

How Technologies Change our Schools, Companies and Governments

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Presentation Summary

When new technologies come to market they seem to improve the efficiency of existing structures, procedures and processes in the areas of application. Technologies never seem to overthrow paradigms and principles in the first place. However information and communication technologies have appeared to be a Trojan horse as soon as young children have grown up with them and invented new ways of learning, communicating and sharing. Homo Zappiens is the generation of people that is growing up with modern communication technologies shaping their views on the world around them. Through these technologies they are learning to develop new skills and exhibiting new behavior that may show us a way how future society will be organized and dealing with technology.

The technology that is allowing this generation to demonstrate such differences from previous generations has three main trends responsible for this contribution which can be seen as cornerstones for changing cultures in educational organizations, such as universities of the 21st century. First, technology is linking everything; many devices are converging and functionality is being transferred from traditionally separate devices into combined single units. Secondly, technology is increasingly organized in a distributed, parallel network, relying on the contribution of many different parts to increase its usefulness and addition to our lives. Lastly, technology is becoming ever more open sourced; in the true sense of sharing many new and emerging technologies are being developed by the community instead of being patented and protected, subject to development in small teams behind closed doors. These trends in technology are not only driving society to mirror the same trends, but also have their impact in how universities are perceived as places of learning and development.

The rise of the Homo Zappiens triggers an organizational change in higher education (Oblinger and Oblinger, 2005). As we perceive that we must change to a more networked view on organization of our learning, work and society, it is

important to single out a few of the discerning aspects that will help us implement this new view on organization. Realizing that essentially every experience in our lives may be a source of learning, we can choose three of the most important aspects for redesigning our educational settings. Most importantly, we should depart from the setting of goals up front, because essentially these limit our experimentation that ultimately leads to increased competences. We should stimulate exaggerative, playful learning, realizing that all learning is essentially a continued refinement of more basic skills and understanding. We must also, rather than seeing learning as a means towards an end, encourage learning as a continuous process, stimulating increases in skill and competence with a decrease in structure and an increase in complexity, tailored to each individual's level of mastery.

Businesses and other forms of establishing economic value will have to take into account that as the creation of value is becoming more networked and distributed, we should not cling to a linear structure for organizing work. Businesses should invest in their platforms for communication and sharing for their human assets, share with every employee the company's purpose and allow them to contribute as they see fit. Instead of trying to control their process and market, clinging to their current offering, businesses should come to rely more on innovation for sustained existence.

For society as a whole and each individual trying to incorporate these changes into their lives, it will be important to realize that everything that makes one unique is a source of potential value to the network. With a networked view on organization, we may come to see similarities on different levels of scale in the world around us and this provides us with the opportunity of transferring lessons learned between levels and from one situation to another. As it is increasingly important to advertise individual abilities, we also see society shifting from guarding privacy to competing for attention. Actively participating in society, work and learning, by taking charge of your own knowledge and development is precisely what makes Homo Zappiens so interesting.

Many of the concepts that we use to organize our lives, learning, work and society have become obsolete from Homo Zappiens' point of view. Technology has taken dominance over society as a means of providing organization to our lives. As we perceive that we must change to a more networked view on organization of our learning, work and society, it is important to single out a few of the discerning aspects that will help us implement this new view on organization.

Homo Zappiens as an individual: Power to the user

For the individual, these are exciting times. While we are still, and even increasingly so, dependant on each other for our survival and many of our experiences, we can now take a more active approach to shaping how we participate in this society. Where hierarchy dictated a competition for scarce resources, positions or complexity, a network offers to everyone an overwhelming opportunity to experience. To deal with this increased complexity, we need to prioritize a different set of skills:

- **Learn to cooperate and share in getting relevant information.**
Nowadays, anyone can produce and broadcast information to anyone else,

without an intermediate referee. The new important competence is that we learn how to discern and filter between useful and useless sources. Instead of relying on someone else to filter information for us, we must learn how to filter it ourselves. This is where groups of people with similar interest or experience come in. Already, on the Internet, we can see such groups gathering information that is relevant to them and recommending it to others within the group. Through a form of internal recommendation, information is filtered based on perceived value and importance. Cooperation seems to provide an excellent mechanism for distributing this new increased load in determining for ourselves what is valuable.

- **Let others know about your knowledge and skills.** Another notable change in skill is our ability to keep our most prized knowledge and competences private and thus scarce. In an organizational system that promoted competition, this skill made sense. Yet in a network, where negotiation and communication seem to be the key elements, privacy is an outdated concept. As we can already see Homo Zappiens doing, for the individual participating in the networked society of tomorrow, it is increasingly important to broadcast to everyone else what one's abilities, interests and needs are so that anyone who may have something to offer or may be requiring your services is able to find you. The need for privacy is thus changing into its exact opposite, the need for attention.
- **Realize that everything is connected.** A final essential change for the individual as well as for the society of which we are all a part, will be the realization that everything is connected. As with a networked view on organization, creating value and learning through play, we must also see ourselves and all our experiences as being a part of us, just as we are all an equal part of society. This means that not only is the need for privacy disappearing and not only does our contribution in several groups of similar interest help both ourselves and the other group members, but also we may come to see that those parts, skills and interests of ourselves that defined our very uniqueness and which we often kept hidden, are the source for the most essential contributions we can make to society. By embracing a networked view on life, we are returning to more basic, underlying views of natural organization and dynamics.

Homo Zappiens in organizations: The networked society

To Homo Zappiens the world is not linear; it is not delineated along the lines of high and low, many and few, skilled and unskilled. Homo Zappiens does not care much about hierarchy and rigid structures, but abides well in an environment of connectedness, parallel processing and distributed knowledge. Looking at the way how teams are nowadays more often organized in an ad-hoc manner or how coalitions shift allegiance with the shifting of political tides, we can already see how society has been increasingly incorporating this concept of flexible structures to the organization of dynamic reality. Too often however, we still look at organizations from a rigid perspective and here we can learn from Homo Zappiens:

- Replace hierarchy by distributed coordination within the network. Information is ever more pervasive and we are thus removing the need for hierarchical structuring and defined tasks. A network enables every separate unit to make the same decisions based on the same logical rules. More and more, because of our interconnectedness, we are joining to become one unit, one substitutable group of nodes, where each node may substitute another, each node may direct others and each node may take lead, keep track or process. The logical structure that allowed a hierarchical society to divide tasks between separate entities will need to make way for a new form of working that allows for distributed coordination through communication.
- Facilitate and support inter- and intra-organizational networks. Society has been given the opportunity of providing each individual with a better contribution to the group result, through an increase in communication and sharing. A better way for organizing such a networked single entity is a system of distributed tasks that minimized reliance. To provide their human assets with an environment where networked problem solving and working is encouraged, organizations will need to invest in communication platforms, information sharing and reduction of control.

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Brief Biography

Wim Veen (1946) is a full professor at Delft University of Technology, Faculty of Technology, Policy and Management. His research focuses on new concepts and strategies for ICT enhanced learning in both private companies and regular educational institutions. Traditional learning arrangements in the corporate sector no longer hold in a society where knowledge is a key asset of networked organizations. Information sharing and knowledge co-creation bring about organizational change evolving from multi-unit organizations towards multidimensional ones. Appropriate Human Resource Management focus on flexible strategies for professional development in which learning is an embedded and continuous team activity that is work based, networked, informal, self regulated, and strongly related to business goals. Employees are the social capital of the business.

Traditional teaching in regular education is also undergoing profound changes. Delivery modes are replaced by blends of distributed, networked, and face-to-face learning approaches requiring students to become active and productive learners. Related to this Wim is particularly interested in the cyber culture of the generation growing up with technology. He uses the concept of Homo Zappiens, a generation of learners that has never known its world without the Internet. This generation appears to develop a variety of meta-cognitive skills that are mostly disregarded both by teachers and managers. It is now time to learn from this net generation how to take advantage of ICT enabled learning in a networked society.

Wim Veen is teaching corporate learning. In addition, he is a consultant for educational institutions as well as for private companies and governmental authorities. His latest book is: *Homo Zappiens, Growing Up in a Digital Age*.