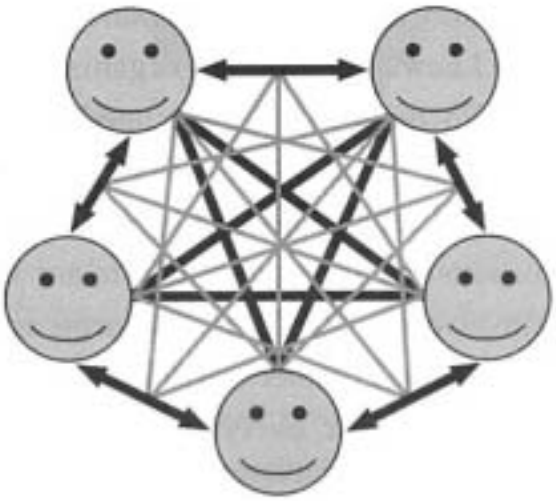
This shows a networked communication model in a Command and Control structure. It illustrates how much faster communication can be when this is allowed, facilitated and encouraged.

The value added to the organization from this communication model is described in Metcalfs Law.



The value of a network increases as the square of the number of users on the network

The more that we can involve different disciplines of the organization in the collaboration process so that we can bring any knowledge needed to any situation that the organization tces, the greater the value delivered at the point of need. We have to realize that we are building the neural network of the organization. We can illustrate this principle like this.



As we look at the primary and secondary connections that are possible in a networked communication model between five people, we find a very complex movement of knowledge. This complexity is why this model of communication has power and is able to deliver value. This value increase comes from the rapid movement of knowledge in satisfaction of a need. In addition, to achieve a fast response there is an automatic quality control piece built into this knowledge exchange. It rarely takes more than three to five people in an exchange around a need to produce a high quality response. Our recommendation is to focus on a Needs-based Knowledge Sharing system that achieves speed through a networked communication model. Think about Networked Teams that are Virtual from the beginning. How would you support them? How would you redefine the speed at which your organization can act?

Knowledge Strategies

1 Begin with strategy, not knowledge - If your strategy is to improve your customer relationships, then how can you best support your associates that interface with the customer? How can you help them increase their value added to the customer?

2. Linked to traditional measures of performance - Knowledge initiatives have to be connected to measurable improvements in performance. Otherwise, why would you do them? Look at the outcomes desired, not the activity itself.

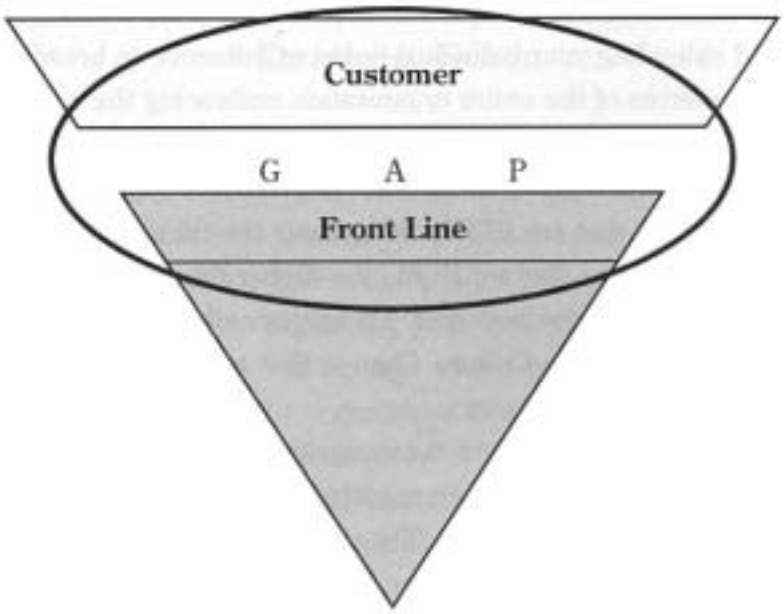
3. Execution is not about managing knowledge, but nurturing people with knowledge -We have to access the knowledge that exists in people's experience to satisfy the needs of the organization. To do this, we have to provide benefits to each individual as they try and refine the speed at which they can function. People will use those systems that provide them benefits in doing whatever they are trying to do. If the system is not useful to the individual, then they will not use the system.
4. Leverage knowledge through networks of people who collaborate - not through net-works of technology that interconnect - Interconnectivity begins with people who want to connect to accomplish something for the organization beyond the face to face world. Technology is but a tool that makes the connections possible.
5. People networks leverage knowledge through organizational "pull" rather than centralized information "push" - Focus on satisfying a need for help in solving real problems in day-to-day operations of the organization - not in pushing information at your people. Think about how you will satisfy “just in time" needs of the organization. Radically improve the speed of response of the organization to any need that might arise.
6. Knowledge initiatives involve everybody in the organization - Whether you call it Knowledge Sharing, Knowledge Transfer or Knowledge Management, these initiatives will cut clear across the organization. Everybody's knowledge is important to the functioning of the organization.
7. They are transformational in nature with significant culture change implications - 90 percent of your effort will be culture change. As such, it needs to be led by those in command - not by the IT department or some staff group. You will be changing the way that work will be done by developing a new corporate operational system. Collaboration and knowledge sharing across time and space will be the norm, not the exception. Re-defining the time equation of work will be one of the key benefits. As such, this effort needs to be a focus of the CEO and the Strategic Planning group of the organization.

Objective

Our objective is to do a better and better job of closing the gap with the customer. As a first step in this direction of culture change, it seemed logical to put the customer on top of the organizational pyramid by inverting the organization.'

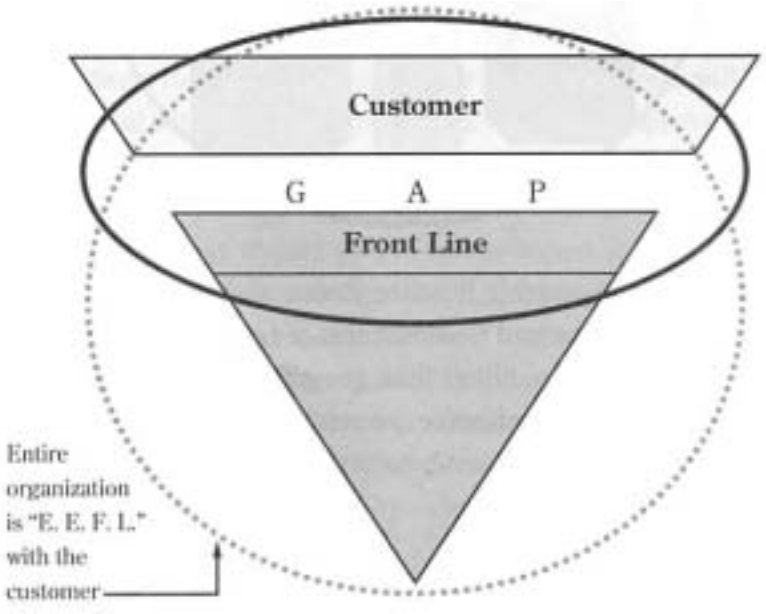
One result of inverting the organizational pyramid, those on the front line become the most important people in the organization. They are our interface with the customer and will determine the directions for the rest of the organization, if we wish to be a fast changing organization around the needs of the customer. If we want to do this across time and space, then we have to change the Span of Communication of our associates.

Span of Communication - We need to be willing to let every individual communicate directly with those that have the latest and best knowledge on the subject at hand in the



organization. We have to change from communicating face-to-face within departments to across the entire organization, if we want to be effective on a global basis. By doing this we can move the speed of response to any need toward instantaneity. As we expand an individual's Span of Communication we will automatically expand his potential Span of Influence in the organization.

Span of Influence - As the Span of Influence of each associate expands, the power of the individual expands and their value increases. As each individual expands, then the collective power of the organization increases. They become respected on the basis of what they can contribute to others. We need to think about giving our associates the same opportunity to

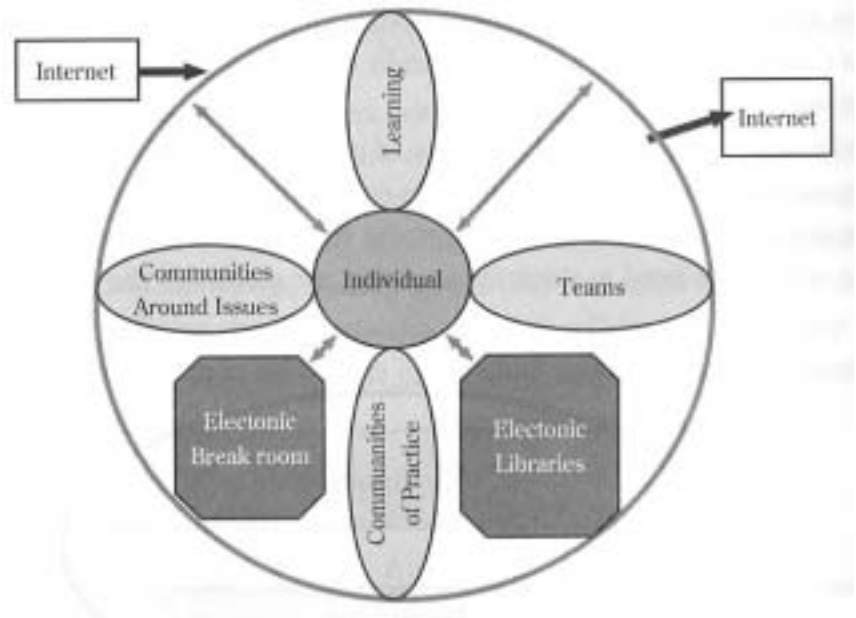


expand their Span of Influence as if they were all promoted to CEO. Using your systems for communication and extending your individual Spans of Influence as broadly as possible, you can begin to think in terms of the entire organization embracing the customer. As a result, everybody can be EFFECTIVELY ENGAGED ON THE FRONT LINE with the customer by moving knowledge where needed/when needed.

The greater the number that are EEFL, the greater the momentum of the organization. The higher the quality of those that are EEFL, the higher the quality of the knowledge that can be brought to the needs of the customer. Technology allows us to change our individual Span of Communication, but it is Culture Change that allows us to change our Spans of Influence. Lester Thurow puts it this way:

"With everything else dropping out of the competitive equation, knowledge has become the only source of long-run sustainable competitive advantage, but knowledge can only be employed through the skills of individuals. The value of an individual's knowledge depends upon the smartness with which it is used in the entire system."

I believe that the new organizational model will be formed around the individual where they will all be connected to each other by our Intranet and will look something like this. We need to think about organizing in other forms, such as Communities around Issues, Teams, Communities of Practice and Communities of Learning.



We need to think about the flow of information and knowledge rather than geography. That is where value will be created. We are trying to build new and effective communities in a new setting : an electronic set-ting. To accomplish this, we have to learn how to take advantage of the power of the Network if we wish to be Knowledge-Driven.

Knowledge-Driven

1. What is your most Critical Need across your organization? I am not talking about just within a department or country. I am talking about the entire organization operating in the Global world. Think in terms of a needs-based system that satisfies the needs of the organization rather that a system that pushes knowledge at the users.
2. It is essential that you begin organizing your systems and efforts around the Flow of Information and Knowledge rather than where people happen to be. The Flow of Knowledge toward a need of the organization is what creates value.
3. As you build your system around the Flow of Knowledge, it is essential that it be one that will both encourage and magnify that flow. Thus, it has to be a people centric system that builds trust among the participants so that they will share their innermost thoughts across time and space. Remember that it wlll take time and effort to build trust across the organization with people that have never met face-to-face.
4. We have to move from the hoarding of knowledge to gain power to the sharing of knowledge to gain power. Since the proactive sharing of knowledge is directly proportional to the degree of trust that exists in the organization, so we have to create a climate of continuity and trust in the organization. What are the values that your people believe in? How might you enhance that set of values going forward and make them real?
5. The organization should help people get value from the system so that you can reach Critical Mass in your network. We need to remember that we will always get 20 percent of the organization using whatever system we give them. But we need to worry about the other 80 percent and how we might get them up to speed in getting value from the system. If you want a significant percentage of your people to use the system, then make it easy to use. I cannot emphasize this too much as the biggest mistake that I see is organizations thinking that some fancy software system will make up for their lack of desire to deal with re-defining how work is done to improve performance. It will not. Fancy and expensive software will not substitute for culture change in the organization.
6. The culture of the company should give everyone access to the knowledge base of the company. Since the greatest knowledge base in the organization is in the heads of the individual associates of the company, we have to give everyone access to everyone else in the organization across the organizational barriers to communication. We have to go across the Structural Silos of the organization.
7. The culture should allow each individual to enter knowledge into the system. Since each individual associate is part of the knowledge base of your organization, everyone in your system should have equal rights to enter knowledge into the system without prior filtration by management or experts. We want our associates to feel that their

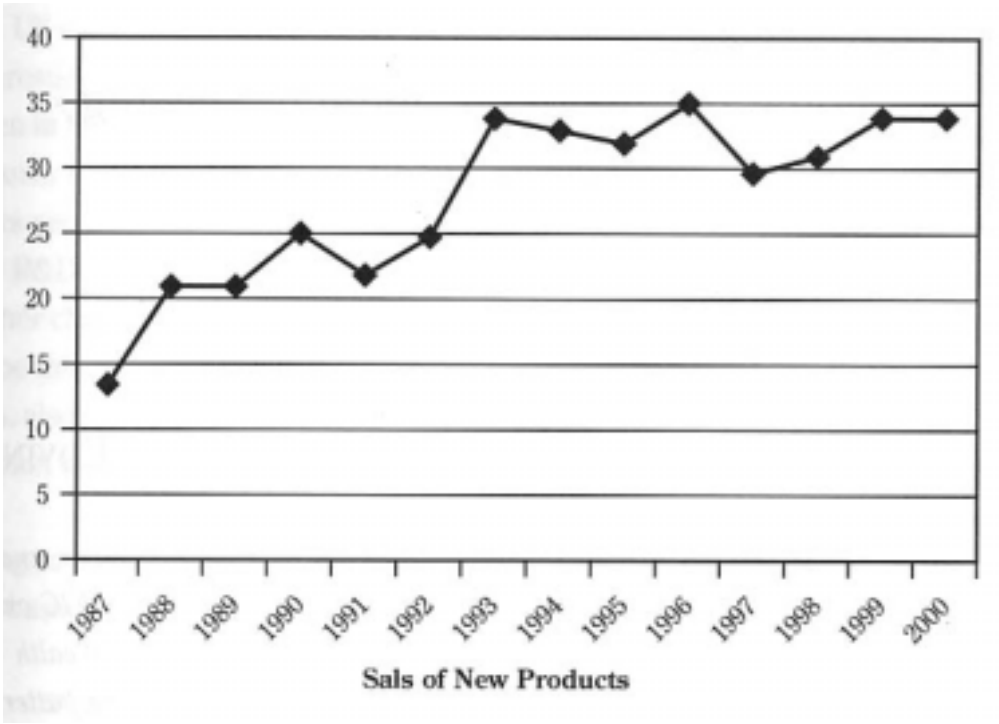
knowledge is valued by the organization. We want to get them to share their knowledge across time and space. We have to encourage that process of learning from each other. We want our people to realize that the 'expert' is not always known and can be anybody at any point in time depending on the subject. They identify themselves as an expert when they volunteer to share their knowledge about a subject.

8. The system should function across time and space with the knowledge base available 24 hours a day. Since the knowledge base resides in the heads of the associates, we have to give them hardware and software that will allow them to connect at anytime/anywhere. As individuals, we do our best work at different time of the day or night from early morning to late at night. As organizations, we need to recognize that fact, if we want the best from our colleagues. Knowledge work is not limited to when we are "on duty." Will the culture of your organization support individuals working in this way? On result of this is that laptops are two to four times more valuable on an economic return basis than desktops.
9. The sharing of the tacit knowledge by the users will generate the information to update the explicit knowledge of the organization. We can no longer depend upon the sharing of knowledge 'face to face' to move the organization forward. It is too slow a process. We have to do it across time and space. We need to be able to execute the strategy of the organization at speeds we have not considered before and do it with ease. The result of this process of sharing will be the material that we put in our Explicit knowledge base. Building this virtual circle of knowledge - moving from Tacit to Explicit and back again - is how your organization can move forward as a Knowledge-Driven Organization.

Metrics

You need to think in terms of a metric that measures the output of what you are trying to do, not the activity itself. This metric of Knowledge Sharing, is a measure of the Speed of Innovation in the total company on the creation and sale of products. It is innovation that is accepted by, and paid for by the customer. The purpose of this slide is to illustrate what has happened to our Speed on Innovation as we have changed our methods of communication.

Prior to 1987, when we were on snail mail, we used to average between 13 and 18 percent. In 1987, we introduced global e-mail to our company and began the journey to a networked organization. We immediately jumped to the 20 to 25 percent range. In 1992 we introduced systems for the sharing of tacit knowledge across the organization around the needs of the organization and immediately jumped again to the 30 to 35 percent range. What this means is that the introduction of a network communication model and the sharing of tacit knowledge across the organization can have a significant impact on the speed at which an organization can respond to the needs of the organization. This speed of innovation is critical to being able to continually reinvent yourself around the needs of the organization and your customers.



Knowledge Sharing

"Communication is human nature; Knowledge Sharing is human nurture!" Alison Tucker

Individually, we are all vulnerable to being beaten. Collectively, collaborating together, we can win in any situation. We need to focus on the importance of harnessing the minds that are in our organizations to meet the needs anytime/anywhere. It is the most powerful weapon that we have in the competitive arena today.

I would like to leave you with this thought. How would you nurture the people in your organization and change the culture to speed up the flow of knowledge around your needs?

Thank you very much.

Keynote Address IV

Regional Intellectual Capital in Waiting a Strategic IC Quest

Leif Edvinsson*

Where is value being created in your country, region or city? Is there another value logistics/flow emerging, calling for another knowledge, active intelligence and IC entrepreneurship? Can there be another view to shape the value platforms for the new Wealth of Nations, social intelligence systems and turning the Future into an Asset? What is the pattern of knowledge creating of your nation for turning the Future into an Asset? How does the map of the nation knowledge and intellectual capital look like? Where do we have intelligence communities or intelligence cities? What major social innovations can be seen during the last five years? How will there be a growing call for a New Intelligence Deal for Wealth of Nations for communities based on society entrepreneurship, intelligence culture and social innovations? What kind of Social Capital feeds an intelligence perspective for society entrepreneurship?

Intangibles Map and Volumes

The investment among 18 countries in OECD countries in 2000, according to M. Khan at OECD, varied from 2-7% of GDP, with Sweden and USA at the top end. This figure is based on a narrow definition of expenditure for R&D, education and software investments. With a broader definition the figure would grow for the knowledge intensive economics to be beyond 10% of GDP. Furthermore in those countries the intangibles investments seem to be more than 60% of total investments. Investments into innovation for both manufacturing and service sector is estimated to vary between 1.7% and 7.5% of GDP.

Not until the end of 1990's started in USA the Bureau of Economic Analysis to assess intangible investments to get a more elaborated picture. The Investments of domestic US corporations for 2000 going into intangibles, has been estimated by L. Nakamura, Federal Reserve Bank of Philadelphia to be in the range of 700-1500 USD. In relative terms this is around 10% of GDP in USA, being missed in the national wealth mapping. This is probably only a fraction of the input dimensions of the value of intangibles. The aggregated value of intangibles of the US economy is estimated to be larger, especially measured as output value.

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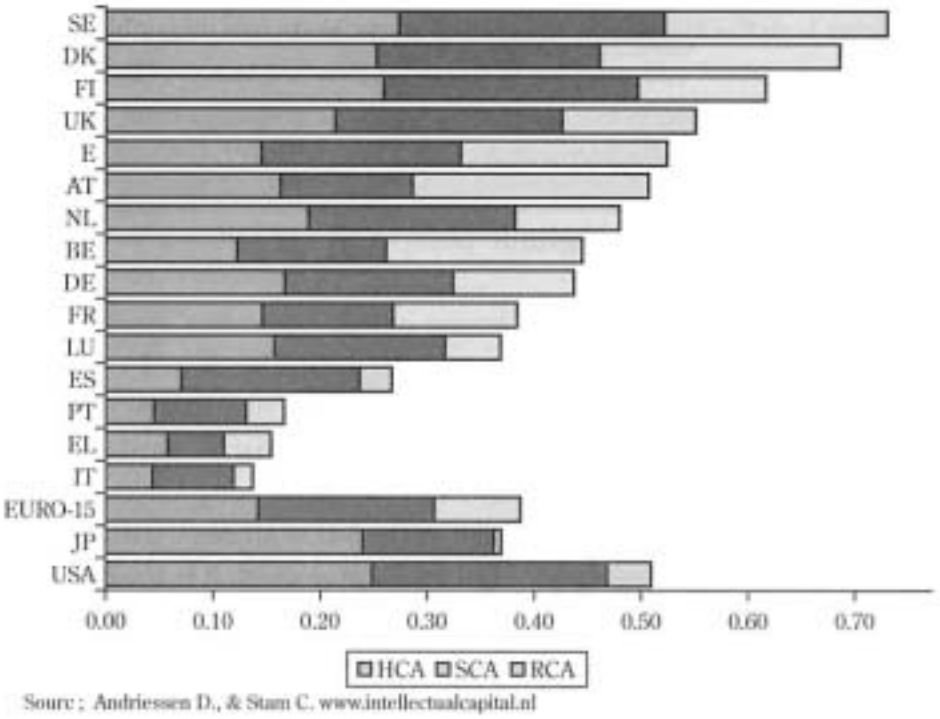
What is also interesting from his research is that the allocations of those intangible investment has mainly been in Software and ICT, R&D as well as advertising/entertainments together representing stands for about 80%. Furthermore a major proportion of these ICT and intangibles investments seems to have gone into intangible financial services development and infotainment. The R&D for USA is estimated close to 3% of GDP, or around 265 Billion USD. This would further challenge the mapping and accounting of the knowledge economy wealth.

In Europe this has also resulted in a quest for promoting the competitive investments into intangibles, also called the Lisbon agenda, from the EU summit in Lisbon, Portugal in 2002.

The aspiration is to lift the investment of especially R&D to the level of 3% of GDP for EU 12 countries.

According to a very recent study from January 2005 of IC of European Union, versus USA and Japan, based on statistics up to 2001, by Dr. D. Andriessen and C. Stam, is shown below.



IC Assets of the European Union

The top list of IC countries in EU are

- Sweden
- Denmark
- Finland
- UK
- Ireland
- Austria
- Netherlands
- Belgium
- Germany France

All these countries report to have more IC assets than Japan. This is just summarizing the assets of IC including human capital (HCA) , structural capital (SCA) as well as relationship capital (RCA) . The picture can be refined even more regarding investment of IC and effects.

See www.intellectualcapital.nl.

The total expenditure in 2000 on R&D for the countries in OECD for 2000 is estimated to 563 billion USD. The distribution among major regions is that USA stands for 47%, EU for 31% and Japan 17%. Sweden is reported to invest 3.9% and Finland 3.4% of GDP. Average for OECD countries is reported to be 2.4%. Adding to these investments educational investment would raise the amount with more than 5%. The software investment has recently grown but still to be around 1.4% of OECD GDP. To that comes the intangible impact of bioinformatics and genetics research.

This highlights both the magnitude and shift of investments into intangibles as well as lack of systematized assessment and mapping of the value creation based of these expenditures. Is the value equivalent to input, or is it more in line with the output or even in the impact visible only over longer time than the accounting cycles?

Longitude perspective

This growing space of not knowing is among others demanding more strategic intelligence, or knowledge navigation capability on society, enterprise as well as individual level.

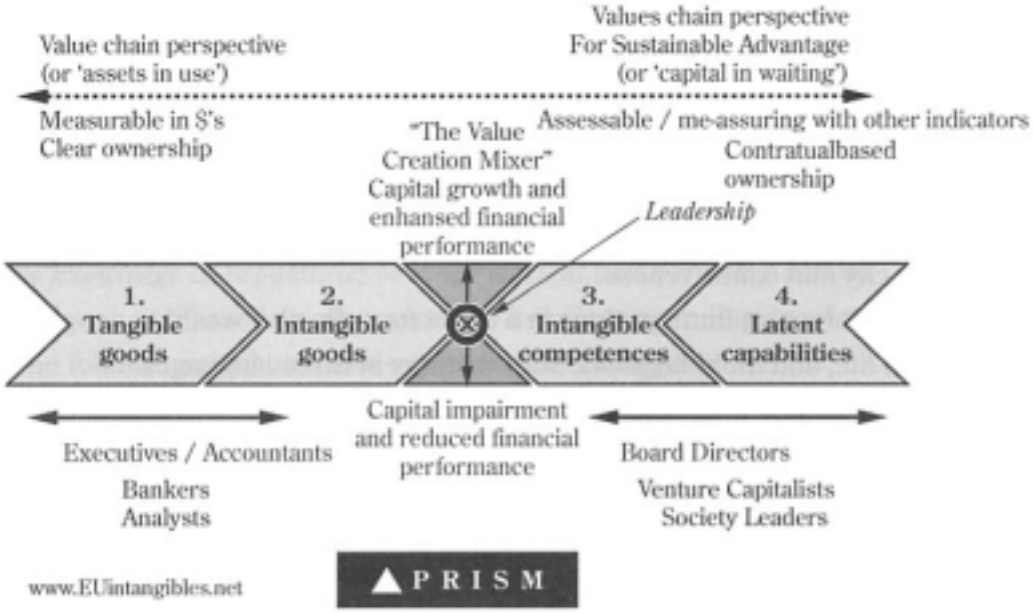
The core of it is the capability to perceive and relate to the surrounding context The alternative is growing ignorance, stress and competitive failure. So what we need is to improve our perception and mapping of new strategic knowledge navigation perspectives.

This might be called a longitude perspective or the 3-D of strategic management beyond the time and costs as traditional perspectives of the balance sheet It is about the sustainability, ecology and meaning making. This calls for another eco system than pure financial economy. The longitude perspective is based on the third dimensions of intangibles. This is capital in waiting as opportunity space and highlighting the cultural context for value creation. It might even be regarded as sustainable wealth in waiting, addressing the issues of corporate social responsibilities! For further reading see Edvinsson book (2002) on
www.corporatelon-gitude.com

The new corporate longitude is focusing on the lateral dimensions, as well as time to the future. The core distinction of Intellectual Capital is Future Earnings Capabilities, i.e. not historical costs, but rather futures, ie. *To think ahead and to go from harvest and subtracting value to nourishing and adding value.* This calls for another type of leadership role than traditional management On the basis of a research project from 2003 with the EU called PRISM, in which I developed some modeling about the value chain as the new theory of the firm. This modeling is highlighting the value creating areas of the enterprising as well as the

key focus area for leadership.

At the center is the “value creation space" where IC leadership faces the challenge of leveraging these longitudinal resources and to create economic value adding. This is the dialectic space or kenetics for knowledge entrepreneurship. It might lead to growth of capital on the balance sheet as well as impairment of the balance sheet. In such a situation value destruction will occur. A critical question here will emerge : What is the knowledge navigation and leadership of today doing to avoid erosion and leverage the idle intellectual capital in waiting and how do we know about this from the reporting maps?



An edge perspective on 'assets'

For a nation or region to address this growing strategic competition for global competency and talent nourishment it is necessary to develop much more intelligence and mapping systems as well as shaping new competences, on individual, enterprise and society level. Knowledge zones of tomorrow will be shaped based on complexity/chaos, intelligence, digital competencies and cultivation.

Ragusa a City of intelligence

Ragusa is an interesting bench learning case of city of IC wealth. It was both a city and a republic on the coast line Mediterranean, more precisely the Adriatic coastline. It had one of the highest standards of living for 500 years. It sustained its independency throughout five centuries. In an article 2002, "Ragusa intelligence and security 1301-1806: A model for the twenty-first century? The late professor Stevan Dedijer, known as the "father of social

intelligence" elaborated on the key success factor for Ragusa. I have rephrased it to *sustainability factors for knowledge regions*.

Ragusa, according to R. Harris, 2003, was legendary for its diplomatic expertise ; its political stamina was extraordinary, its merchant, trading throughout the huge Ottoman Empire, enjoyed privileges denied to other Western states. A political skilled and commercially enterprising ruling class too every opportunity to maximize the Ragusan Republic's Wealth.

At the end of 15th century, it had the largest fleet of merchants in the Adriatic Sea. During the second half of the 18th century it established 60 ambassadors or intelligence offices I almost all major cities in the Mediterranean. Ragusa had on its flag between 1358-1806 written "Libertas". Then for the first time in its history Ragusa was occupied by the forces of Napoleon, and in 1808 it ceased. Today the city is called Dubronik in the state of Croatia.

The sustainability factors for Ragusa has been extracted in a research by on of my Master Students, D. Radovanovic, Lund University 2004. They can be summarized as follows:

- Organized strategic Intelligence and Security. (According to Dedijer the first European function for Intelligence and Security emerged in Ragusa in 1301).
- Political Stamina and governmental diplomacy
- Spirit of the city and cohesiveness
- Diversity with intensive immigrations in a quest for collective wealth
- Rich cultural life and multi linguistic with writings in three languages
- Scientific environment and cultivated knowledge tradition
- Favorable geopolitical position and infrastructure for transports and communication

One of the most intriguing learning is this capability to develop inside as well as outside "eyes and ears" for the future sustainability. Ragusa can be regarded an intelligent city as its government used its international contacts to detect signals from the surrounding world to learn and adapt rapidly. They were among others developing special young dragomans for the role as knowledge navigators or more formally ambassadors.

Intelligent city - knowledge city

The concept of Intelligent City is in working progress. Most of the distinctions of Intelligent Cities are emerging from an information technology perspective.

The World Teleport Association has a special interest group on Intelligent Communities with an award to the Intelligent City. According to them the following critical success factors form the intelligent community ; broad band infrastructure, knowledge work force, innovation digital democracy. A list can be accessible on www.intelligentcommunity.org with among others Singapore, Dubai, Osaka on the list

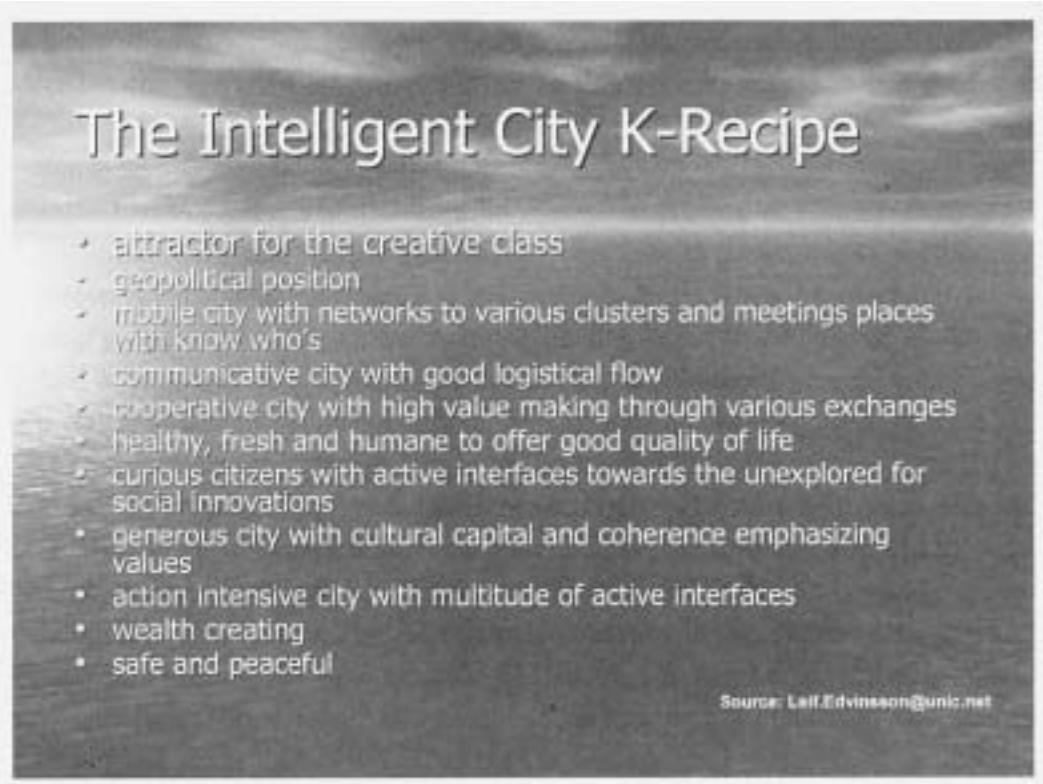
Another distinction of intelligent cities has been offered by N. Komninos (2002) in his book on Intelligent Cities. He defines intelligent cities as islands and communities where the innovation processes meet the digital world and the applications of the Information Society.

The function of an intelligent city are those related to production of knowledge such as R&D, technology transfer, innovations and networking. These functions are taking place in real space by human interactions and in virtual space via ICT. He is highlighting three basic components of an intelligent city:

- islands of innovations e.g. Cluster of industries and services
- virtual innovation system including knowledge tools e.g. Science parks and telematics
- integrations, i.e. connection between real and virtual innovation system

Another distinction that connects the concept of intelligent city with the intellectual capital paradigm is coming from G. Bugliarello, chancellor at Polytechnic University in Brooklyn, N.Y. He argues that an intelligent city is one that has the ability to successfully self adapt to threats and to change and renew. Is is rather close to the dimensions of Ragusa as elaborated of professor S. Dedijer on social intelligence. Bugliarello also argues that the city must be efficient in its use of resources, and highlights the importance of education as a core element of civilization. This is very close both to the dimensions of A. Public on IC efficiency as well as N. Bontis research on the drivers for regions IC, that is highlighting the importance of R&D as number one factor, and educations as the second most important. So an emerging definition of mine for of a K-city might be : *A city purposely designed for encouraging and nourishing of collective knowledge as capabilities to shape efficient value creating actions*

The intelligent city, based on among others leanings from Ragusa, I would like to characterize by the following attributes as a -recipe for City Intelligence:



According to the research on Ragusa three major sustainability factors can be grouped as clusters for further elaborations

- Intelligence, being well organized to relate to the external structural and human capital
- Governmental leadership for providing structural capital as precondition for wealth creation
- Community spirit or values for bonding human capital with different structural institutional capital for the larger common good of the city

More and more cities are declaring themselves as knowledge cities, where the political agenda is developing the context or structural capital fro human capital growth to collective wealth. Here is a list of some of the emerging key cases:

- Singapore
- Barcelona
- Manchester
- Copenhagen/Malmoe
- Dubai
- Melbourne
- Shanghai
- Monterrey, Mexico

In its extension it might be resulting in another emerging concept for urban design -En2Polis, the knowledge city of the future. Some of the major features might be; gateway to world knowledge, knowledge bank, knowledge exchanges, knowledge Olympics, Knowledge Tourism. See more on www.entovation.com

Accounting, Me assuring and Measurement

Why is measurement so important? Simply, because lack of intelligence and communicable information affects trust as well as the efficient supply and distribution of future resources. What is needed in a growing complexity is a clarifying supportive system to sensitise our minds to perceive the best options. In other words we need mapping systems to assure us on the angle of longitude navigation into the future.

What measurement systems can support this sea change in orientation? Certainly the contribution from the essential associated intangibles such as trust brain efficiency, and healthy collaboration are well beyond the scope of conventional accounting systems. The value of relationships needs to be measured, as does the contribution from knowledge recipes.

In terms of measurement the traditional reporting model mostly represents the tangible goods sector and has begun to encroach into the intangible economy sector, based on emerging requirements from among others IAS - International Accounting Standard Board, and its rule *IAS 38*. This is still rather uncommon among the knowledge investor community. Furthermore the IAS rule 1 was refined already in 1999 to include more dimensions of the enablers for financial impact. However, it is not yet able to represent the full potential of the

networked intangible business model of the 21st century based on intellectual capital. In large part it is restricted by the concept of ownership and confined to reporting on elements it can identify within a firm's legal boundaries. This is inadequate in the knowledge economy. What is needed is the lateral accounting perspective of the corporate longitude intangible items.

As the new economical value is in the longitude, i.e. lateral dimensions instead of vertical dimensions, we have to develop more lateral, benchmarking, accounting of value creation potential of intangibles. We have to acknowledge such new intangible indicators and get the accountants to audit those, as well as annual reports to present transparency of such intellectual capital, to be able to navigate these new organizational value creations. See the Danish Guidelines on www.vtu/icaccounts.dk In December 2004 a High Level Expert Group to which I belong, has been appointed with EU to look into developing guidance for IC reporting for knowledge intensive enterprises, especially the R&D sector.

One of the most refined recent such IC reports, following very much the experiences from my prototyping IC reporting at Skandia, has during 2002 been presented by Seibersdorf Research Center, and IC pioneering colleagues in Austria, among others Dr. Manfred Bornemann, see www.wissensmanagement.TUGraz.at. Furthermore during 2003 there has been implemented in Austria a law requiring all Universities and Colleges to publish a knowledge capital report annually, showing knowledge goals, knowledge processes as well as knowledge indicators. The very first prototype done among others by University of Kremz, Austria . Recently the Ministry of Science and Work in Germany has run a prototyping project on Knowledge Reporting. See www.wissenskapital.info or www.akwissensbilanz.org

In Sweden the very first similar prototype for R&D institutions was launched 2003 by CMM-Center for Molecular Medicin at Karolinska, with a follow up now in 2004. See www.cmm.ki.se .

Several methods for Regional IC have been presented elsewhere in the book from Dr. Nick ontis, professor Ante Pulic, professor Jose Viedma and professor Ahmed Bounfour as measurement approaches.

IC rating is such an important assessment tool, complimentary to the S&P rating of financial capital in progress since 1997. In Japan this method is represented through Actcell. IC rating is about benchmarking the perspectives of efficiency, renewal and risks on IC components, for future earnings potential. See more on www.intellectualcapital.se . It is now used by more than 200 organizations both in Europe and Japan. It seems to be especially interesting for public organizations such as schools and hospitals that do not have the public stock market as a grading reference point. This approach is now also being applied for regional rating of IC of cities and regions. The IC-rating gives both a map for benchmark versus best in class, but also a platform for assessing the future earnings capabilities, thereby creating an intelligence trust for the future.

Cultivating Leadership and Nourishing strategic Intellectual capital

Further more the new unit of analysis in the knowledge era will be innovations and sense making, which might reconnect to the ecology of the knowledge economics. It is about the roots meeting its context It is about cultivating spaces for such meetings both to happen and when happen to release the brainpower potential. It is about the intangible enablers for knowledge exchange and knowledge interactions by longitude leadership. Traditional offices might not be the solution, but rather knowledge cafes as the exchanges for new thought leadership

Value, or intellectual capital is created in the interaction between people (human capital) and the organizational structural capital such as R&D processes. Nonaka (1994) is referring to this as knowledge creating dialectics or Keneties. He also referred to them as Ba, which literally is said to mean a space for appreciation in Japanese. In Skandia's case they were labelled Future Center. The Skandia Future Centre, established in 1996, focused on the value creation by experiential knowledge exploration. It became an arena where employees could enter into the future and then return to the present with new insights and Aha's for a more intelligent dialogue and knowledge sharing.

In February 2002 the Ministry of Economics in Denmark launched Mind lab, which is similar to the concept prototyped at Skandia or the Japanese concept of BA Mind Lab is however a centre with the aim nourish knowledge management in the public sector, see www.mind-1ab.org. A similar innovation platform was during 2004 launched by the Dutch government and its Ministries, for combined knowledge nourishment by among others the Ministry of Finance, Ministry of Social Affairs, Ministry of Transportation and the Ministry of Agriculture.

In 2004 is another such knowledge idea lab, called Momentum, established for regional development on North Zealand in Denmark, see more on www,MomentumTnord,dk

What seems to be one of the dimensions of intangible strength is the organizational capital, as outlined on corporate level by K-E Sveiby in 1997. Later on elaborated by many among others also D. Ulrich and N. Smallwood in HBR 2004. However very few have addressed this for society development and urban design. . The social construct of the firm as well as the city is emerging as key organizational capital, among others as Urban design as social innovation, like in the case of Barcelona.

Architecture and Space Design

The Skandia Future Centre with its focus on the value creation by experiential knowledge exploration. became an arena to prototype the impact of space design for among others knowledge well being and reducing the fear of innovation.

Furthermore is now shown in research at University of Gothenburg that high importance of psychosocial dimensions. In that we find the architecture, and contextual design to stand for

around 20% of the health impacting factors. Recently a gardening approach has been prototyped in research of gardening impact on health, by P. Grahn, Land University. Furthermore Dr. Reza Emdad, at Karolinska Institute in Stockholm together with several colleagues have looked into the impact and intervention approaches, derived from modern brain research, to prevent work related stress and transformation of intellect into IC at work.

What seems to be essential in these new spaces is among others :

- the creative context
- networking space
- quality of life and mind satisfaction

Consequently the new ecosystem for cultivating leadership will require a combination of new accounting approach with new indicators related to values as well as spaces for value creation. In Sweden we are now prototyping both the cultural accounting, health management and knowledge space design for intangible strength. See www.bottomline.se In Denmark one of the globally awarded prime movers on this is the pharmaceutical company Novo Nordisk that is reporting on the sustainability for its stakeholders. See www.novonordisk.com

Knowledge Zones as Super Brains

Urban design becomes a sustainability factor for in-sourcing and retaining talent. Now in the 2lst century is emerging innovation based knowledge zones, with a more amplified dimensions collaborations and quality of life for its citizens. According to Dr. Debra Amidon (2003) is a Knowledge Zone a geographical region, segment or community of practice in which knowledge flows from the point of origin to the point of need or opportunity. She sees an evolution from the 1980's with various academic, industrial as well as governmental technology parks oriented training based initiatives. In the 1990's this was replaced by more learning based science parks. A special knowledge recipe for such K-zones can be further read about on wrrw.entovation.com.

What is evident is the clustering of talent to special places, for knowledge specialization. The creative e-c1ass will migrate to knowledge centre on a global scale with a good living. This is where both financial capital and intellectual capital will accumulate. Efficient societies are shaped to attract, retain and cultivate the brains.

This evolution of organized knowledge capital can also be viewed from emerging insights of neuroscience. During the last decade more and more research have shown how the brain is evolving, and has been growing to the present size and capability. Billions of connections and neurons are shaping the evolutionary biological base for intellectual capital. The society is such an organized collaborative thought processing. The cultural competitive process and migration of talent into superbrains is described by professor emeritus G. A Karlsson. In 2002 R. Lynn and T. Vatanen published a quantitative research named IQ and Wealth of Nations. They try to visualize the differences in wealth between nations related to the talent base.

Strategic City Governance, Public Policy and Society Entrepreneurship

From this it becomes evident that in the growing complexity we need to highlight the transparency for the IC multiplier, or in other words look for what kind of strategic structural capital will leverage the human capital, for organizations as well as regions. On a European level, presented in 2004 by Dr. Ante Pulic, it shows that the GDP of Europe is growing faster than it IC efficiency level. In other words there is a growing knowledge inflation to be addressed. Financial inflation is usually on the agenda of a Central Bank. On whose table is the question of IC efficiency and knowledge inflation?

The development of powerful intangible resources is an essential issue for companies. But it might be even more critical one for society and its public organizations. As it is the case for companies, public organizations must develop innovative strategic society approaches, in particular in the functional "fields" of the intangible: Research programs & development systems of education, fiscal policies, public procurement policies as well as technological infrastructure. This will nourish the growth of regional intellectual capital, or at worst case if not done erode it So the issue of strategic governance is applicable even more for shaping the right society context urban design, for value creating relationships or kenetics.

It visualizes the need for strategic renewal and futurizing of public organizations. As stated by Dee W. Hock, we are in an era of institutional failure. Supporting new strategic organizational and technology infrastructures with managerial practices constitute here an important level to consider. Another one consists in searching to new ways of measuring such strategic public performance.

Research on how wealth is being created in the knowledge era, by Dr. Nick Bontis, points to a Leadership or Governance agenda focused on the following order;

- research and development initiatives
- educational initiatives
- networking and trade development
- industrial efficiency.

One of the most challenging roles will then be related to this agenda for Society Entrepreneurship. The space for this work will definitely be in the twilight zone between public and private sector, as an opportunity space for social innovations.

Key message

The strategic wave of intangibles for IC is increasing. It is evolving within universities, accounting standards groups, political and business communities. The message is that we need deeper intelligence to understand and follow the wave of knowledge economics by:

- eco system for knowledge sustainability
- space for attracting and shaping quality of life for knowledge workers
- relationship spaces for continuous renewal and social innovations

The opportunity for not investing accordingly will shape an erosion of the national welfare. The alternative is perishing by riding the life cycle curve of industrial economics down. It is a leadership liability not to address the potential or IC in waiting.

What is needed now is the intelligence map in the complexity space as well as powerful strategic innovation thrust for how to leverage the knowledge base. A new type of Society entrepreneurship might be the key role to nourish this longitude value, also referred to as the 4th. sector! Where and how do we develop the training camps for such kind of leader-ship?

Some links for further reading

www.corporatelongitude.com
www.intellectualcapital.se
www.wissenskapital.info
www.akwissensbilanz.org
www.iccommunity.com
www.entovation.com
www.kmcluster.com
www.bontis.com
www.minez.nl
www.blev.stern.ny
www.vaic-on.net
www.intellectualcapital.nl

Keynote Address VI

Emotional Intelligence

Peter SALOVEY*

I am going to talk about emotional intelligence, which might be a new idea in the field of knowledge management, but I believe that when we are talking about transferring knowledge from person to person in organizational settings, in societal settings, that emotions are a misunderstood concept and one that plays a bigger and more important role than has historically been attributed to them. I think it does fit with the idea of Japanese Chi. You will recognize the relationship between emotional intelligence and knowledge management. Perhaps, the talk today will provide a new perspective where at least an additional perspective on the on the remarks made so far this morning and this afternoon.

Let me start with a story that I think illustrates the idea of emotional intelligence. It has to do with a time I met President Clinton. President Clinton came to Yale University, my university to give a speech. As you can see on the slide, he is looking at me warmly. He is making me feel comfortable. He is looking in my eye. He is giving a warm handshake. He is trying to make me feel that I am the important person in the room rather than he is the important person in the room. He recognizes that I am kind of anxious. I am feeling dokidoki. He knows that he needs to make me feel better. He, in fact, is very good at managing the emotions of other people. He is the president whose favorite expression was "I feel your pain", sort of showing empathy for people he interacted with. That is my wife in the middle in the black dress. He is also trying to make sure that she feels included in the conversation. You can see that he has his arm around her shoulder. But this also brings up another point about Bill Clinton. That is, although he has many emotional skills, he also has some deficits. His impulse control problems are what have occasionally gotten him into trouble. The illustration here is that someone may have some skills in this area, they can also have deficits at the same time. Unlike IQ, EQ, emotional intelligence is not a monolific construct. It is not just one thing. Rather, it is a set of skills that people might have in abundance on some dimensions and lack on other dimensions.

The idea of emotional intelligence represents a historical trend in my field. I am a psychologist. While serving as a Dean of Yale Collage, I am also a professor in the psychology department. In psychology over the last 50 years at least in North America, there has been a shift in what we mean by or how we view emotion, and a shift in what we mean by

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* Dr. Dean of Yale Collage, Chris Argyris Professor of Psychology, Professor of Management, Yale University

intelligence. Such that a old view of emotion is giving away to a newer one.

The old view, the traditional view of emotion is that is passion (emotion) and reason (thinking) are on opposite ends of the spectrum. They are antithetical. When one is feeling emotional, one's thinking is in chaos. One's thinking is haphazard. One's thinking is immature. This is an idea of Daycart and many others.

You can see this idea in all kinds of philosophical statements like this one. "Rule your feelings, or your feelings will rule you. If you took a class in psychology in North America in 1940's or 1950's, the way in which emotion would have been defined in your psychology textbook would be this way. "Emotions are a disorganized response, note the word disorganized.

Or, "Emotions are acute disturbances. . ." or, my favorite, "Emotions cause a complete loss of cerebral control and contain no trace of conscious purpose". If this really were emotion, what emotions are all about, one would try to stamp out emotions. One would try never to have an emotional experience. Why have a complete loss of cerebral control?

The new view of emotions says no, emotions are adaptive. That is, that they help us. They are functional. They organize our thinking. They help us know what to pay attention to, and they motivate behavior.

This idea was suggested in the 1940's but rejected at the time by Robert Leeper when he argued that we have emotions to because they arouse us, pay attention to something. They sustain our attention, and they motivate or direct our behavior.

This change from the old view of emotion as haphazard and chaotic to the new view of emotions as functional and adaptive and helpful in some ways has come about because psychology and other social sciences have rediscovered Charles Darwin. Darwin would have argued in his book the expression of emotion in men and animals that our emotional system is an intelligent system. He would not have used the world or phrase, intelligent system, but that is what he described when he argued that our emotional system we have evolved it, because it helps us survive by energizing behaviors required for survival. That is making it easier to run away when we are afraid. It is easier to run away from the predator. When we are angry, it is easier to fight someone that is blocking our goal. When we are happy, it is easier to cooperate. Also our emotions signal information to other members of our species.

So if an animal bares its teeth, shows its teeth, when angry, it signals an intention that I am angry and I am going to bite you, and the other animal can change its behavior and this helps both animals survive. Smiling of joy is supposed to signal that it is safe to approach me. The frown of sorrow or tears of sorrow means that I need to be taken care of. The wide eyes of fear show that I need to run away, or actually, we all need to run away. Darwin argued that this is an intelligent system. This is providing information. This is communicating knowledge.

We have evolved this system, because it helps us survive. Unfortunately, this view of emotions largely has been ignored until quite recently. One of the reasons why this new view is becoming popular is because evidence from the study of the brain from the imaging of an active

brain suggests that our emotional system and our cognitive system, the parts of the brain dealing with feelings and the parts of the brain dealing with thinking, are actually in close contact with each other, constantly communicating. Interestingly, when there is damage to the parts of the brain having to with emotions people make poor decisions. Their judgment is impaired. Their cognitive activities are weaker. So the idea that emotions and cognition, the feeling and thinking, are opposites is very much contradicted by evidence of the brain, for example described by Damasio in his book. Descartes' Error is now getting a little outdated in terms of brain imaging work that is reported in it, but it is still a good description of this idea

At the same time that our view of emotions is changing, our view of intelligence is changing. A Chi, which we talked about this morning, is the traditional view of intelligence. That is a kind of general analytic ability. This is what is measured by an IQ test. Many psychologists have suggested that we need a broader definition of what it means to be a smart human being. Bob Sternberg is my colleague at Yale. He argues that not only do we have to consider analytic abilities, but we also have to consider creativity and practical intelligence. Practical intelligence is what in a slang term might be called "street smarts". Your ability to make sense of the world, not just book smarts.

Howard Gardner is a psychologist at Harvard who also argues that maybe there are seven or eight or ten or eleven kinds of intelligence. He even says one of them might have to do with emotions. He calls it intra-personal intelligence, and he argues that this is intelligence about one's emotional system. This is an intelligence that allows you to discriminate among your emotions, to label them, to draw upon them, to use them as means of understanding the world around you and as a way of guiding your behavior.

My collaborator, Jack Mayer who is a professor at the University of New Hampshire, and I took these ideas about emotion that is changing view of emotion and this changing view of intelligence and suggested in 1990 that maybe there is an emotional intelligence. Maybe the idea of emotional Intelligence is not a paradox, but rather, a sensible idea. In an early paper we published, we defined it as the ability to monitor your own and other people's feelings, to discriminate among them that is to tell the difference among them, and to use this information to guide thinking, and guide behavior

Over the past seven or eight years in my laboratory at Yale, we did many many experiment showing that when we induce emotions in the lab, there are cognitive activities like inductive and deductive reasoning that people can do better in certain emotional states. For example, inductive reasoning and creativity is enhanced by positive emotional states, but deductive reasoning is actually enhanced by more negative emotional states. There is a Darwinian explanation that I could provide for that, but I won't do it because it would take too long.

In 1997, we rearticulated our definition, and I think I will go right from the definition to the four major points in it. Emotional intelligence involves perceiving and expressing emotion accurately. That is, understanding my emotions and understanding your emotions.

For example in the face expression, using emotion to facilitate thinking that is harnessing your emotions to think in a more rational way, understanding emotions in language, and managing emotions, that is changing my own emotions or your emotions when that is adaptive. So right now, if I was feeling angry, I probably would not give a very good lecture, so I would want to engage in some kind of strategy to manage that emotion in order to be able to present to you today.

Now we looked around the world around us to try to find examples of using these four skills. So perceiving emotion might be not just the ability to see emotions in yourself and other people, but also to understand the emotions in objects of art, in a story, in music. That using emotion to facilitate thinking might involve actually creating certain kind of emotion in oneself in order to be a more creative person or to solve certain kinds of problems. Understanding emotions in language involves understanding the transitions between the emotions, how irritation can turn into anger can turn into rage. And as well how emotions might blend together to create yet other feelings. And finally, managing emotions as I said involves being open to changing one's own feelings or other people's feelings when it is adaptive and when it helps one grow.

Now if one is going to take the idea of an emotional intelligence seriously, we need to find a way to measure it in people and then look at whether these measures of emotional intelligence predict anything important in the world. Today I am just going to focus on what they predict in a work place setting, but we can also look in school, families, in friendships. I will mostly talk about work place. Our test called "the Mosquite" in Japanese Mosquito, is Mayor, Salovey, Kruso, Emotional Intelligence Test. The three names an emotional intelligence test. We had an earlier version called the "MIS" which we also sometimes see. It is organized around four sets of skills - perceiving, using, understanding, and managing, and each skill is measured in two different ways like faces or pictures. Let me give you an example. For perceiving emotion, we might show you a picture of a person like this and say, "What is the emotion she rs experiencing right now?" I think she looks a little happy, but she is not very happy. Her eyes do not look happy even though her mouth looks happy. Maybe she is also feeling a little bit anxious, a little bit worried, I do not know. We could show you a picture and say, "What emotions was the artist here trying to express in painting this picture?" Maybe this is calm, but also the calm before the storm. That is, there is something on the horizon that does not look quite right. For using emotion, we might ask you questions that ask you to use to take emotional language and describe those emotions using the language of other senses. Here, we are describing a feeling having to do with being surprised when you are given a gift that you did not expect to get, and asking you to use the language of colors and temperature and taste to describe these feelings. We might ask you direct questions about what emotions might be helpful when trying to solve a problem. These are based on our research. As I said earlier, more negative emotions help with deductive reasoning, and that would be a correct answer to this question.

For understanding emotions, we might ask you about language. I do not know how well

this will translate, but if we describe a feeling like contempt, we would then ask what emotions does this also involve? Surprise, anger, fear, maybe disgust and anger is a good answer. We might describe a progression of emotions. Tom felt anxious, and he became stressed when he thought about all the work he needed to do when a supervisor brought him an additional project. Now how does he feel ? Perhaps overwhelmed is a good answer to this question.

Finally for the forth set of skills, managing emotions, we might present scenarios. I apologize this is difficult to see, but you have the slide in your notebook. We will give a story like person named Debbie who comes back from her vacation feeling peaceful and happy, content. How well would each of these actions preserve this happy mood? Would she still feel happy if she started to make a list of things she needed to do? Would she still feel happy if she began thinking about where to go on her vacation? Would she still feel happy if she ignored the feeling? Would she still feel happy if she called her friend to discuss the vacation? We can also give scenarios about other people. These are two people who work together, Ken and Andy. They have worked together for ten years, but Andy was just promoted and is now the manager of Ken. Now they have a problem. Ken feels that Andy is bossing him around, but Ken would like to maintain the relationship. What might he do to manage these feelings? Could he try to understand Andy's new role? Should he confront Andy and challenge him? What should he do? Now, one might ask, at this point, how do we decide what the correct answer to these questions would be? We could do this in a couple to different ways. One is we have given the Mosquite to 5000 people all over the world. We can look at how a person's answers match on mach with the 5000 people who have taken the test How in tune are your emotional responses with others? That approach might bother some people who feel that that just sounds like conformity, that you are like everyone else, so we can try another approach. We have emotion experts. These are members of a research society called the International Society for Research on Emotion. These are people who have studies emotions professionally all of their lives. We ask them to answer to provide the correct answers, and then we map your answers onto the experts' answers. We can give you a score either way.

I do not know if this is a group that likes statistics, so I will not talk about them too much. Other than to say the test is a reliable test. These are a split half correlation. If we take half the test and give it to you and then we take the other half and give it to you, your score on one half of the test is highly associated with your score on the other half of the test. These correlations can range from zero, which is no associations, to I which is perfectly associated, or -1 which is perfectly associated in the opposite direction. I think you can see that the scores range from 0.9, 0.8, and 0.7. This is very high agreement. Also if you take the test one time and take it again a month later, your scores will show a high level of agreement, about 0.86.

What is related to high scores on these tests? People who score high on emotional intelligence report that their relationship with their parents, psychologists call this the attachment relationship, was secure, was a mature, and appropriate kind of relationship.

They are the kinds of people who display more photographs of their family members in their office and in their home. They are more likely to work as care takers, but they are less likely, note the negative correlations, to use drugs. They are less likely to get into fights. They are less likely to vandalize.

This is a study. This is a complicated slide, but this reports a study where we asked a 106 college students in Germany to keep track of every social interaction they had for two weeks. Every time they interacted with another human being, they had to fill out a little card describing the quality of that interaction. You can imagine how many cards they created. In fact there were 4552 cards. Then we looked at their emotional intelligence measured with the Mosquite and found that people were good at managing their emotions. Our fourth branch, reported higher quality interactions particularly with members of the opposite sex, with women if they were men, with men if they were women.

This slide, columns moved around a little bit, but what I am showing here is that in Yale college students, their scores on the emotional intelligence, that is their Mosquite scores can tell us who over the course of the next year will report having a problem with depression or anxiety. You see, that the scores on the Mosquite are negatively correlated, negatively associated with depression and anxiety, but positively associated with their satisfaction with college

The SAT is an examination that students need to take before going to college. They take it in high school. Even if we know their IQ, we can still predict how well they will do on the test over and above IQ with some of the tasks on our emotional intelligence test. This is a regression model. I think what we are picking up here is that the people who do better than their IQ says they should do or who do worse on their college entrance examination than their IQ says they should do because these are the people who can manage the emotions of a testing situation. These are the kind of people who can manage their own feelings in order to study for the test. Again in adolescence, we had 207 teenagers keep a diary for a month of how many times they smoked cigarettes, how many times they use alcohol. We found that the ones who scored lowest on the emotional intelligence test were more than twice as likely to use alcohol or tobacco as the ones who scored high.

Those were all studies about students in school. What does this have to do with world of work? What we find that in a work place, emotional intelligence is also associated with positive outcome.

This is a study done by a woman named Sheryl Rice. She is a psychologist. She studied 160 claims adjusters in an insurance company. These are people who settle with customers when there is damage to a house or automobile. They decide how much the customer is going to be paid for that damage. What she found is that the emotional intelligence of the claims adjuster was correlated with customer satisfaction. The higher the emotional intelligence of the claims adjuster, the more likely that the customer was to be satisfied with the interaction and with the settlement. These people were not more productive. They took just as long to settle these claims, but the customer was more satisfied.

Another study involved asking people in a work place to work together to solve a problem. This is a group problem solving task that took 10 weeks of weekly interaction in a meeting. We measured the emotional intelligence of every person in each of these groups. And we looked at who at the end of the 10 weeks was rated by the other members of the group as having more strategic vision, being a more satisfactory communicator, as interacting more in a more satisfying way with their peers in the group, at providing more social support, and it was the people with higher scores on the Mosquite. We measure emotional intelligence, controlling for standard measures for personality, that is already taking into account standard measures of personality and intelligence.

We just finished a study in a Fortune 400 health insurance company in the state of Connecticut in the United States. This is a study of 44 people working in a finance division of this company. In this study, we had hard outcome data. We could measure their emotional intelligence at the beginning of the year, and then look at their salary at the end of the year and their supervisor's recommendations about their salary at the end of the year. We also had measures of their peers and supervisors ratings of them on important aspect of work. So here, you see those ratings. The first column is the correlation between the person's emotional intelligence and the ratings of their peers in the work place on these dimensions. The second column is the ratings of their supervisors on these dimensions. What you see here is that the people who score high on emotional intelligence are rated as more sensitive, as more sociable that is more friendly, as generally having more positive interactions, as helping to create a positive work environment, as being more tolerant of stress, of generally being in a better mood, and as showing more leadership potential. Correlations of point 5 in this kind of work are actually quite high. Generally in psychological work, correlation of point 3 is considered as something to take note of. In this workplace study, as I said, we can also look at the salary increases recommended for these workers. You can see that their scores on the Mosquite overall as well as their branch scores, the four parts of emotional intelligence, generally correlate positively with salary increases. The people with are most emotionally intelligent, one year later, are receiving the biggest raises. They are also rising to higher rank in the company, and their overall salary tends to be higher. It looks like managing emotion is the most important part of emotional intelligence from a salary point of view. So we can predict by giving our emotional intelligence test at time one a year later which workers are going to be recommended for salary increases by their bosses.

Now why have you probably heard about this idea of emotional intelligence? 10 years ago, a book published by a psychologist who is also a journalist, Danielle Goldman, was a bestseller all over the world. This is the best selling book in popular psychology in the United States ever. It was translated into 30 Ianguages and sold all over the world. The book makes some claims that are probably too strong such as that emotional intelligence matters more than IQ. We do not know if that is true. It probably is not true. It does matter. It matters in ways that I think people found quite interesting, because in the workplace everybody is of fairly high IQ.

IQ is not going to predict what makes for success in your workplace, something else has to, and it looks like emotional intelligence. Danielle Goldman was very nice to us. He talks about our research in his book. He talks about many other things such as brain research, work, and schools. It is a very interesting book. It is available in Japanese. After the book came out, there was much media coverage of the idea of emotional intelligence including media coverage in Japan. This came out in 2000. It describes the high IQ or the highly emotional intelligent sales person. This kind of media coverage occurred in Germany. Spain, France, and United Kingdom, really all over Europe and, to some extent, all over Asia. What has happened in the aftermath of this media coverage is much interest in emotional intelligence in many different areas : in human resources development, in understanding politics. Why do some political candidates connect with voters even when their political positions on issues are not in the interest of those voters? I won't say who I am thinking about when I say this sentence. Also in marketing, the idea of connecting to customers through emotions, emotional branding that is to make an association between the brand and emotion. We have heard about Honda motorcycles earlier today. In the US, another popular brand of motorcycle is Harley Davidson. Harley Davidson tries to connect around emotions having to do with rebellion, almost a little anger. You can treat society with contempt if you own a Harley Davidson motorcycle. Other areas include the personal growth area, therapy, worker education, and educational curricula in our schools. More and more there are examples of students learning about their emotions as part of their educational program. I will mention a couple of these today. Here in Tokyo, probably the best known approach to emotional intelligence in organizations is taken by EQ Japan who measures emotional intelligence and then uses it to help place people in careers, in career counseling, in out placement counseling, in career development and leadership training.

The next 10 years, I believe, are going to be a very important and interesting one for seeing where this emotional intelligence idea can go. I am very pleased that people who are interested in knowledge management are beginning to make connections with these ideas of emotional intelligence, that there may be a way in which the kind of networking, communication, at the individual level, at the interpersonal level, social networking, at the organizational level, organizational communications, and as we heard this morning, even at the societal level, in the design of architectural spaces, and even cities might take an emotional component into account. The idea being that we need to encourage emotional states that actually lend themselves to effective communication to building social bonds, to developing bonds, not just social bonds between people but between people and societies, between people and organizations. But there are still many questions to ask. We have been doing research, as I mentioned, since 1990, but we still have more questions than answers. We do not yet know which parts of emotional intelligence are most important. It does seem that the managing component seems especially important. We think that maybe the most important one.

There are going to be many times when emotion will help people reason more rationally, but that will not happen all the time. Even though I am a supporter of emotion, I know there

are times when people can be so overwhelmed by fear or anger that they are not going to be rational. That can happen. We need to know where the threshold is, how much emotion helps reason, how much emotion gets in the way of reason.

A question that might be interesting to you because this is an international group is the issue of emotion and culture. The emotional style of North Americans is somewhat different from emotional style of Japanese. Do people see those differences? Is part of emotional intelligence being aware of these differences? I have a minute or two so I will give you a few examples. The stereotype of Americans is that they smile a lot. Americans walking down the street in Europe, the Europeans look at them and say, "He must be an American. He is smiling at nothing". Eastern Europeans smile less. Americans like to smile at their own individual accomplishments. They individually are happy today. That is why they are smiling. In Japan, that seems a little individually focused and you will see people hiding their smiling a little more. For example, this gesture, when you smile and then cover it up with a hand and look away. You will never see an American make that gesture, but you will see Japanese make that gesture. It is a little big embarrassing to smile about an individual accomplishment, maybe okay about one's country or one's family, or one's company, but it is a little embarrassing to be so self-focused. Another good example is to look at a way in which people behave emotionally at funerals. In the United States where I live, the original immigrants to that part of the United States are from the United Kingdom, generally from England, and they at funerals do not show much emotion at all. They look respectful, but they do not cry very much. On the other hand, later waves of immigration from Southern Europe (Italy, Greece) and Eastern Europe (Poland, Hungry, Russia) which is where my family came from when my grandparents came to New York much more likely to cry at a funeral, hug each other at a funeral, look openly distressed at a funeral, and then eat more after the funeral. I was once at a funeral in New Orleans, Louisiana of an African American family. They were dancing and celebrating in a very happy way at the funeral because they believe that it is important to celebrate the person's life and the fact that he/she is going onto something even better. Different cultures have different display rules when it comes to showing emotion, and I believe that emotional intelligence involves understanding these cultural differences. I think they are quite interesting. I think as our workforces become international and as companies become global, the miscommunications in the work place at the end of the day are going to be likely the ones that involve emotional misunderstandings rather than cognitive misunderstandings. If you saw the movie, I am sure many of you did, called "Lost in Translation", the character played by Bill Murray, he has many personal problems, but he also fundamentally does not understand Japanese emotional culture. He thinks that too many people are worrying about him ; he thinks people are invading his personal space, and really it is just Japanese hospitality, but he does not understand it. That is emotional problems across cultures. We believe that emotional intelligence can be learned. It is not just a genetically based skill. Because it can be learned, we are going to see more and more interventions in workplace settings and in schools design to help build emotional intelligence and these skills as part of what it means to develop human capital.

References

If you are interested in the ideas I mentioned, I do recommend to you the website: www.unh.edu,emotional.intelligence.

At that website, we have put many of our papers that you can download copies of and have information about the test if you are interested. Also, we have some books' available that you might find interesting. The one I will mention is the last one, because just two weeks ago, the Japanese version was published and it is now available in Japanese here in Japan.

Keynote Address VII

The Orin of “Chi” in the West and in Japan

Matsutaro Morita*

My name is Morita serving as the President of the Knowledge Management Society of Japan, and I do want to thank you very much for being with us today. I know you are very busy everyday.

1. The Japanese people believed in God nature

Listening to all the keynote lectures, I feel that there is a great deal of difference regarding their approach to knowledge management. My theme for this afternoon is the origin of Chi in the west and in Japan. Where do we differ? How do the west look to us?

First of all, I would like to mention a little bit about God in Japan. When we say God in Japan, it is actually very different from your western God. In the western culture when we talk about God, it is the one and the only God. But as you see in my PowerPoint slide, we feel God in a way where he cannot be explained in a physical form. For example, if you go to a shrine in Shintoism, there is no icon. In Buddhism, there is the Buddha. In Christianity, you have the Christ or the Virgin Mary. But when we look at Shintoism in Japan, we do not have the graven image or a bible. Instead, we feel God in the mountains, forest, or nature. Inside such nature, we feel our God. It is not visible. You might think it is strange, but that is the true mentality of Japanese people. When we think about God in Japan, it is quite complex, because we feel him in nature. Sometimes we feel him in the winds. Sometimes we feel something through the bug sounds. Sometimes we feel him in the flow of water in the river. We often say that we feel some spirits in the forests. Usually, shrines have a mountain behind it. I do not know if you have visited the Meiji Shrine in Tokyo. If you have, you will notice that the shrine is not painted. However, if you visit a temple of Buddhism such as Sensoji Temple in Asakusa, you will see that the temple is colored in red. On the other hand, Meiji Shrine or Ise Shrine, for example, they do not have any paint, and there is no pavement. If you look at the roads, there are small pebbles. We do not use concrete or asphalt to make a pavement. We have the nature placed as it is, and I think that is the basis of the Japanese people's hearts and minds, and I think it is very different from the western culture. In the olden days, we

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used to believe in many Gods or 8 million Gods, meaning we felt God in various areas. I think this has brought various different concepts into our products that are very unique to Japan. When we look into the history of Japan, around AD 500, Buddhism came to Japan from the Korean Peninsula originally from India and via China. When Buddhism came in, the Japanese people felt that Buddhism is one of the 8 million Gods that we believed in. So we were able to accept Buddhism without resistance. Interestingly, in the 16th Century, Christianity came to Japan through priests from Europe. For some reason, Christianity did not become a major religion. You might find it strange to see that Buddhism came to Japan and was easily accepted, but not Christianity. I think the number of Christianity population is roughly below 10% now in Japan. I strongly believe this has its roots or reasons in the monotheism or polytheism. In Christianity, people believe in one God, so it is monotheism. Shintoism is polytheism. Therefore, the concept does not belong or match with the monotheism. Maybe this is one of the reasons why Christianity never dissolved into the Japanese culture or society. I strongly believe that the concept of religion is very different in Japan.

2. Japanese people had the ability to take in foreign culture and transform it to Japanese style

When we think about the Japanese culture, once again, I think it is related to monotheism or polytheism.

Japan's culture has always had a tendency of accepting foreign cultures. For example, looking at letters, we have the Chinese characters that originated from China. We accepted the Chinese characters, but rather than accepting the Chinese letters as they are, we actually localized them into the Japanese Chinese characters. Also, we made our own alphabet such as Katakana and Hiragana, which is more of an abbreviated version of Katakana. We have two Japanese localized alphabets. Interesting thing about the Japanese culture is that we humbly take in foreign cultures, but we do not just accept it. We actually localize it into the Japanese style. I feel that it maybe the Japanese characteristics that we change it so that it is easier for us to use. We have a culture of accepting foreign cultures, but we have the capability or skills to change it into our own style. Going back to the alphabet of Katakana, we actually use Katakana for foreign words such as Coca Cola. Foreign words are expressed in Katakana. When we say foreign words we mean English, French, and various foreign languages. These foreign language words are expressed in Katakana so that it is clear right away that it comes from a foreign country. What about China, the origin of our Chinese characters? In China, they do not have Katakana, so they have a very difficult time writing foreign words such as Coca Cola. In the Meiji era in Japan, when we were talking about foreign cities such as London, we used to use Chinese characters, but now we can use the Katakana alphabet to write the foreign cities. Because of this Katakana, Hiragana, and Kanji, we are able to accept foreign cultures very smoothly. It is a very appropriate culture for accepting foreign cultures. In 1868 when we went

through the Meiji restoration and we started to accept foreign cultures, or in other words, when we opened up our ports for the foreign countries, various cultures came into Japan. But I think we smoothly or easily accepted foreign cultures. This is because we had a foundation of acceptance. If you look into the Chinese culture, I think the situation is different When we compare ourselves to Korea, I think it is also different. In Korea, they do not have Chinese characters and they have their own alphabet similar to Katakana, but it is not as useful or easy to use. We in Japan are able to take in foreign cultures and domesticate it or localize it That is the strong characteristics of Japanese society. When we had the Meiji restoration in 1868, we constantly say that we learned the western knowledge while the soul deeply remained Japanese. We learned the civilization or technology of western cultures. For example, iron came from a foreign country; however, Japanese people put their effort and skill to it and made a sword that cannot be produced by foreign countries. Another example is transistors. Japanese people developed a transistor radio making use of transistors. It is not just limited to technology. As Professor Nonaka mentioned, it applies for philosophy and also literature. We would translate it and appreciate the foreign or western academics.

3. Positioning of Japan and England

I would like to briefly think about the position of Japan. Here I have pointed out Japan, and there is the Eurasian continent. Japan is the Far East Island. This island in the Far East is Japan. Symbolically, to the far west, there is the United Kingdom. We are both island countries, but located on the east and the west of the big continent. For some reason, the two island countries have lived a very different history. We are both island countries, but I wonder why we are so different, In 1600, a law for public traded companies was passed. This law was constituted in Holland and then in United Kingdom. I think it was in 1602 that this law was constituted and since then, the public traded companies became the main stream in business. What was Japan doing at this time in history? When European countries were out establishing companies going out into India, going into commerce and trade, and conducting global business, what was Japan doing? Japan had the seclusion policy where we closed our country. This was after the battle period. It was in the Tokugawa period, and we had also entered the Edo era. While the western countries were trying to go out into the globe and the world, we were taking the opposite policy where we secluded ourselves from other countries. While we were remaining in our own country within our own boundaries, European countries were going out into the world and were taking the colonial policy and were trying to extend their power. Japan was doing quite the opposite, closing its country. This isolation period lasted for 250 years and is believed to have formulated the characteristics of Japanese people. I think this is one of the historical reasons why Japan has a very unique Chi or knowledge.

4. England was good at creating de facto standard

England had its colonial policy and was creating various colonial countries. I think this is the wonderful fact about Anglo-Saxon. Because of commercial requirement, they needed to create accurate and precise contracts. Because of this need, an occupation called lawyers was born. The lawyers would create or put together these accurate precise contracts. Because of these contracts, trade stabilized. Foreign trade also became very developed. There was a lot of commerce among the sea with ships, and there were risks of storms or damages to these ships. To take care of these risks, they needed insurance. Through such trade needs, insurance system was created. I think this was a very smart action. Because of public traded companies, there were stockholders because they wanted to collect the invested money. The investors started to want to sell their stocks, and that lead to the establishment of security exchange. After the security exchange, they needed a certain way to measure the value of stocks. The companies, of course, have their annual accounting reports, but someone needed to fairly audit those finances. Companies would say that they are doing the correct calculation or measurement, but it is no good justifying yourself, so there needed to be a third auditing party. This is how accountants came into the market. Today, we see active exchange of securities and auditing. This was the background to the rise of accountants or auditing. After that, they also needed global standards for accounting. I think that everything in this global market needs standards or principles, and this is a culture that comes from the western countries. These systems are being imported to Japan, but we are still not adopting them fully yet. I think the western culture has constantly had a global perspective. I mentioned that the first public company was born in 1800, but maybe this is also related to Christianity. If you are monotheism, you have strong beliefs. If there is one God, you tend to feel secure and you go out. You want to proliferate your thinking of religious beliefs. When we compare the Latin-American countries that believe in polytheism, they lost against the European countries in the battle of colonialism. Monotheism as a religion is a very powerful religion. It is not about harmony or integration. Today in Japan, we respect harmony or harmonization. We want to be together as a whole in harmony. We went to the Second World War. I think the World War 11 was rather of an exception. We did not have much history where we initiated wars. In the long history of Japan, I think we have constantly respected harmony with other countries. Looking at the business world, English is, of course, the common language. Taking Internet as an example, we cannot be in the Internet world with Japanese. All the software is written in English. In the Internet business world, you cannot operate your business unless you are able to speak English. In the business world, English is now the standard or the common language. When I look back to analyze the characteristics of western cultures, I must admit that their characteristics is being global.

5. Japan during the national isolation period

Let me now speak about a case of Japan from 1600 to 1868 when it has opened. For 250 years, Japan had self-imposed isolation. What was it doing during the isolation years? There was not much trade. It was self-sufficient. People made things and used what they made, so it was a circulating recycled economy. It was no waste economy and no waste life. It was not an expanding economy ; it was a circulating recycling-kind of economy. We wore Kimono at the time. If you had one Kimono, you can re-sew it for summer and for winter during the Edo period when Japan was isolated. It was a recycling economy. Since it was isolated from the rest of the world, many things developed within Japan. It was a period (from 1600 onwards for 250 years) of development of culture. Kabuki was one that prospered and became very popular. What was interesting was that Shogun of Edo, there were about 400 feudal lords, and there were 400 such independent states (a small archipelago) . There was no interchange between these clans. The Shogun at the Edo government tried not to encourage exchange of information. If the feudal lords exchanged information between the northern lords and the southern lords, it could work against the Shogun to topple the government. So they were kept isolated. What happened was, in the northern part of Japan and the southern part of Japan, there were not even common languages. They could not understand each other. There was a heavily localized accented language. It helped, because if a stranger or a foreigner came you knew immediately that that was an intruder, unwelcome visitor. 400 feudal states were isolated states, and the central government of Shogun took a hostage from every feudal clan. They took his wife to spend in Edo. Every 2-3 years, a feudal lord had to travel all the way to what it is now Tokyo and work for the government. It cost the feudal lords and that kept them humble and poor so that they would not raise their arms against the Shogun. On the other hand, the Edo government was powerful. If they heard rumors of feudal lords trying to collect forces to raise arms against the government, they would simply change their location. The feudal lords would have to find another area to stay. What had happened was that the feudal lords kept their ministers in Tokyo. It was for dual purposes. When the government wanted to send a message or instruction to a feudal lord, it went through the minister, and the minister would think what the government wants done. There were two types of feudal lords. One is the lords who were by marriage or related by blood to the Tokugawa family, and others who were not. If you were a part of the Tokugawa family, there was a great deal of interchange and exchange. If they were a part of the family, they could get information fast, but the non-family feudal lords were kept away from information. If the minister would mislead the message, that would be very costly and you could not very well travel and go to Tokyo to check it out. There were large clans, medium size clans, and small clans; there were three layers of feudal lords. That would translate today into big companies, medium sized companies, and small companies. They grouped together to provide a place, "Ba"

as Professor Nonaka talked about. That was where the ministers from various clans got together to exchange information. The ministers from big clans got together, and the ministers from the medium sized clans got together, and the ministers from the small clans got together, and they shared knowledge once every month to try to analyze what the government wanted. They did not dare mislead. It is interesting that they did share knowledge. On the other hand, the government of the Shogun wanted to make sure that the feudal lords got the message, and they were faithfully implementing that. They sent spies to different feudal clans to check if the instructions were being followed. That was information being checked. The ordinary citizens shared information through temple schools, Kabuki, and paying respect to shrines. You have to build certain funds, and if you reach certain amount of funds, you can go see the Kabuki. I think in those days, people grouped themselves to pay respect to the oldest shrine in Ise. That was when the Japanese favorite group trips started with somebody is holding a flag and everybody following the leader. Those group trips served as purpose of knowledge sharing. This was isolated area. Japan was able to accumulate technology, skills, information, and culture. Many of the artisans' skills became sophisticated. They were able to make a wind-up dolls even.

As a typical Japanese culture, there are Haiku, Waka, and the garden of Karesansui. Haiku is a poem constructed with 17 letters. Waka is a poem constructed withy 31 letters. With as few as these letters, Haiku and Waka describe a certain thought in detail. Garden of karesansui is a garden made up of sand and pebbles instead of water, which respects nature.

One of the characteristics of Japanese culture is a way it precisely pursues depth. Monotheism is aggressive. One of the characteristics of polytheism is taking something deeper and sublimating technology into philosophy. For example, Kenjutsu (swordsman-ship) is a technique ; however, when taken into deeper perspective and reaching the philosophical stage, it becomes Kendo (Japanese fencing). Same can be said for Judo (Japanese wrestling), Sado (Japanese the tea ceremony), and Kado (Japanese flower arrangement). To pursue higher mental or spiritual thing is the characteristics of Dou (philosophy).

The only port that was open was in the northern part of Kyushu, Nagasaki. That is one of the islands. There was Dejima, which was a special port that was created for the purpose of foreign exchange. The Dutch and the Chinese were the only two countries that were allowed to trade with the Japanese. They were kept at Dejima. The Japanese government, the Shogun, wanted information from around the world. Through Nagasaki, it knew exactly what was happening in Hong Kong or elsewhere through the trade with the Chinese and the Dutch. It is very interesting to talk about technology. The Saga clan, which is the clan in Kyushu, created a steam ship on all its own. They were able to develop new technology. Japan did it all on their own. This was an interesting time of isolation. In medical science, the Dutch medicine came into Japan through Dejima.

6. Development of systems

There was a futures exchange in a place called Dojima in Osaka. It is said to be the world's first futures commodity market. The Edo merchant, that is the Tokyo merchant and the Osaka merchant, wanted to settle so they came up with the exchange system. Exchange bill was issued by Tokyo that would be taken to Osaka and would be exchanged for money. Edo merchant had double accounting books. They checked twice a year, once in summer and another in wintertime so that they would be able to collect money (loans or outstanding bills). This information did not come from outside Japan. It was all devised here. The temple schools I talked about had standards that were quite high. They studied computation analects. The standard of education was quite high in those days. In 1907 after the modern government of Meiji came in, because there were temple schools, 97.4% of the school-aged people went to school, and they were literate. It is probably the highest rate in the world, particularly at that time.

7. Monotheism and Polytheism

As I mentioned before, we have a polytheistic society, not monotheistic. We think that harmony is very important. The Japanese society is one big village. If the village ostracizes you, that means death, because it was like being served a death warrant. It is often said that the Japanese are not individualistic at all. Nobody speaks up. If you ask a question, there is silence. The Japanese speak when they are in a group. Maybe that was cultivated during the Edo period because the logic of the village hamlet developed. The Japanese thought in groups, acted in groups, and that seemed to be the basic core pattern of the Japanese thought process and action process. Going back to the Japanese sense of supernatural that is very different of those in the western societies, it was a mistranslation to have translated the Japanese Kami as God because is a monotheistic god. It's one and only. What the Japanese referred to is at most small case “g”, and it's a supernatural existence. That is what the Japanese call God, Kami.

8. Contract-based society and negotiation-based society

I think in western society, since one believes that there is one god, you do not compromise or accommodate. Here we are with 8 million gods, you have to live in harmony. We feel much more comfortable to be in harmony with other people. Chinese character for We has two compositions. One is rice and the other is mouth. Getting together and sharing rice is the starting point of harmony or Wa. The corporate leadership is top down in the western society. You do not compromise. You have your conviction, and you just lead. In contrast, the Japanese corporation is a concessional one. President listens to other leaders or managers and represents the group. That is again a harmonious kind of leadership. Statistically I think this is evidenced that the president of Japanese corporation would listen around to management, and try and represent the majority of the managers' opinion. I think that is another unique characteristics

of Japanese corporate governance. Japanese citizens are hungry for information and are very sensitive to new information. Even in the Edo period, there were news media, which was printed on the tiles or bricks. There were many records of information. Japanese had the ability to incorporate foreign cultures but changed it. A Korean author once said that Japanese culture is that of shrinking, because the Japanese like to import foreign culture, make it more precise, and miniaturize it. The president of Honda said "we like to focus on one thing and make it more precise and sophisticated". We tend to be rather good at doing that. I think it all comes from polytheism. Because of two and a half centuries of isolationism, since no culture and skill came in, one had to use what was available and make it better or more profound. There are many heritages that are reported on the world heritage. Toshogu Shrine in Nikko has a very sophisticated wooden carving. It is one of the representatives of Japanese knowledge and intelligence. It represents group intelligence or group skills. I think the Novel Prize in Japan represent group effort. Some people may contribute more than others, but it is a group effort. In the western society, you want to create a standard, a global standard. To protect that global standard, you have a contractual society, legalistic society. More recently, you want to have the BIS, Banking rules, and one single global accounting system. The west needs to have the global standard. In contrast, we would like to harmonize with what we imported and we like to put Japanese color to it, making it more precise and miniature. These are some of the things that go into the creation of Japanese knowledge. I just shared with you some of the things that make up the uniqueness of Japanese knowledge. Thank you very much.

MAKE-Japan Presentation Ceremony and about MAKE

Rory CHASE*

It is my great honor and privilege to visit Japan once again and to participate in The Knowledge Forum and MAKE-Japan Presentation Ceremony. I would like to thank the Knowledge Management Society of Japan for inviting me to speak at this distinguished event.

The Most Admired Knowledge Enterprises (MAKE) research program was established by Teleos, in association with The KNOW Network, in 1998 to identify and recognize those organizations which are creating shareholder wealth (or in the case of public and non-profit organizations, increasing societal capital) by transforming new as well as existing enterprise knowledge into superior products/services/solutions.

The MAKE research is based on the Delphi methodology which was developed in the 1950s by the Rand Corporation as a long-range forecasting tool. When using the Delphi research methodology, a panel of experts is asked a series of specific questions over several rounds. After each round of responses, individual opinions are shared, allowing each panel member to see what the other experts think. Discovering other experts' opinions helps to reinforce those in agreement, and to influence those who did not initially agree to possibly consider other factors. In the next round, the experts revise their views. The process is then repeated, usually for no more than three or four rounds.

The Delphi method promotes unbiased exchanges of ideas and discussion and usually results in a convergence of opinion. It is one of the best approaches to forecasting long-range trends and opinion.

The goal of the MAKE research is obtain a consensus of expert opinion regarding which organizations are leaders in long-term wealth creation based on transforming enterprise knowledge into superior processes/products/services/solutions.

A panel of senior executives and leading knowledge management and intellectual capital experts selects the MAKE Winners. In the MAKE study there are three rounds of consensus building. In the first round, members of the expert panel nominate enterprises (profit, nonprofit and public sector).

In the second round, each member of the expert panel selects a maximum of three organizations from the list of nominations. Those organizations selected by at least 10% of the expert panel are recognized as MAKE Finalists.

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* Managing Director of Teleos

In the third and final round, the MAKE Finalists are ranked against each of the eight knowledge performance dimensions which form the MAKE framework and are the visible drivers of wealth creation:

- creating an enterprise knowledge-driven culture.
- developing knowledge workers through senior management leadership.
- developing and delivering knowledge-based products/services/solutions.
- maximizing enterprise intellectual capital.
- creating an environment for collaborative knowledge sharing.
- creating a learning organization.
- delivering value based on customer knowledge.
- transforming enterprise knowledge into shareholder value.

Besides the annual Global MAKE study, Teleos conducts regional MAKE studies for

- Asia (2002)
- Europe (1999)
- North America (2002)

The MAKE-Japan study, established in 2000, is conducted by the Knowledge Management Society of Japan and supported by Teleos. And, beginning this year Indonesia will officially establish an annual MAKE study for that country.

Trends

In the first Global MAKE study conducted in 1998, a total of 45 organizations were recognized as Global MAKE Finalists with the following geographic distribution:

- North America (33 organizations –74%)
- Europe (9 organizations –20%)
- Asia (2 organizations –4%)
- International (1 organization - World Bank –2%)

The 1998 Global MAKE Winners (top 20 Finalists) were distributed as follows:

- North America (16 organizations –80%)
- Europe (4 organizations –20%)
- Asia (0)

Seven years later, in the 2004 study, there were 43 Global MAKE Finalists with the following geographic distribution:

- North America (19 organizations –45%)
- Europe (10 organizations –23%)
- Asia (9 organizations –21%)
- Africa (1 organization –2%)
- International (4 organizations - Accenture, Ernst & Young, PwC, World Bank –9%)

The 2004 Global MAKE Winners (top 20 Finalists) were distributed as follows:

- North America (10 organizations –50%)
- Europe (3 organizations –15%
- Asia (3 organizations –15%)
- International (4 organization –20%)

The most visible trends over the past seven annual Global MAKE studies are that more organizations are becoming 'International' (global operations with distributed headquarter operations) and that Asian knowledge-driven organizations are rapidly catching up with their European and North American counterparts.

Technology Versus People

The transfer of knowledge concepts, tools and techniques has enabled Asian and European organizations to gain parity – and in some cases surpass - North American companies in several knowledge performance dimensions.

For example, European companies now have an apparent lead in the area of "maximizing enterprise intellectual capital" due to their extensive research and application of intellectual capital measurement tools and techniques. Many Asian companies are creating environments where the conversion of individual tacit knowledge into corporate knowledge is spurring innovation. They also are exploring how to use their deep understanding of customers and markets to establish customer-based knowledge strategies.

There is also an expanding gap between American companies and European and Asian organizations in their approach to the age-old question - 'Technology vs. People?" When compared with Asian and European MAKE leaders, North American MAKE Finalists and Winners are investing much more in information technology (IT) hardware and software resources to capture, analyze, categorize and disseminate enterprise knowledge. In part, this trend is based on the perceived cost benefits of IT-driven knowledge collaboration, as well as US government directives regarding security and corporate governance. Although most KM experts and senior executives publicly state that IT is just an enabler and people are the real key to creating knowledge-driven organizations, in reality North American firms are increasingly dependent on IT-based KM solutions.

At the other end of the spectrum, Asian MAKE leaders tend to favor people over systems. Here the people-based knowledge strategies are augmented and enabled by information technology. This is one reason why Asian companies spend so much time focusing on individual tacit knowledge and face-to-face collaborative knowledge sharing.

European enterprises have tended to adopt a middle position. The European Global MAKE organizations seem to seek a balance between people and information technology. This 'middle approach' stresses the role of people, but at the same time attempts to maximize Intellectual capital value creation through technology. It should be noted that European companies which have a strong presence or significant business interests in the United States tend to follow the American enterprise knowledge approach with a strong emphasis on technology and systems.

North American MAKE Winners

Table 1 is the ranking order of the 2004 North American MAKE Winners. Only four organizations have appeared as winners in every North American MAKE study: Accenture, Buckman Laboratories. IBM and Microsoft.

There are several general observations that can be made based on the scores in the eight knowledge performance dimensions. Although organizations are making progress in aligning knowledge and intellectual capital strategies with overall strategic business plans, creating a knowledge-driven enterprise culture remains a significant barrier to success.

MAKE research indicates that it can take an organization 5 to 10 years to move from a 'command-and-control' to a 'flat' knowledge-driven enterprise culture. Conversely, it requires only 1 to 2 years to completely 'destroy' a knowledge-driven organizational culture. This culture 'meltdown' usually occurs through bad management practices or a rapidly changing business environment, although mergers/acquisitions or the rapid 'destruction' of corporate intellectual capital also can act as a culture 'destroyer.'

One area where North American organizations excel is in their ability to develop senior executives and managers who can lead and develop knowledge workers. This knowledge dimension had the highest average score of the eight dimensions. The challenge for knowledge leaders is to somehow create a sense of urgency and necessity to transform their organization into a knowledge-driven enterprise.

There is a growing recognition and emphasis on the importance of creating wealth through innovation and the development of knowledge-based goods/services/solutions. The 2004 North American MAKE study confirms that organizations are successfully aligning corporate strategies with innovation and product development goals. Many 2004 North American MAKE Winners are actively establishing R&D centers in Asia and Europe to accelerate new product development.

Besides solid organizational knowledge-driven leadership and product development, the 2004 North American MAKE Finalists and Winners also are exemplars in the areas of collaborative enterprise knowledge sharing and organizational learning. The rapid introduction of Web-based technologies and a focus on individual- and team-based competencies have allowed these organizations to dramatically improve their capabilities in these two critical knowledge dimensions.

Creating an enterprise culture of continuous learning is the other knowledge performance dimension where organizations are benefiting from their investment of time and resources. The 2004 North American scores in this performance dimension show a substantial improvement when compared to earlier studies. Advances in information technology, alliances with distance learning institutions and the availability of measurement tools and techniques are enabling enterprises to deliver on their objective of creating life-time learning organizations.

Based on the results of the 2004 North American MAKE study, organizations are continuing to struggle to effectively deliver value based on customer knowledge. The rise of the global customer, more knowledgeable customers and Web-based electronic commerce are

2004 North American MAKE Winners

2004 Rank	Enterprise
1.	IBM
2.	Intel
3.	Dell Computer
4.	Microsoft
5.	Buckman Laboratories
6.	Hewlett-Packard
7.	Raytheon
8.	McKinsey & Company
9.	Accenture
10.	APQC

Table 1: 2004 North American MAKE Award winners ranked by composite score (80 is the maximum score).

presenting organizations with as many problems as opportunities. In some sectors, such as retail and financial services, organizations are collecting so much information about customers that they are finding it difficult to make the best use of it in marketing and sales operations. Dell Computer is an exception and its score in this dimension is the highest recorded for any enterprise in a North American MAKE study. MAKE researchers note that organizations need to focus more on the processes of converting customer knowledge into enterprise intellectual capital.

Finally, there have been small, but noticeable improvements in North American organizations' abilities to maximize the value of their intellectual capital and transform enterprise knowledge into shareholder wealth (or in the case of non-profit and public sector organizations, the increase of societal wealth) . This latter knowledge dimension had the lowest average score for any of the eight dimensions - an indication of the challenge organizations face in creating holistic knowledge-driven enterprises.

European MAKE Winners

Table 2 is the ranking order of the 2004 European MAKE Winners. Only six organizations have appeared as winners in every European MAKE study: BP, Capgemini. Daimler Chrysler, Nokia. Siemens and Unilever.

There are several general observations which can be made based-on the scores in the eight knowledge performance dimensions. European companies are making progress in creating frameworks and implementing tools, techniques and metrics to manage and report knowledge-driven enterprise strategies and initiatives.

The European MAKE expert panel believes that senior management teams are making progress in developing knowledge workers and transforming enterprise knowledge into World-class products/services/solutions. This is significant in light of senior executives' pre-

occupations with managing their organizations during an era of economic and political instability. There is a growing recognition and emphasis on the importance of creating intellectual capital through innovation and the delivery of knowledge-based goods/services/solutions. The 2004 European MAKE study confirms that European companies are successfully aligning corporate strategies with customer-based product development goals.

Besides solid knowledge-driven enterprise cultures and developing and developing knowledge workers, the 2004 European MAKE Winners and Finalists also are world-class in the areas of collaborative knowledge sharing. The rapid introduction of Web-based technologies and a focus on individual- and team-based competencies have allowed these organizations to dramatically improve their capabilities in this critical knowledge dimension.

Creating an organizational learning culture is the other knowledge performance dimension where European organizations are beginning to benefit from their investment of time and resources. The 2004 European MAKE scores in this performance dimension show some improvement when compared to previous studies.

Advances in information technology, availability of new online courses and new measurement tools and techniques are enabling European enterprises to deliver on their objective of creating life-time learning organizations. One note of caution: the return-on-investment for organizational learning investments appears to fall short of European expectations. This is in sharp contract to the findings of the 2004 Asian and North American MAKE studies, where organizations located in these regions report improved organizational learning return on.

2004 European MAKE Winners

2004 Rank	Enterprise	Country
1.	Siemens	Germany
2.	BP	United Kingdom
3.	Unilever	Netherlands/UK
4.	Royal Dutch/Shell	Netherlands/UK
5.	ABN AMRO	Netherlands
6.	Norsk Tipping	Norway
7.	Capgemini	France
8.	Renault	France
9.	Daimler Chrysler	Germany
10.	Rolls-Royce	United Kingdom
11.	UBS	Switzerland
12.	Ericsson	Sweden
13.	Nokia	Finland
14.	IRIZAR	Spain

Table 2: 2004 European MAKE Award winners ranked ly composite score (80 is the maximum score).

investments.

Based on the results of the 2004 European MAKE study, European firms are continuing to struggle to effectively deliver value based on customer knowledge. Organizations need to focus more on the process of converting customer knowledge into enterprise intellectual capital.

There have been small, but noticeable improvements in European organizations' abilities to maximize the value of their intellectual capital and transform enterprise knowledge into shareholder wealth (or in the case of non-profit and public sector organizations, the increase of societal wealth) . European enterprises appear to be better able to identify and manage their intellectual capital, when compared to their Asian and North American counterparts.

Asian MAKE Winners

Table 3 is the ranking order of the 2004 Asian MAKE Winners. Only six organizations have appeared as winners in every Asian MAKE study : Infosys Technologies, Kao, Samsung SDS. Sony, Taiwan Semiconductor Manufacturing Company and Toyota Motor.

2004 Asian MAKE Winners

2004 Rank	Enterprise	Country
1.	Toyota Motor	Japan
2.	Samsung Electronics	S. Korea
3.	Taiwan Semiconductor Manufacturing Co.	Taiwan
4.	Sony	Japan
5.	Honda Motor	Japan
6.	Wipro Technologies	India
7.	Kao	Japan
8.	Nissan Motor	Japan
9.	Samsung SDS	S. Korea
10.	Canon	Japan
11.	Tata Consultancy Services	India
12.	Infosys Technologies	India
13.	Tata Steel	India
14.	Singapore Airlines	Singapore

Table 3: 2004 Asian MAKE Award winners ranked by composite score (80 is the maximum score).

There are several general observations which can be made based on the scores in the eight knowledge performance dimensions. Asian companies are making rapid progress in creating frameworks and implementing tools, techniques and metrics to manage and report knowledge-driven enterprise strategies and initiatives.

There is a growing recognition and emphasis on the importance of creating enterprise intellectual capital through innovation and the development of knowledge-based goods/services/solutions. The 2004 Asian MAKE study confirms that Asian companies are successfully aligning corporate innovation strategies with customer-based product development goals.

Besides solid knowledge-driven enterprise cultures and developing and developing knowledge workers, the 2004 Asian MAKE Finalists and Winners also are world-class in the areas of collaborative knowledge sharing and organizational learning. The rapid introduction of Web-based technologies and a focus on individual- and team-based competencies have allowed these organizations to dramatically improve their capabilities in these two critical knowledge dimensions.

Creating an organizational learning culture is the other knowledge performance dimension where organizations are benefiting from their investment of time and resources. The 2004 Asian MAKE scores in this performance dimension show a substantial improvement when compared to previous studies. Advances in information technology, availability of new online courses and new measurement tools and techniques are enabling enterprises to deliver on their objective of creating life-time learning organizations.

Finally, there have been small, but noticeable improvements in organizations' abilities to maximize the value of their intellectual capital and transform enterprise knowledge into enterprise intellectual capital.

Global MAKE Winners

Table 4 is the ranking order of the 2004 Global MAKE Winners. Only 10 organizations have appeared as winners in every Global MAKE study: Accenture, BP, Bucknan Laboratories, Ernst & Young, General Electric, Hewlett-Packard, IBM, Microsoft, Siemens and Xerox.

It is a tribute to these organizations that they have 'stayed the knowledge course' over the past seven years. Many previous Global MAKE Finalists and Winners have not been able to maintain a long-term, holistic knowledge-driven strategy and focus, loosing both momentum and competitive advantage.

IBM was recognized as the overall 2004 Global MAKE Winner for the first time in the history of the Global MAKE studies. Past overall Global MAKE Winners include Buckman Laboratories (2000, 2002, 2003) , General Electric (2001), Lucent Technologies (1998), and Microsoft (1999) . In this year's study, IBM ranked first in three categories : knowledge-based products/solutions, organizational learning, and transforming enterprise knowledge into shareholder value.

A total of 104 organizations have been named Global MAKE Finalists since the research program began in 1998. And, of this group, only 38 organizations have been recognized as Global MAKE Winners. They are concentrated in just 13 sectors:

- Computer Hardware and Software 7 (18.4%)
- Electronics and Electrical Manufacturing –7 (18.4%)

- Professional Services/Consulting –6 (15.8%)
- Oil & Gas Exploration and Services –4 (10.55)
- Financial Services –3 (7.9%)
- Chemicals - 2 (5.3%)
- Pharmaceuticals - 2 (5.3%)
- Automotive - 1 (2.6%)
- Consumer Products - 1 (2.6%)
- Networking Equipment - 1 (2.6%)
- Public Sector - 1 (2.6%)
- Retail – I1 (2.6%)

2004 Global MAKE Winners

2004 Rank	Enterprise	Country
1.	IBM	USA
2.	Buckman Laboratories	USA
3.	McKinsey & Company	USA
4.	Dell Computer	USA
5.	Microsoft	USA
6.	Toyota Motor	Japan
7.	BP	United Kingdom
8.	Siemens	Germany
9.	Amazon.com	USA
10.	Accenture	International
11.	Samsung	S. Korea
12.	Ernst & Young	International
13.	Xerox	USA
14.	PricewaterhouseCoopers	International
15.	Hewlett-Packard	USA
16.	Royal Dutch/Shell	Netherlands/UK
17.	Infosys Technologies	India
18.	General Electric	USA
19.	World Bank	International
20.	Intel	USA

Table 4 2004 Global MAKE Award winners ranked by composite score (80 is the maximum score).

A majority of the Global MAKE Winners (63.2%) come from the highly competitive, knowledge-driven 'Big Four' - the IT, electronics, professional services/consulting and oil & gas

sectors. Although consumer products, financial services, pharmaceuticals and the retail sectors are increasingly represented in the Global MAKE Winner's circle, the 'Big Four' continue to lead the way.

When faced with recent global economic upheavals and/or competition within their own business sectors, the Global MAKE Winners have successfully used their 'knowledge advantage' to maintain leading positions in value creation.

Knowledge-Driven Enterprises Deliver Long-Term Growth

Business leaders, analysts and investors constantly ask: "What are the economic and competitive advantages of pursuing a knowledge-driven business strategy?" Based on the findings of the Global MAKE studies, the benefits of this approach are tangible and significant.

Total Return to Shareholders

The 2004 Global MAKE Finalists and Winners trading on the NYSE/NASDAQ showed a Total Return to Shareholders (TRS) for the period 1993-2003 of 19.3%[1]) - over 1.8 times the average Fortune 500 company median (see Table 5). Global MAKE leaders over the 1993-2003 period were: Dell Computer (57.90/0). Cisco Systems (29.70%), Microsoft (27.1%), and Oracle (25%) .

Return on Assets

Profits as a percentage of assets (Return on Assets) for the publicly-traded 2004 Global MAKE Winners and Finalists were 7.3%[2]) - nearly four times that of the Fortune Global 500 company median (see Table 5). Global MAKE leaders in this metric were : Infosys Technologies (24%), Oracle (21%), Wipro Technologies (19%), Dell Computer (14%), and 3M (14%).

Return on Revenue

Profits as a percentage of revenue (Return on Revenue) for the publicly-traded 2004 Global.

Knowledge Metrics

Metric	2004 Global MAKE Winners and Finalists	Top 500 Company Median
Total Return to Shareholders (1993-2003)	19.3%	l0.5%
Return on Assets (2003)	7.3%	l.9%
Return on Revenues (2003)	9. l%	3.5%

1. Fortune 500 company median

2. Fortune Global 500 company median

Table 5: Knowledge metrics for publicly traded 2004 Global MAKE Finalists.

MAKE Winners and Finalists were 9.1%[2] - compared to 3.5% for the Global Fortune 500 company median (see Table 5). Global MAKE leaders in this metric were: Microsoft (31%), Infosys Technologies (26%) , Oracle (24%), Novartis (20%). Wipro Technologies (20%) and eBay (20%).

Market Capitalization

Investors believe that the 2004 Global MAKE Winners and Finalists offer long-term potential due to their intellectual capital-driven wealth creation. A total of 18 Global MAKE Winners and Finalists appear in the global top 100 companies by market capitalization (see Table 6)3). The total market capitalization of the 2004 Global MAKE Winners and Finalists is US S2.68 trillion.

2004 Global MAKE Winners and Finalists Market Capitalization

Company	2003 Market Value	2004 Market Value
General Electric (1)	328 11	286.10
Microsoft (2)	284.43	263.99
BP (7)	193.05	153.24
Intel (9)	184.66	136.04
Royal Dutch/Shell (10)	174 83	158 48
Cisco Systems (15)	152 23	115 17
IBM (16)	150.55	148.80
Toyota Motor (19)	130 65	86 32
Novartis (21)	125.51	113.09
Dell Computer (34)	90 08	80 70
Samsung (46)	86 55	58 19
Nokia (50)	66.95	86.09
3M (51)	66.26	49.43
Unilever (54)	65.30	59.36
Hewlett-Packard (55)	64 82	59 51
Siemens (60)	63.15	42.20
Oracle (65)	59.18	68.20
eBay (66)	58.08	32.10

Table 6: 2004 Global MAKE Winners and Finalists in the global top 100 companies by market capitalization (2004 global ranking shown in parenthesis, capitalization in billions of US dollars)

R&D Investment

Investment in research and development is seen as a leading indicator of enterprise wealth creation and intellectual capital growih. One would expect that Global MAKE Winners and Finalists would rank high on the R&D Scoreboard - and this is the case. A total of 29

Winners and Finalists (67% of the group) rank in the top 300 global companies by R&D investment[4]. The 2004 Global MAKE leaders in R&D investment (as a percentage of sales) were: Cisco Systems (16.6%), Novartis (15.1%), Intel (14.5%) and Microsoft (14.5%).

2004 Global MAKE Winners and Finalists Brand Value

Company	2004 Value	2003 Value	2002 Value	2001 Value	2001 Value
Microsoft (2)	61.37	65.17	64.09	65.07	70.20
IBM (3)	53.79	51.77	51.19	52.75	53.18
General Electric (4)	44.11	42.34	41.31	42.40	38.13
Intel (5)	33.50	31.11	30.86	34.67	39.05
Nokia (8)	24.04	29.44	29.97	35.04	38.53
Toyota Motor (9)	22.67	20.78	19.45	18.58	18.82
Hewlett-Packard (12)	20.98	19.86	16.78	17.98	20.57
Cisco Systems (16)	15.95	15.79	16.22	17.21	20.07
Honda Motor (18)	14.87	15.63	15.06	14.64	15.25
Ford Motor (19)	14.48	17.07	20.40	30.09	36.37
Sony (20)	12.76	13.15	13.90	15.01	16.41
Samsung (21)	12.55	10.85	8.31	6.37	5.22
Dell Computer (25)	11.50	10.37	9.24	8.27	9.48
Oracle (28)	10.94	11.26	11.51	12.22	-
Canon (35)	8.06	7.19	6.72	6.58	-
Siemens (39)	7.47	-	-	1.03	-
Accenture (52)	5.77	5.30	5.18	-	-
Xerox (51)	5.70	5.58	5.31	6.02	9.70
eBay (60)	4.70	-	-	-	-
Amazon.com (66)	4.16	3.40	3.18	3.13	4.53
BP (72)	3.66	3.58	3.39	3.25	3.07
Royal Dutch/Shell (84)	2.99	2.98	2.81	2 84	2.79

Table 7.· 2004 Global MAKE Winners and Finalists in the global top 100 companies by brand value (2004 ranking shown in parenthesis; brand value is in billions of US dollars).

World's Top Brands

Interbrand Corporation, a brand research and analyst firm, annually publishes a ranking of the world's most valuable brands[5]. Again, Global MAKE Winners and Finalists rate high in this list with 22 out of the top 100 global brands. The 2004 Global MAKE Winners and Finalists appearing in the 100 Top Brands are shown in Table 7. The 2004 Global MAKE Winners and Finalists have a combined global brand value of over US $400 billion.

Samsung (+140%) has made significant investments in creating a global brand and it is paying off handsomely! Toyota Motor (+20%) also is increasing its brand value and has

overtaken Ford to move into second place (behind GM) in worldwide motor vehicle sales. eBay has joined the top 100 companies with a 2004 brand value of US $4.7 billion.

Nokia (-38%), Cisco Systems (-21%), Ford Motor (-60%), Sony (-22%) and Xerox (-41%) have all witnessed a sharp decline in the value of their brands over the past five years.

Conclusion

Today we recognized the 2004 MAKE-Japan Winners. These companies join a very select group of organizations which are leaders in long-term wealth creation based on transforming enterprise knowledge into superior processes/products/services/solutions. They are role models for other Japanese companies.

Whether measured against market capitalization, return on assets, return on revenues, or a variety of 'soft' metrics such as corporate citizenship and environmental responsibility, the MAKE-Japan Winners clearly demonstrate that adopting enterprise knowledge-driven strategies yields substantial benefits. Although managing enterprise knowledge is only one facet of organizational success, it is clear from both hard and soft metrics that knowledge-driven organizational strategies do contribute to wealth creation - not only in the short term, but more importantly, over the long term!

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