## Future Challenges for the European Knowledge Society

Information revolution and the new society. It might appear that everything has already been said about this topic. Knowledge society, however, is only about to emerge.

The question is about a transformation where social, economic and technical systems become simultaneously reorganized. It will lead to new models of politics and community. At the same time it will change self-perceptions of individuals and their relationships with other humans, cultures, and value systems. Knowledge society connects us across national borders and it will rearrange time and space. It will make the world a world of meaning creation, where communication has a central role.

The European vision of knowledge society could be that in this transformation European well-being increases without costs to others. If such a model could be found, it could well be called a European model of knowledge society.

What could be the elements of such a model?

In the core of knowledge society is its system of learning. When the processes of knowledge production and appropriation change, also the system of learning changes. Education is rapidly becoming international and intertwined into individual life careers. The historical role of universities as institutions of knowledge production is about to change. It should not be impossible to think that in the next decade the system of education should look quite different than it is today. A new system of learning is about to emerge, and it depends on us what it will do and how it will look like.

Knowledge society is internationally networked. The well being of Europeans depends on what the shoppers in China choose today, and what the factories in Brazil make tomorrow. A strategy for globalization is therefore an integral part of the European knowledge society strategy. Global networking is becoming increasingly easy. Strategic investments are needed to grasp this opportunity.

Local regional development is the reverse side of internationalization. Looking from abroad, Europe consists of many small and distant countries. From this point of view, the European knowledge society strategy is also regional politics of remote peripheries. If it can be put on a solid foundation, the same foundation can also be used to develop sustainable regional policies within the member states. Strategies that require that the population increasingly concentrates in economic growth centers are unsustainable. This logic, taken seriously, demands that Europeans keep on moving until they end up in China.

The world is becoming a world of parallel systems of meaning. Life opportunities increasingly depend on individual skills in communication and conceptualization. Therefore digital divides are not aligned with the boundaries of technology. Instead, access to economic and social resources and the opening of new channels for meaningful communication will be essential. People who cannot participate in the processes of knowledge and meaning creation will be left beyond the divide. Those whose communication does not matter will stumble and fall.

New technologies will also create new disabilities. The life-long costs of individual learning disabilities will increase if they are not repaired in time. Technologies that enhance the development of thinking and communication skills will have major social consequences. Technologies that support and augment the cognitive capabilities of aging people will be needed in a world where information and knowledge are essential parts of everyday life.

The importance of software technologies is increasing. Software has a special role because it is the technology that is used to implement the new forms of social and societal practice. A profound understanding of software technologies is a critical success factor of the knowledge society. For example, software patenting, the use of open source software in the public sector, and the systems for identity management will lead to important social choices. New distributed software models will spread with convergent broadband networks and reorganize industries, work practices, and the everyday life at home. Technology is moving into the core of politics. This also implies that software developers have to start to understand the human life in all its complexities, including culture and politics.

In the global economy the commercialization of innovations will be an increasingly central source of value. Knowledge economy is an innovation economy. This has already become visible in the fact that employment growth has focused on young well-educated workers. Young people are innovative. They do not yet know the limits of their knowledge and skills, and therefore they continuously exceed them. In this process, their knowledge and competences increase.

Adults, in contrast, do know their limits, and earlier this was useful. The success of the European knowledge society, however, centrally depends on the fact that adults learn that aging does not mean loss of curiosity, initiative and enterprise. Lifelong learning does not mean a vortex of courses and training; it means that adults continuously take new challenges that require new skills, and which at the same time produce them.

New challenges also mean risks. Therefore it is important that the society reduces risks. Knowledge society needs risk transfers instead of income transfers.

The demographic shift also means that the economic logic of innovation is changing. During the last decades, innovation became economically exceptionally important, as it simultaneously created the possibility for extraordinary profits and produced products for large young generations with rapidly increasing purchasing power. Innovation creates new domains for economic activity, where monopolistic rents are temporarily possible. For this reason, financial flows concentrate on innovative enterprises. The diffusion of many innovative products, in turn, requires that their users experiment with new lifestyles and new social practices. For this reason, the demographic drivers for innovation economy have been socially mobile people who are still building their life options. For this reason, computers and communication technologies penetrate the society through young generations. The aging of Europe will change this dynamic. Middle-aged people with multiple life commitments and important sunk investments increasingly see novelty as cost. Elderly people see novelty as potential loss of control in a world where routines keep the everyday life predictable and possible. To interpret this change as an abstract "fear of technology," is to miss the social factors that make technology useful. In the future, and as a result of demographic change, information society technologies will be introduced for their capacity to improve the quality of life of their users, and novelty will lose value.

The constraints for renewal are often institutionalized in common beliefs about how the world operates that have become embedded and crystallized in existing laws, routines, and procedures. In the knowledge society, many constraints have become outdated. These constraints have to be actively removed. Knowledge society requires routines for institutional renewal.

In a world of communication, also the ethical foundations of knowledge society need to be rethought. The nation state incorporated historically adapted communal interests. Knowledge society will lead to collisions of parallel value systems, and the current societal institutions do not have mechanisms to deal with them.

The historical essence of democracy was in its capability to integrate interests without destructive revolutions. This integration was possible because it was based on shared values. In the members states, these shared values and principles of social interaction were, for example, written in the constitution. Laws and law making processes gain their legitimacy and social relevance from these systems of values.

In the knowledge society, ethical principles, however, need to be understood more broadly. Knowledge society has to be built on an ethical foundation that Europeans can understand and agree on, but which can also be globally accepted. Therefore, the discussion about knowledge society and its future is just starting.

Ilkka Tuomi, IPTS

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