End-User Understanding Drives Strategic Innovation

To Dare to Think with the Heart

Author

Arne Stjernholm Madsen, Business Development Consultant, Ericsson Denmark, Copenhagen, Denmark

Introduction

Strategic innovation can be a true innovation odyssey, a journey into the land of the unknown, where getting the results you want can take a lot of personal courage and perseverance. This article discusses some basic principles of strategic innovation, based on an Ericsson Denmark project that started in 1997. The purpose of this article is (1) to present the experiences and inspiration for pursuing this venture, from incremental puzzling to strategic innovation, and (2) to view the experience in terms of fundamental breakthroughs.

Three basic principles of strategic innovation

1. It's all about PASSION. The "To be or not to be…" statement, with regard to strategic innovation, is this: Have passion or forget it! It takes devotion, personal courage, and perseverance—in a degree that can only be called PASSION.

2. Begin with a story. Your message is everything—and technology is not the key issue.

3. Create your own "Hansen Family." Give your message flesh and blood. It's about getting the *living you* into the psychological values of the end-users by means of envisioning.

Our case story in brief outline

- Establishment of a new Department for Business Development within Ericsson Denmark, with the scope of end-user understanding, future orientation, and with professional as well as personal diversity.

- Knowledge building—from a broad perspective—using focus groups and "future workshops" that included "alien experts" (i.e., philosophers). Some of this was literally a journey into the land of no-knowledge.

- Creation of a story about next-generation communication and information services to service our hypothetical *Hansen Family*. We had lots of storytelling inside and outside the organization.

- Creation of a presentation for the CeBIT Fair in Hanover: It was demo or die!

- The struggle to anchor the concept in the organization. Our concept was holistic, but the organization was not, so we got stuck. The way out was through informal networking with visionaries across the organizational borders.

- The new joint venture between Ericsson and Electrolux: Building up a field trial in Denmark.

Some lessons learned along the way

- Every once in a while it is important to take a grand step back—seek for and explore the "blind spots" of your knowledge.
- Give up trying to play the "planning game": Explorations toward creativity and innovation can NOT be minutely planned. They need to be open-ended and allowed to evolve as you go along.
- Recipes don't cook your food, and reports don't make a business. You must learn to trust your own intuition, emotion, and instinct—*Dare to "think with the heart."*
- Informal networks of devoted people can have a power that goes far beyond that of any organizational chart.
- *If all the horses stay in their boxes, there will be no new foals.* Breakthrough innovations tend to be holistic in nature, whereas the nature of organizations is to organize competencies into boxes, based on the known world. We had to ask, "How do we get the horses out of the boxes?"

The case story: The Ericsson Home Communication Concept

The story is about the creation of the so-called Ericsson Home Communication Concept. It began in 1997 with establishment of a New Business Development Department within Ericsson Denmark. I have been working in this department since the beginning, and so has the rest of the core team. The scope of the department is end-user understanding and future orientation, resulting in proposals for new business opportunities.

Understanding end users

To get a first-hand understanding of the end-users, we used focus-group interviews. We invited groups of 5–10 people to spend a day with us. The groups were either all male or all female, and always persons of the same age. Half of the day was spent discussing means of communication and information technology; the other half on discussing life quality—happiness, dreams, sorrows, hates, and so on. This second part is as important as the first part, since you cannot ask the end users about future technologies. Instead you can try to understand what means something to them in their lives, their psychological values, and from this you can derive the requirements for new technologies.

The main finding that we derived from the focus-group interviews was the impression that there were two distinct psychological user segments: (1) early adopters, and (2) pragmatics and conservatives.

We paid special attention to identify any barriers that prevented Internet technologies from bridging the gap between the two segments. The segments were understood not just as demographic or social segments, but more like different psychological modes or situations segments. We saw that many of us (especially males) have a fascination with the technology in itself, but in our daily routine situations we are only interested in the use, not in the technology. And we saw that the PC and the World Wide Web had a complexity that prevented these Internet

Understanding end users,
continued

technologies from being as popular in daily life as the telephone or the TV. Since the pragmatic mode (or segment) covers perhaps 90% of our lifetime (or population), we saw an unexploited mass market for Internet technologies in the residential households. We therefore talked about "bridging the gap to the mass market" as our overall goal, and to be able to fulfill this mission we would have to carefully understand the barriers to overcome.

We tried to understand what prevented Internet technologies from getting as popular in daily life as the telephone or the TV. We did this by analyzing what it would mean to satisfy the values of the pragmatics/conservatives in the field of information services to homes. We saw that this challenge meant dealing with the entire five-element value chain:

- **Content** should be edited to be of relevance to the end user. Much of the content that we have seen on the World Wide Web has far too much nonsense, and it is often time-consuming to find relevant information.

- **Packaging** (i.e., the transformation of content into bits and bytes) should be done in a way so that information can be retrieved instantly. The normal Internet packaging sends away the information in a way that allows interruptions and delays. This technology is not designed for what we call *real-time processing*.

- **Distribution** (i.e., the network and the access to the homes) should include a Multi-Service Network with reliability, speed, and multi-functionality. The Internet as an infrastructure has multi-functionality, but again the requirement for real-time processing is not fulfilled, and the reliability compared to that of normal telephony or TV broadcasting is poor.

- **The terminal** (the end-user device) should be easy to use and should be dedicated for the relevant application. The Internet is normally accessed with a PC, but PCs really are designed for office work and do not fit well into, for instance, the home kitchen. Also, the PC-Internet connection doesn't fulfill the requirement of being always on, always up.

- **The presentation** should happen in a user interface with ease of use and attractiveness. Much PC software and most web pages have a complex user interface.

From an examination of the above list, it is easily seen that to fulfill these requirements is not a matter of inventing a new browser technique, a new terminal, or a new anything. It is a matter of managing the familiar value chain *as a whole*. We needed to look at things not only in terms of a linear value chain, but also as a non-linear value system (i.e. as an integrated entity). This general understanding of the end user and the market was developed in our team during the fall of 1997.

The "future" workshops

Our next step was to conduct seven "future" workshops using external experts. The speakers covered a wide range of knowledge, and they represented "alien" viewpoints, as compared to Ericsson's normal focus on technology: These included a futures researcher, a bishop, a science fiction writer, a computer expert, a philosopher, a biologist, and a visual artist. We used an afternoon for each workshop,

© **2001 GOAL/QPC — WORK IN PROGRESS**

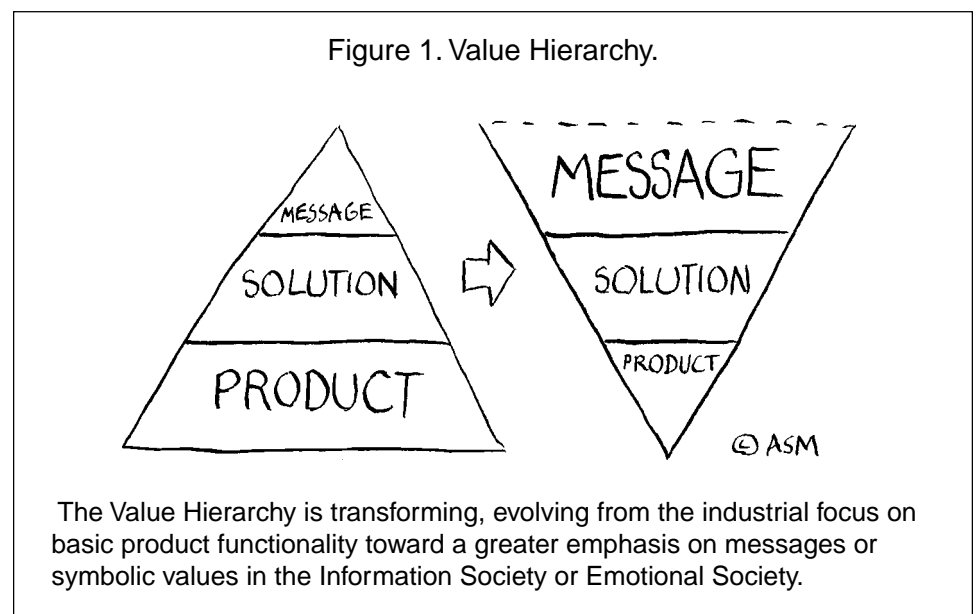**The "future" workshops,**
continued

beginning with an orientation, then working in small groups, and finally discussing the small-group conversations in a plenary meeting.

A major learning:
imagination and
storytelling take over

While the focus groups gave their first-hand understanding of the end users, the future workshops opened our minds to see larger perspectives of the development in the market, and in human society in general. One of the external experts was the future researcher Rolf Jensen, from the Copenhagen Institute for Future Studies. He presented his *Dream Society*[1] theory, which was launched in the summer of 1997. This theory changed our views on the general market development. Jensen's *Dream Society* is a transformation theory, describing an evolution in society from the former industrial society to today's information society and into tomorrow's emotional society. In the latest transition, he sees imagination replacing information as the basic value source. One could say that, in today's market, basic functionality and customized solutions have both become a commodity, and hence the symbolic nature of things plays a larger role in the value hierarchy.

How to better understand
the symbolic

To approach an understanding of the symbolic nature of things, one must ask questions like: What are the stories that are linked to the product or to the company? What is the embedded message? What kind of *meaning* does it represent for the customer? I would emphasize that it gets more and more important not only to have the best technology, but also to have the best *poetry* built into the product—the "soul" of the products or of your company becomes the competitive edge. I have visualized my interpretation of this theory in the Value Hierarchy model shown in Figure 1.

Figure 1. Value Hierarchy.

The Value Hierarchy is transforming, evolving from the industrial focus on basic product functionality toward a greater emphasis on messages or symbolic values in the Information Society or Emotional Society.

A vision emerges

One day in November 1997, our general understanding exploded into a vision. The trigger for this explosion was one of our solution engineers, who came home

A vision emerges,
continued

from Silicon Valley with a photo of a new "web-phone," developed by a company called InfoGear. The image of this new type of device fueled our imagination about all kinds of services that could be offered to private homes. This was visualized in a mind map, shown in Figure 2. As you can see, we called the service concept "HomeNet." We kept this name as an internal project title later on. Both this visualization and a basic business model were created less than 24 hours from our exposure to the photo of the InfoGear terminal.

Communicating the new vision

We then developed a message about how we saw the challenges of the new market for information services. It covered:

- The general understanding of the end-user and the gap to the mass market of pragmatic daily life situations in the private households.
- A business concept on how to earn money in this new world.
- A technological road map describing the requirements for the infrastructure, the access to the homes, the applications for the end users, the end-user devices, and so on.
- A draft of an end-user solution, including a graphical user interface.
- A concept for our customers, the service providers, including business cases.

Together it was given the name *Ericsson Home Communication Concept.*

Figure 2. The original HomeNet visualization.
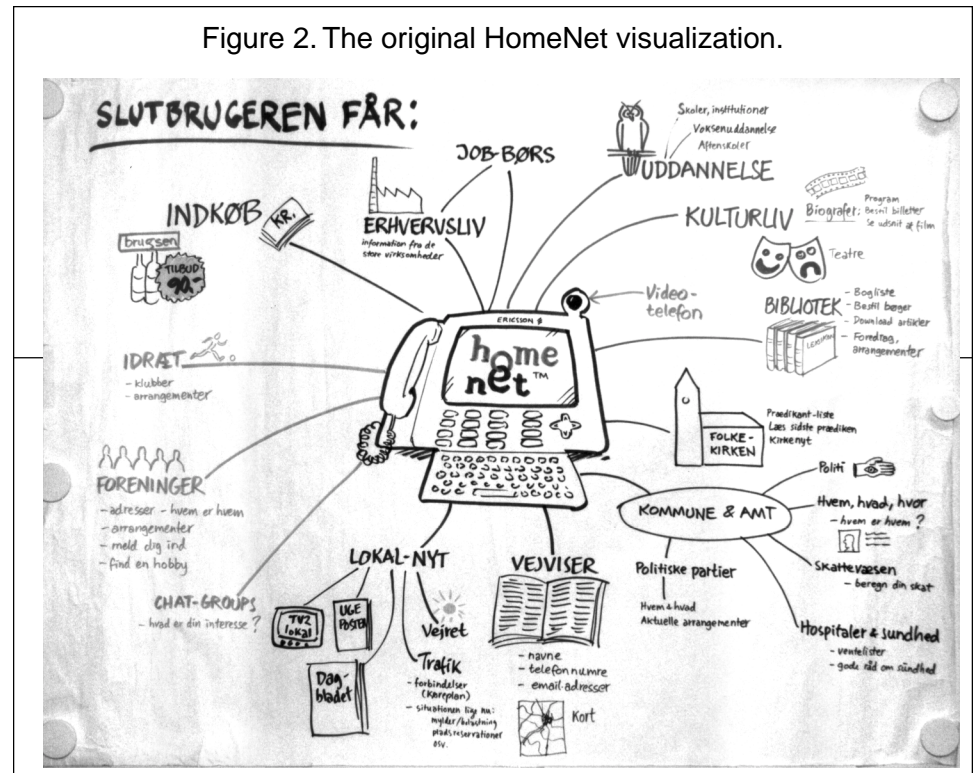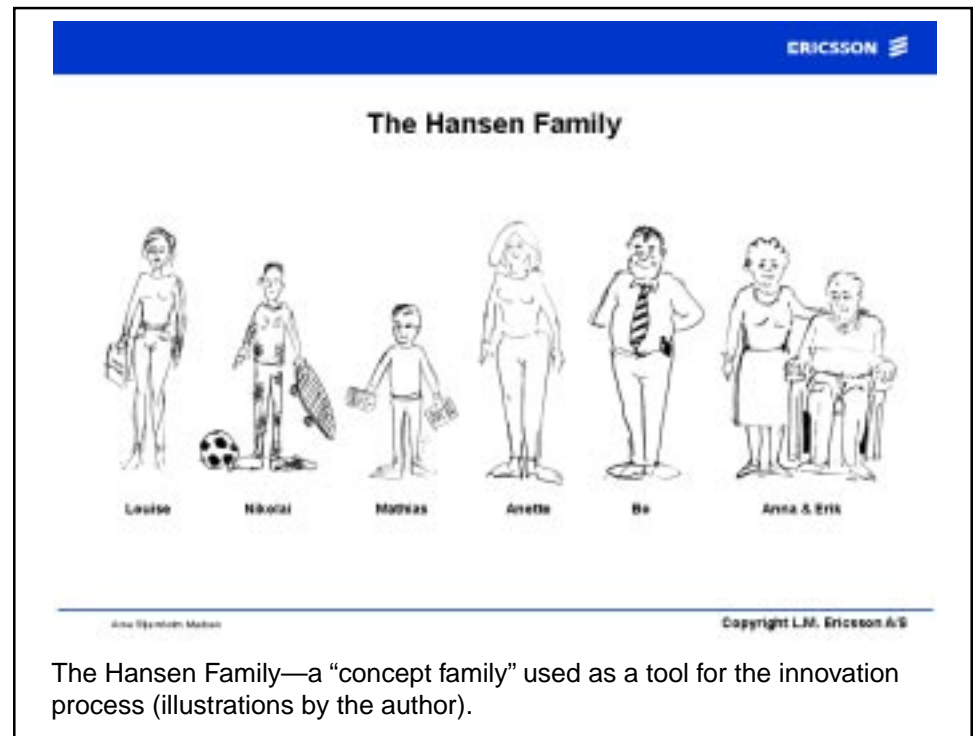
Creating the Hansen Family

As a tool for our development process, we created a "concept family." It is an imaginary Danish middle-class family. We called it the Hansen Family. We made

Creating the Hansen Family, continued

posters of each family member, carefully describing their personal interests and values. We also developed relationship roles between the family members.

The whole family, with exception of the grandparents, was born in a workshop one afternoon in the fall of 1997. That workshop was held in our Business Development Department, where we brought together some corporate marketing people from the headquarters to meet with our team (Figure 3).

It turned out that the Hansen Family was an excellent tool in developing our Home Communication Concept. We used the family as "a wall to toss balls at." Every new idea was tested with the question "Does this fit into the values of the Hansen family?"

The Hansen Family—a "concept family" used as a tool for the innovation process (illustrations by the author).

The family was, in a way, created in our own image. It was based on how we knew our own families. Since the family was visualized and almost seemed alive to us, it was easy *to feel* if we were going in the right direction. By doing so, we did in fact use the artist's way of working, guided by our hearts and intuition, rather than the normal way of economists and engineers.

The problem with the horse boxes

We then ran into some fundamental organizational problems. Ericsson organized its business and product units according to the technical nature of the products. The power to support new ideas was bound to the management of these units. The problem we encountered was that our concept was not based on single products or technologies. It was exactly the opposite. We tried to meet the values of the Hansen Family throughout the whole value chain. It was a holistic concept, and therefore it spread across all organizational borders, making it impossible to find

The problem with the horse boxes, continued

sponsors from product units. One can say that the infrastructure of Ericsson was not built to handle basically cross-functional concepts; it was more adequate for handling ideas within the existing product categories. Also, the fact that the HomeNet concept was based on understanding end users rather than technology caused problems. Ericsson historically was a technology-driven company, and almost all managers had a background in technology. The language we spoke was different from theirs, being of a more humanistic nature than a technological one.

We kept trying to communicate our idea

We kept on communicating our message at every given opportunity, internally and externally. We made presentations to customers, industrial organizations, and even the Minister of Research in Denmark. This resulted in some serendipity—unexpected opportunities, such as when a customer preferred Ericsson as *the* strategic partner in a major project with our vision as the explicit reason.

Presenting at the CeBIT Fair

During the summer of 1998, a marketing manager to whom we presented our story invited us to demonstrate our concept at the CeBIT Fair in Hanover, in March 1999. We were given a budget, and our project had thus become a marketing project. So, for the next six months, from September 1998 to March 1999, our work was focused on creating a HomeNet presentation and a demo solution for the CeBIT Fair.

What happened after the CeBIT Fair?

We established numerous industry contacts during CeBIT; we also established contacts with customers, who were just as interested as we were in "bridging the gap to the mass market." But it was difficult to make a proper follow-up on these contacts, since no Ericsson business unit had taken over responsibility of the concept. We still couldn't "get the horses out of their boxes."

In fairness, however, it is worth mentioning that at that time no new products had actually been invented within the Home Communication Concept. Although the demo for CeBIT was more developed than our previous draft, still no totally new applications or products were invented. The novelty was on a conceptual level only; it was a new set of understandings, a description of a future market, a new story, and a new combination of existing technologies and applications. And yet it met admiration and respect at CeBIT 1999, even from our competitors.

Summarizing our work to this point

The course of events described above illustrates strategic innovation as an end-user-driven approach, which of nature is holistic; you have to start by understanding the needs and especially the psychological values of the end users. You really don't want to care about details like single products or single technologies at this stage.

Within the frame of your industry you aim at offering something that gives *meaning* to the end users' values. To discover this, you have to be mentally and emotionally open for any solution or any technology. In our case, even the scope of the industry had to be reinvented due to the convergence of telecommunications

© **2001 GOAL/QPC — WORK IN PROGRESS**

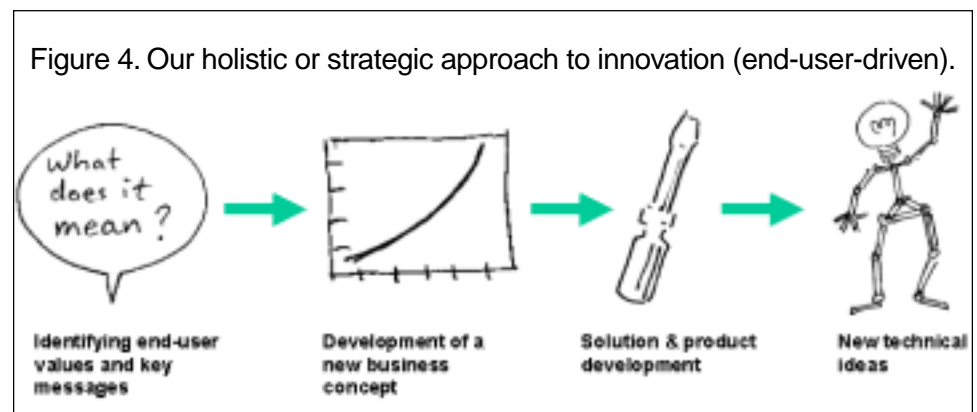**Summarizing our work to this point, continued**

and information technology, which followed the emergence of Internet technologies.

I have tried to illustrate our approach in Figure 4. It is, in many ways, the opposite or "backwards" process compared to the traditional technology-driven innovation process. Where the industrial approach puts technology first, the logic of "Dream Society" is to define the emotional values first and then develop the technology according to your findings.

The project advances to something tangible

During the summer of 1999, our concept was intercepted by a corporate innovation manager who utilized it as an input to establish a new joint venture between Ericsson and Electrolux. Electrolux is the world's largest manufacturer of household appliances; it is based in Stockholm, just like Ericsson. Electrolux had invented the *ScreenFridge™,* which is a refrigerator with a built-in Internet computer in the front, operated by a touch-screen interface. Electrolux had contacted Ericsson in order to improve the communication aspects of their new invention.

The Ericsson innovation manager saw a link between the device from Electrolux and the concept from our Business Development team, and he arranged meetings between the parties. As result, the new joint venture, named "E2 Home," was announced on October 7, 1999 and its purpose is to develop and market complete solutions for electronic services to residential households.

Our concept was displayed again—at CeBIT 2000—promoting both Ericsson and the new joint venture with Electrolux, this time using *ScreenFridge™* as the end-user device. Perhaps the symbolic power of *ScreenFridge™* was the reason for the even-greater success in terms of interest from the press, compared to the year before. The *ScreenFridge™* had become an icon for electronic home services.

Figure 4. Our holistic or strategic approach to innovation (end-user-driven).

Identifying end-user values and key messages

Development of a new business concept

Solution & product development

New technical ideas

Current status of E2 Home

At the moment (September 2000–March 2001) we are running a field test with 50 households in Ballerup, which is a suburb of Copenhagen. These 50 families have all been given a *ScreenFridge*, and we have developed a package of communication services, including local information. The field trial is a cooperation between E2 Home and TeleDanmark (which is the largest Danish telecom operator, comparable with AT&T in the U.S.). The concept should then be ready for commercial rollout

E2 Home status, continued   shortly after the field trial.

Conclusion

To sum up the experiences so far from my work in business development, I will say that it is possible, but difficult to realize my slogan for strategic innovation, "to dare to think with the heart":

- It is possible to build up a holistic understanding of the end-user values and the value system of your industry, and by doing so lifting up the innovation perspective from a level of incremental improvements to a level of Strategic Innovation.

- But it is difficult to communicate holistic concepts internally, since organizations often are divided into separate "boxes," each representing specific perspectives; hence nobody is able to utilize knowledge about the value chain as a whole.

- One question remains open: Whether disruptive innovations (And real breakthroughs are always disruptive!) can be intercepted in the existing organization or must be "put aside" in new start-ups, such as in our case.

- In search of the end-user *meaning* aspects, our advice is to build on "soft" disciplines, like psychology, philosophy, and asthetics.

- We used tools as visualizations (including the Hansen Family) and physical demos, not just for being able to communicate better, but also to be able to "think with the heart." The key question is "Does it *feel* right?—Ask the "Hansen family!"

- You will run into organizational borders and "language" problems if you pursue a holistic viewpoint, so if you are not driven by passion, you will give up. Passion is the "to be or not to be" factor in strategic innovation.

Reference   Rolf Jensen, The Dream Society, McGraw Hill 1999. ISBN 0-07--032967-2

Author information

Arne Stjernholm Madsen is an independent consultant on creativity and strategy, working part-time as a business developer at Ericsson Denmark. He is President of the Danish Institute of Creativity and Innovation and has written a number of articles in Danish management and future-study magazines. A member of the exclusive Association of Danish Designers, Arne's education includes graphic design and marketing. Arne's Web site is www.strategic-innovation.dk.

Facts about Ericsson

- An end-to-end global telecommunication supplier
- Based in Stockholm, Sweden
- Founded in 1876
- More than 100,000 employees in 140 countries
- Average age of employees is 35 years
- 40 % of employees have an university degree
- Ericsson counts for 16% of the Swedish exports
- 23,000 people are employed in Research & Development
- Leader in mobile telephony
- Owner of the world's best-selling telecommunications system (AXE)
- Ericsson Denmark: 1,300 employees. Headquarters: Copenhagen, Denmark