

Knowledge Work in the North- What Networking and the Barents Region have to offer to Northern Finland

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In Finland, work has traditionally focused on concrete objectives. In knowledge work, the outcomes are very often abstract in form – research results, plans, and software applications - and thus deviate from what is expected in traditional production. One wholly singular form of knowledge work is management. The early 1990s taught us that merely processing paper documents is not enough to feed a nation. But, are our competencies in knowledge work today enough to keep Finnish business competitive and keep Finnish companies in Finland?

How will the growth we see in the Barents Region be reflected in the demand for knowledge and know-how in Northern Finland? Do we have the resources with networking capability in the scale required?

As the Information Society expands, the importance of information will increase accordingly. The concept will come to denote not only the production and dissemination of information but all information-related human interaction. The Information Society requires better and better education from its workers, although computers do more and more of the tasks that once required a high degree of training. The expectation was that IT would allow us to work more efficiently and thus give us more leisure time. What has happened, however, is that IT seemingly lures successful individuals into a frenetic pattern of round-the-clock work.

Society Under Pressure

Society finds itself under many and various pressures today. The debate on the ageing population shows that the impending shortage of skilled experts is a formidable challenge that must be addressed. Attracting foreign workers for these jobs will not suffice. Expertise must be built on know-how and the work of an expert must be

duly valued. The situation is most acute where leadership and the development of leadership are concerned.

In recent years, the Finnish economy has rested on three pillars – the paper and pulp industry, the metals industry and the electrotechnical and electronics industries. The first two are closely bound to their production sites but the third is increasingly independent of location. The Finnish paper and pulp industry has branched out and started to build mills in South America, where trees have a far shorter harvesting cycle. Each of these branches of industry relies more on the successful management of business knowledge and information than ever before.

Society confronts certain expectations related to work and the well-being work is supposed to bring. For businesses that are going international the key questions here are the price of labor and logistics: they try to have the work done where wages are lowest and transportation needs are minimal. Finland's location means that it is far from the centers of consumption, and labor is far more expensive here than in many rival countries. What has made us strong to date is that successful production has required product development and design alongside it. If a Finnish company moves its manufacturing operation to a cheaper region, it must maintain the same manufacturing process in Finland to aid in product design and development. Small-scale facilities are sufficient to this end.

The pressures for change which European societies face are relatively minor, evolutionary ones. In developing societies, the pressures at work and the scale of change could be described as revolutionary. In many cases, what is involved is a step straight from an agrarian society to a society that relies on knowledge and information.

Outsourcing

In 2005, design - like production before it - began being transferred to regions where labor was cheaper. A number of operations related to the production of services were also being carried out elsewhere. In the Information Society, products are delivered not only physically but also via information networks, meaning that distance is no longer an essential factor in transportation costs. This rapid delivery and distribution of knowledge-intensive products is an advantage that production in Finland has been able to offer.

When particular phases of the manufacturing process are transferred outside a company, much of the know-how associated with the process goes with it. For example, a customer should insist that products or components of products manufactured outside a company meet the same standards of quality that would apply if they had been manufactured in the original company.

When even services are transferred outside the company, the nature, extent and diversity of the operations determine how and to what extent information should be protected. For example, customer data is perhaps the most sensitive component of the information needed in the daily operations of a service center. When design is outsourced, there is a far greater risk that the confidentiality of strategically important information will be threatened. Yet anyone working in today's modern business environment must in the name of cooperation reveal a great deal of confidential design-related information to his or her partners and even to key clients. Here, too, great care must be taken that strategic information does not fall into the wrong hands.

Nokia's network services have recently been closely watched business. It was quite a surprise this past summer when Nokia announced that these operations were being transferred in their entirety to a new company established with Siemens in which Nokia and Siemens would own a fifty-percent share. This arrangement nevertheless guarantees that the industry will remain in Finland.

Typically, the first companies to transfer operations abroad have been the "faceless" multinationals, such as Flextronix. Surprising, amid this wave of transfers abroad there are a number of exceptions. The Indian company Wipro, a business with a human face and thus a real owner, has bought the Rovaniemi-based Saraware, and Sasken Communication Technologies is in the process of buying Botnia Hightech in Kaustinen. Both of the companies being acquired have considerable know-how in the field of wireless data communications software. The purchasers lacked this expertise.

Although one should be cautious in cases like these, the first indications have been that the number of professional staff will be doubled. The companies that have been bought have also been given the opportunity to act as contacts in the Nordic area for other local companies. Having a firm foothold in Finnish business culture to draw on will clearly make cooperation with other Nordic companies easier for the newcomers.

In Finland's neighboring regions, the signals where manufacturing is concerned have been positive and operations seem to be expanding. However, there are experiences from distant countries that information security is fraught with serious difficulties. For example, foreign workers do not understand the binding nature of confidentiality agreements.

Many large organizations made decisions to outsource based on what were hasty assessments and have now been compelled to insource by either returning operations to the original company or having a new partner produce the services.

Elektrobit is among the companies that have followed a path of their own. A year ago, it announced that it would no longer hire employees in Finland because this was too expensive. Now it has reported that it is hiring over 200 engineers for design, including Finns. The company's design projects involve wireless communication solutions and embedded software for automobiles.

Finland still has a solid reputation in the world as a reliable partner, whose products have a quality one can trust. Essential to this success is that we have not tried to be good in every field but have sought to excel in certain narrow "spearhead" sectors.

Information Security in Outsourcing

The outsourcing of services always entails information security risks. It is essential that both the client and the service-producing organization consider themselves winners; this is the win-win principle.

Outsourcing can mean taking a very limited, short-term job out of the company. It can also involve an individual project or system that is given to a service provider to handle. When both parties know the area of operations in detail, as well as the special issues of IT and contract law involved, outsourcing has every prospect of success. If the case is one of complete outsourcing, for example all IT operation, there is a risk that the company will lose strategic know-how. If this is lost, the development of the company may seriously falter and go awry.

Where operations are outsourced, it is essential that customer related information meets the basic standards of information safety: the information must be confidential, correct and accurate and available. Confidentiality means that the information is accessible only to those who have the right to use it and that it is not disclosed to anyone else nor does anyone else have the opportunity to manipulate it. A service provider's clients are often competitors and a breach of confidentiality here would be catastrophic for it. Reliability of individuals becomes a prominent concern in the case of outsourcing. Accuracy means that at all times the information is what it is supposed to be; in other words, it reflects the company's true situation at the time. Availability of information means that those entitled to access the information should be able to receive it immediately or after only a very short delay. Important information is often marked 365/7/24, meaning that it should be available at any time of the day, any day of the week and any week of the year.

It is very important to define information security procedures and aims when outsourcing. A company must be aware of the importance of information security and see to it that management of information security within the organization is in the hands of professionals.

Rising to the Challenge

All business sectors - modern IT and mobile phone networks being no exception - eventually reach a certain maturity where the knowledge work associated with production and design reach a plateau. Well-established knowledge work that is strongly linked to a technology sector is easier to outsource or transfer to cheap-labor countries than, for example, work in human-centered sectors and sectors that stress social innovations. But can we find an area of research that has extensive potential for development, one where planning and implementation require expertise and presence of users and the research resources? This is what service-provision has proven to be. Services can be understood broadly to include the public and private sectors as well as research, development, design and implementation. If such work is to succeed, it will require at least the development of an innovation system that provides effective support for social as well as technological innovations. How might we then add to this elements of operational models in multidisciplinary contexts and of research on the theory of science?

Expectations to the Northeast

Extensive plans are now in the works for exploiting the energy and raw materials just to Finland's northeast.

The Barents Sea is estimated to hold 25 percent of the world's oil and gas deposits, most of these in Russia. Russia is thought to have the world's largest reserves of natural gas. Where the maritime areas north of Finland were once a crucial Cold War venue, they are now a stage where rival energy strategies are playing out. With the continued instability in the Middle East, we will most likely see the world take an intensified interest in the Barents.

At the moment, international interest is focused on the Shtockman gas field in the Barents Sea off of Murmansk. It is a project with at least ten times the potential of the Lumikki field being developed off the coast of Norway. There are no Finnish businesses that could implement the project but a large number of subcontracts are in the offing. One indication of the scale of the project is that the price of housing in Murmansk – which has suffered a declining population – has now begun to rise. Finnish business would have much to contribute and to gain in creating a new infrastructure in the region's harbors.

On balance, it is not hard to conjecture that the present trend towards outsourcing production and services will soon turn in our favor. What opportunities do businesses in Northern Finland have to meet the demand that will soon come our way? Surprisingly, our remote location is proving to be a benefit; we find a bountiful harvest right next door for the reaping.

The Barents could be a source of wealth to us today comparable to the Sampo, the magic mill of the *Kalevala*. Businesses in the region tend to be small, and each has its own success story. The question is how a relatively scattered business community can focus its energies on joint goals rather than embark on ruinous, dog-eat-dog competition? The production capacity of individual businesses falls short of the volume needed. The solution is to form extensive cooperative networks, specifically in the SME sector: this is what will raise the value of work in Northern Finland to what it should be and give it the depth it needs.

Finland's Objectives

The chambers of commerce in Northern Finland have begun demanding that the government pay more attention to the potential of the North. Politicians and civil servants have done quite a lot but the fruits of their labors are still on the vine. Many of these will ripen for the picking during the Finnish EU presidency.

The Northern Dimension has been given high priority as part of the Finnish presidency. Russia has joined the countries that have committed themselves to the new

Northern Dimension Policy Framework Document. The document and a political declaration are scheduled to be approved at the EU-Russia Summit in November. The Northern Dimension will become a joint policy of the EU, Russia, Iceland and Norway. The environmental partnership that forms part of the Northern Dimension has made projects available to Finnish businesses, the economic partnership being planned would no doubt offer similar benefits. A second crucial priority during the EU presidency is competitiveness. The two areas – the environment and economics – come together in the R&D funding of business in the North. The funding could be directed specifically to the improvement of networking.

Finland is currently also chair of the Barents Euro-Arctic Council, an organization stressing regional and intergovernmental cooperation. Economic cooperation, one of the key themes of Finland's chairmanship, will contribute to networking among SMEs. With the support it receives from the Barents Council, the University of Lapland's Arctic Centre will soon be able to provide a broader and richer range of information of the kind that businesses in the Barents area have been looking for. As borders between countries in the region fade, the exchange of information and questions of information security become more topical than ever before.

The task of the Finnish-Russian Offshore Technology Working Group, set up back in the late 1970s, is to develop the cooperation aimed at utilizing the oil and gas resources of the arctic regions and the continental shelf of freezing seas. The Working Group, coordinated by the Finnish Ministry of Trade and Industry includes representatives from not only the national government but the relevant regions and the business communities as well. Today the Working Group reports to the Finnish-Russian Economic Commission.

Participating in the work of the Commission are a number of ministries and companies from the Russian Federation, e.g., the Ministry of Energy, the Ministry of Natural Resources, The Ministry of Industry, Science and Technology, and the Ministry of Economic Development and Trade and Gazprom, Lukoil and Rosneft. The principal organizations on the Finnish side are the energy company Fortum, the shipbuilding and marine technology industries and the construction industry. Other partners include major research institutes. The activities of the Commission are coordinated by the Finnish Ministry of Trade and Industry.

Finland's aim here is to support projects exploiting oil and gas deposits in the northern regions of Russia - projects that could ensure the supply of energy in Fin-

land. The cooperation is geared towards developing oil and gas transportation and other services along the Northeast Passage. It will also contribute to Finnish industry as a builder of infrastructure and equipment for the oil and gas industries.

The chambers of commerce form a natural foundation for business networking; cooperation among chambers of commerce is already routine in the Barents. With a country like Russia involved, government support for cooperation is also important. Its role is to maintain good relations between the countries and remove any and all obstacles to collaboration among businesses. Finland has done its utmost to accomplish just this by taking part in bi- and multilateral forms of cooperation through the EU, regional organizations and the Finnish-Russian Economic Commission. In the Barents Region, this work has to set itself long-term goals. Not all of the fruits of these efforts can be plucked at one go.

The SME Sector

In the years to come, efficient networking in the SME sector in northern Finland will be a key factor in the national economy. What we propose is that efforts be made to enhance networking capability in ongoing R & D activities. Here we mean the ability of a business or organization belonging to a network to function in that network 1) in a process-oriented manner, as an efficient performer of the tasks required; 2) in a disciplined and professional manner, for example, in using agreed standards and procedures; and 3) as a network partner fully conscious of the importance of information security. This will require that each organization in the network develop its management practices as well as its know-how with the needs of networking operations. It would be desirable to build sector-specific networks initially for purposes of training. Cooperative networks take on a heightened significance when the volume of actual production increases.

The Keys to the Future

Although work is slipping through our fingers and going to countries where the cost of labor is low, there are nevertheless some new prospects in view. Business in the Barents will not be a matter of who can deliver goods and services most cheaply; the focus will be on who has the requisite level of professional skill and expertise - and will enjoy salaries commensurate with these qualifications. Can we prepare ourselves adequately for this new phase of development by supporting small businesses cooperation among them? How can we see to it that also issues of information security are made part of the daily routine in these businesses? If we cannot

address these questions, we will have the unenviable task of seeing production slip away towards the Baltic or even Central Europe for lack of volume and lack of the ability to cooperate.

The Tides of Time

Cycles of good and bad years are part and parcel of business life. Economic collapse is not out of the question by any means. We only have to go back to the stock market crash of the early 1990s and the collapse when the bubble that was the "hyper" phenomenon burst at the end of the millennium. Now we are learning to leave out the 'e' where it is self-evident, but without collapses. The new IT will take that as self-evident.

Perhaps what we see is the dawn of a new era. Information processing is making use of ever smaller units. Alongside traditional computers we have smaller pieces of equipment that grab their power where they can. In new networks one does not need servers in the traditional sense. However, the Internet will remain an information superhighway and on the level of protocol, networks will still rely heavily on IP-based solutions. Nevertheless, it would be worth our while to draw attention to a significant change: IT (Information Technology) is now being gradually replaced in modern organizations by a new IT (Interactive Technology).

What is our position now and in the future on globalization? It has been claimed that a small country like Finland cannot change or influence the direction or content of globalization; in other words it can only try to adjust to the changes as efficiently as possible. This claim and its conclusion seem distressing. Must we adjust to the loss of thousands of thousands of jobs to cheap-labor countries? Or do we finally have what it takes to successfully chart today's unsettled waters?

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