Deaf People as Pioneers of Video Technology: How to Use Evolution Patterns and the Lead User Concept Together

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Evolution patterns, studied by Genrich Altshuller and the concept of lead users, introduced by Eric von Hippel, can be effectively used together. One can foresee the possible changes and to get new ideas. The case of video communication shows how this can be done.

There are different users

Studying the evolution and prospects of videophone or videoconference technology, I interviewed tens of people:

- Early developers and pioneers of the technology
- Sellers of modern videoconference services and equipment
- Users of videoconference services in industry, health services, including psychiatry, and education
- Deaf people using web cameras and sign language
- "Ordinary" people using web cameras
- Researchers studyig ongoing communication revolution and innovations in other industries

Slowly, an interesting picture emerged. All the interviewed people gave new insights into why and how video communication will evolve. Some results I have described in TRIZ Journal papers (see "A Coffee Room Application of Video Technology", May 2003, and "Improve it by breaking it...", October 2003).

However, one group was different from others. I found repeatedly that deaf people a clearer understanding of the need for video communication than other groups. While many others still hesitate and ponder whether people really need to meet each other virtually, deaf people know definitely that video communication is a thing to come.

The lead user concept

Browsing literature on innovation I found references to Eric von Hippel's, Massachusetts Institute of Technology, work on lead users (see for example his paper "Lead Users: A Source of Novel Product Concepts," Ref. 1.).

Hippel advises that the first step is to "identify an important market or technical trend". As methods for finding the trend he names "intuitive judgments of experts", perhaps the Delphi method, and trend extrapolations.

Here everybody knowing TRIZ can add that the evolution patters is a good toolkit to identify trends.

Actually I began the whole research on video communication from one pattern: increase of interactions (see "Simplified TRIZ", p. 117ff).

The second step is to identify lead users. In Hippel's method, they lead the trend two ways:
a) In terms of experience
b) In terms of intensity of need

The deaf users fit perfectly to the definition of lead users. They have experience in visual communication in general and they have taken part in many pilot projects in video conferencing. They also have often web cameras at home.

They clearly express the need to have video communication everywhere. Further, they say that there should be both stationary and portable, wireless video communication. The deaf person often needs an interpreter between sign language and spoken language, in all possible places. Since the interpreters cannot be present everywhere, one solution is to have them available virtually.

The deaf people represent well the whole population. We have good reason to suppose that they have same needs and interests as all others. They only need visual communication more intensely.

The future of video conferencing is multi-directional. Not just one person to another, but at least three and more, so that two people having the basic conference, plus the sign language interpreter, can be connected, any time any place. Once someone develops that method to serve the small population of deaf people, then the general (hearing) population will find lots of uses for it.

Lead users as a resource

It is not difficult to generalize the experience. There are other disabled groups. There are elderly people. Children are often more ready to acquire new electronic devices than adults.

Using the vocabulary of TRIZ one can say that lead users are an important resource, often ignored in design and product development.

As a conclusion I would like give a simple recommendation consisting of three steps.

1 Use evolution patterns as a framework to describe the trend
2 Seek different groups that can be lead users.
3 Select, as most representative lead users, people who due to some impairment have most intense need to use the new technology. Another example is the use of blind people as lead users for computer voice recognition systems. They have the same need as sighted people for communication, but much more intense need for non-visual input to the communication system.

References

1. Hippel, E. Lead Users: A Source of Novel Product Concepts, Management Science 32, no. 7 (July): 791-805, 1986

2. Rantanen, K., Domb, E. *Simplified TRIZ: New Problem Solving Applications for Engineers & Manufacturing Professionals*, CRC St. Lucie Press, Boca Raton FL USA. 2002
3. Rantanen, K. A Coffee Room Application of Video Technology. A Story of How to Find the Solution not Solving the Problem, TRIZ Journal, May 2003, www.triz-journal.com
4. Rantanen, K. Improve it by breaking it. Examples from journalism show how segmentation helps to make ideas more saleable and cost-effective, TRIZ Journal, October 2003, www.triz-journal.com