Chapter 5
Technology Cultures

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ABSTRACT

The world in which we live is filled with technologies and user interfaces. The complex and continually changing technical environment has set the scene for situations where people have different interpretations for and relationships with different technologies. The communication and information-sharing possibilities enabled by modern information and communication technologies (ICT) have made it possible to share experiences and interpretations about new technologies. As a result, the understanding and know-how of technologies do not seem to follow national or other traditional cultural boundaries. Instead, new groupings and boundaries have emerged relating to technological understanding. These technology cultures are an important factor when usability, acceptance and even utility of new technologies are considered. Thus, there is a need to develop better understanding of technology cultures and take them into account during information system design and development. The chapter aims to develop and define the technology cultures concept and provide guidance on utilizing it during new product and service development.

INTRODUCTION

Technology is a central part of humanity. Our daily lives are filled with encounters with different technologies and their user interfaces. In fact, the whole environment in which we live is somehow man-made (Hughes, 2004). The accelerating speed of technological development results in more and more technologies included in our daily environment.

Although the technologies are externally or, technically speaking, the same for all, different people have very different understanding of and capability for relating to them. For example, GSM (Global System for Mobile communications) technology and mobile phones are adopted

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worldwide, but the meaning of technology for people in different countries and contexts differs radically. Quite naturally, technology developers have more insights into "their" technologies than the masses, and some differentiation can also be seen between novice, intermediate and expert users of certain technologies. However, there are also big differences on how, for example, individual expert users of some technology or technical device view the device, its capabilities and its potential.

The different viewpoints and understandings are perhaps most visible in the field of information and communication technologies (ICT). ICT tools and devices are characteristically somewhat vague. The vagueness of modern ICT is perhaps best visible in promises that developers of the new tools and devices make. Developers of these tools usually promise to enable different general and positive sounding actions, such as information creation and sharing (Castells, 2000; Nordic Council of Ministers, 2005).

"Enabling" means that ICT solutions are not usually committed to specific uses, context of use or information contents. The task of selecting what kind of information should be created, modified, shared with others and specifying with whom exactly to share the information is left to the users of ICT solutions. As a consequence, the actual meaning and usage of ICT tools is left open during the design and is attached at the moment of their usage. In addition to the vagueness of ICT, some development trends make the situation even more complex. Recently, the most relevant has been the trend of convergence; i.e., converging of different ICT solutions into single systems or devices.

Mobile phones are a good concrete example of this. During recent years, mobile phones have developed to a point where they can perform almost all the same tasks as laptop computers. Some mobile phone manufacturers have even started to speak about business and multimedia devices instead of mobile phones. Current mobile phones can be wireless phones, personal information managers, e-mail clients, tools for accessing the Internet or all of these depending on the needs and expertise of the users. However, a modern Smartphone is essentially the same as a 10- to 15-year-old mobile phone for a user who needs and uses only the phone and perhaps SMS functionalities of the device. In practice, users select which functions they are using or are going to use and for what. As a result, the user specifies the usage of the open multipurpose "enabler," and in a way defines its meaning from his or her perspective. Naturally, the user can later learn or decide to use the tool for other purposes or to utilize other functionalities of the tool and thus redefine its meaning.

Another example of this phenomenon is modern sophisticated Web services. Thinking of the "Web as a platform" by Web 2.0 enthusiasts (e.g., O'Reilly, 2005) has changed the utility of Internet and its services tremendously. A somewhat static information source has changed to a real-time communication channel. As a result, those who still view the World Wide Web the same way as in the 1990s, when it was taken into use, are playing with a totally different beast than those who participate in collective writing and content production in wikis, social networking services, etc.

Fast technological development, continually emerging new technologies, the enabling nature of ICT in general and the complex technology-filled environment in which we live are all factors that enhance the birth and development of different interpretations of technologies and technical devices. Different interpretations result in different understanding and knowledge about technologies, their possibilities and restrictions, as well as about their usage opportunities.

The different viewpoints toward technologies have a big impact on how new technologies are understood and taken into use (or abandoned). Therefore, it is important to take the complex relationships between people and technologies into account when developing and designing new technology.