Well-being in the Information Society: Are We Creating a Gilded Cage?

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Information technology is continuously making astounding progress in technical efficiency. The time, space, material and energy needed to provide a unit of ICT service have decreased roughly by a factor of 1000 within the last 20 years. However, experience shows that it is difficult to translate ICT’s efficiency progress into progress for individuals, organizations and societies due to various rebound effects (Hilty et al. 2006).

The impact of ICT efficiency progress on quality of life is a complex issue. There is no clearly defined concept of an “information society” that would be linked in an obvious and indisputable way to the ICT development and diffusion trends. All we know is that our way of production and consumption is undergoing a deep transformation that is somehow interlinked with ICT. Where this transformation will lead us, and where we want it to lead us, is an open question. It is open not only due to the complexity of the underlying socio-economic mechanisms, but also because society can and should govern this development – instead of just relapsing to technological determinism. I therefore define “information society” simply as the future (and still unknown) result of the ongoing transformation of production and consumption enabled by ICT.

However, some properties of the information society can be assumed with some plausibility (although they are still depending on how we will use in ICT in the future):

- Information is available everywhere and anytime at a low price.
- Communication is almost location-independent, spatial distance becomes less important.
- Economic value is created mainly through immaterial production.

Since the topic of this conference is “Well-being in the Information Society”, I want to discuss the question: What is important to create an information society that assures or supports well-being? Rather then providing final answers, I want to raise some issues to provoke a discussion:

1. “You can only manage what you can measure”:
   Is this management dogma generally true? In everyday life, many things are managed quite well without any real-time monitoring and evaluation in place. A vision of an information society in which almost everything will be measurable and recordable should be confronted with the fact that there is no way of monitoring a (social) system without changing it. In particular, intelligent actors in the system will always adapt their behavior in some way to the measurements taken. This adaptation can be productive or counter-productive in terms of the goals of the involved stakeholders. Therefore, it may in some cases be true that you can only manage what you don’t measure.
2. First experience with pay-per-risk insurances:
The existing car insurance product “pay-as-you-drive” is based on monitoring any movement of the vehicle and calculating the individual accident risk by evaluating these data on a monthly basis. Many pros and cons of this approach can be (and should be) discussed in a discourse about the future information society:

- Justice: Everybody pays exactly for the risk he/she runs, not for the risk of others.
- Safety: The system creates the right incentives to increase traffic safety.
- Economy: If safety increases, the average insurance should become cheaper. People can spend the respective part of their income for other things.
- Privacy/data protection: Who has access (on a legal or illegal basis) to the data collected?
- Burden of proof: In case of a conflict, the customer bears the burden of proof.
- Interpretation problem: Based on which assumptions (or theory) does the insurance infer quantified risk from the data?

Experience has shown that despite the sophisticated monitoring, the data is usually evaluated on the basis of very simple assumptions, such as: young people driving after midnight run a higher risk than young people driving before midnight. Inferring individual traffic risk from detailed car monitoring data would actually need a sophisticated and valid theory of traffic risk. As in many other cases, availability of data due to new ICT applications just reveals that there is a lack of theory in the field. Oversimplified interpretation, however, is prone to create counter-productive incentives (such as: hurry home before 24:00 in order not to spoil the low insurance premium).

3. Ethical implications of the pay-per-risk principle in the health sector:
Personal Health Monitoring (PHM) technologies such as the “Sensor Ring” developed at MIT seem to make it possible to implement the pay-per-risk principle also in the health sector: from “pay-as-you-drive” to “pay-as-you-live”? This idea raises all the issues already mentioned above, but with more urgency. Concerning the interpretation problem, we should take into account that medicine does not pretend to have a theory of health (or a model of the healthy human), apart from some approaches that are not generally accepted. If we hypothetically assume that the health insurances would offer a “pay-as-you-live” product, we would be faced with the following ethical questions:

- Where is the borderline between
  - diseases on your own responsibility
  - diseases on others’ responsibility
  - fate, force majeure?
- What would be the optimization goal for the individual, and who would define it? (This is crucial since there is no generally accepted theory of health, only theories of diseases.)
- What would be the overall optimization goal of a “fully informed” public health system, and who would define it? (Something like: “people should live compliant and die cheap”?)

As in many cases, the availability of detailed data and the resulting possibility to optimize a given system creates the necessity to define an objective function. There is no optimization without an objective function. However, the objectives never come from the technology that provides the data. They come from the context in which the technology is applied – from society and the basic values on which it is built. Since the objective function chosen for a system creating or maintaining “health” or “well-being” touches fundamental ethical issues, it is inevitable for a democratic society to discuss the future application of PHM and related technologies in an open discourse. If we instead base our
decisions on technological determinism (if we wait for the technology to create a *fait accompli*) we could soon find ourselves in a “gilded cage”.

The case of “Well-being in the information society” is similar to other visions of an information society that bear some societal risks if the values and objectives behind it are not clarified and discussed. Due to the great transformation potential of ICT and its seemingly unlimited technological progress, opportunities and risks created by ICT should be assessed systematically (Hilty et al. 2004, 2005) and the precautionary principle should be used to govern the development (Som et al. 2004, Hilty et al. 2005).

References


Links

Technology and Society Lab at Empa, Switzerland: [www.empa.ch/TSL](http://www.empa.ch/TSL)