

Less mobile, more virtual

Learning remote communication to save costs and the climate

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Erik Andriessen studied industrial psychology during the sixties and received his Ph.D. in 1974 at the Free University in Amsterdam. His main research areas at that time were 'decision making in organisations', 'industrial democracy' and 'meaning of work'.

From 1980 to 1990 he headed the Department of Organisation and Policy Research at the IVA -a research and consultancy organisation related to Tilburg University. Research in the areas of decision making, personnel psychology, work organisation and automation were part of his portfolio.

From 1990 until his retirement in September 2006, he was professor of Work and Organisational Psychology at Delft University of Technology, the Netherlands. His group is involved in various studies:

- New forms of work and organisation, particularly virtual and mobile work
- Knowledge management and communities of practice
- IT support for distributed teamwork

Some of these researches resulted in publications, such as the books 'Mobile Virtual Work-a new Paradigm?' and 'How to manage experience sharing'.

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Work and organizations have been changed substantially in the last century and particularly in the last decades. The reasons for this can be found in the transition to a knowledge economy and in worldwide globalization, requiring cross boundary interaction and offshoring. This has been coupled with innovations in organizational structures such as teamwork, project workflow and employee secondment. The results are that most employees focus on processing information and knowledge, and that many tasks are cooperative tasks and require extensive communication between groups that are geographically distributed across large distances. The consequence of these trends is a general increase in employee mobility.

According to recent European surveys (SIBIS EU survey, 2005ⁱ), mobile work in a broad sense appears to be quite common in Europe and elsewhere. While traditional telework has not developed as expected, a lot of work has become 'multi-locational'. The Netherlands is one of the top mobility countries in Europe: 46 percent of Dutch employees are on the road for their work for at least a few hours per week (excluding commuting). The average for Europe is 28 per cent and for the USA 32 percent. The number of so-called 'intensive mobile eWorkers' (people who travel 10 hours or more per week for their work), in the Netherlands is close to the European average of 4 percent in 2002 (6 percent in the US). Interesting is that this percentage was only 1.5% in 1999, meaning that the number of intensive travelers has tripled in three years.

The consequences of high physical mobility are as follows:

1. *Loss of time and loss of efficiency:* Traveling to a meeting generally takes much more time than the meeting itself.
2. *Travel costs:* In 2004, the travel incurred by Dutch employees was about €12 billion. It is also estimated that about one-sixth of the meetings could be substituted by video and teleconferencing. This would imply a cost reduction of about €2 billionⁱⁱ (Business & Travel Special voor Zakenreizigers, Nov. 2004). According to a Swedish study, the introduction of videoconferencing in several Swedish companies reduced travel time for about half of the employees and cut the travel budget by 10 percentⁱⁱⁱ.
3. *Disturbance of work-life balance:* Intensive or distant traveling implies that people are hindered in participating in family and leisure activities.
4. *Damage to the climate:* This issue is discussed in the next section.

Video conferencing and climate issues

In the last few months, the UN has issued three reports on global warming and related climate issues. The first two reports conclude that the environmental problems are grave, and the third report clearly states that we have the means to solve them. All we need to do is put the necessary technology to work. The costs to "save" the environment are estimated to be manageable.

The European Telecommunications Network Operators' Association (ETNO) and the World Wildlife Fund (WWF) recently issued a report on the potential effects of applying IT-based approaches, such as video and teleconferencing, on greenhouse gas emissions and therefore on the climate^{iv}. This report is more positive than the UN report about the costs of the new policy. Substituting travel by and video and teleconferencing even earns companies a lot of money.

"The EU has affirmed that up to 30% cut in greenhouse gas emissions by 2020 will be needed to keep the temperature increase under 2 °C, and a higher reduction of 60-80% may be needed by 2050. According to the ETNO/WWF report, the strategic use of IT can contribute significantly to energy efficiency, sustainable economic growth and job creation. IT can reduce the need to travel and transport goods by bridging distance problems. It can increase efficiency and innovation by allowing people to work in more flexible ways. It can also ensure a shift from products to services and allow for dematerialization of the economy."

Among other things, the ETNO/WWF report refers to a German study that shows that each percent of business travel in Europe is responsible for about 1 million tons of CO2 emissions. More precisely: If one in five business trips in the 25 EU countries were replaced by a solution that does not require traveling (such as videoconference), some 22.35 million tons of CO2 could be saved each year.

Savings can also be achieved by introducing so-called mobile or flexi-work, which has the advantage that less office space is needed because employees work at home or at other locations. It has been established that if 10 percent of the 25 EU countries' employees were to become flexi-workers, 22.17 million tons of CO2 could be saved each year.

Why mobile instead of virtual

If IT-based communication and cooperation is so much cheaper, easier and cleaner than traveling, why do people still travel so much? A multitude of technical tools are available to support interaction at a distance, such as broadband networks and all kinds of groupware, from cell phones and PDAs to videoconferencing solutions. Many companies already use videoconferencing and Web meetings. Such technology has enabled AT&T to reduce its number of air kilometers with 15 percent.

Still, there is a lot of resistance to virtual interaction. The reasons center around the lack of social cues, reduced mutual awareness and the intricacy of mutual understanding, particularly in relation to other cultures. As people say: For real communication and understanding, to solve delicate interpersonal problems or handle conflicts, you need to see each other, even if it takes traveling to Tokyo.

To be clear, I agree that in some cases face-to-face communication is an absolute necessity. But I also know, based on systematic research, that there is a lot of unnecessary traveling as a consequence of the following factors^v:

1. *Fun and Status*: Many people **like** to travel and go to foreign countries. This is reinforced by frequent-flyer programs, tax free shopping, and the opportunity to combine business and leisure travel. Moreover, travel is an indication of high status: it is often the top dogs in the company who are the most intensive travelers.
2. *Company policy*: Many companies have a policy that implicitly promotes traveling by providing ample travel allowances and by allowing employees to travel even when there is limited reason to do so.
3. *Lack of skills*: Many employees are not yet accustomed to intensive virtual communication and do not have the skills a) to use modern technology and b) network virtually with others. Many project leaders do not have the skills to adequately organize their geographically distributed teams.
4. *Lack of technological adeptness*: Many people do not like using video tools because they think of the bad systems of ten years ago.

Research shows that people can learn quite well to deal with the disadvantages of mediated communication: It is a matter of organizing meetings and other communications in a different way. The following is needed:

1. A company policy that counters unnecessary traveling by promoting the conditions for mediated communication;
2. Training in social skills (including sensitivity for intercultural differences) and adequate team leadership;
3. The deployment of modern technology and the developing of the skills needed to use it.

Conclusions

Due to the evolution towards a globalizing knowledge society, communication and cooperation over large distances is becoming more common. Inevitably, this seems to result in higher employee mobility, despite the fact that traveling not only costs time and money, but also heavily contributes to CO2 emissions and therefore damages to the climate.

However, the idea that good communication requires face-to-face meetings is no longer valid. It appears that virtual meetings can be a solution to many problems if taken care of proper training, organizational policies and technological improvements. Advanced communication technology, such as today's videoconferencing and groupware, can support these meetings in a very satisfying way.

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