

4. Usability



Introduction of new technologies may take a lot of effort

New technology has entered all walks of life in the last few years. It is introduced to the work of many people almost daily. Life has become easier with the technological changes, but the implementation of all these new systems and devices has taken a lot of effort to make it successful.

Change always brings with it different experiences, from charm of novelty to fear of change. However, to many of us, the recent development of technology has become if possible even harder a challenge. Individuals easily think that their skills are insufficient, and gradually the entire technological progress starts to feel oppressive and somehow unpleasant. The original goal of technology, which is to help people, has become vague. Instead we take for granted that all available technology must be introduced for use.

New technology facilitates work

The introduction of new technology looks different depending on what kind of technology we mean. Let's take an example from household technology; many domestic appliances have made it to people's summer cottages as well. The technical level of summer cottages has risen considerably in recent years.


As for the new information systems at work places, there are a lot of people who feel inadequacy because of them and they might even get distressed because of it. It is a general assumption that this is a problem of the aged employees, but it seems that people of all ages have similar experiences. The more unpleasant the systems seem, the harder it is to learn to use them. Thus it is very important for the introduction and development of technology that people would have positive feelings towards them, instead of negative.

Different views on the user

In developing or introducing information systems, it is essential that the user, i.e. an individual person, is able to use the system in the best possible way. Hannakaisa Isomäki (1999)¹ has studied the idea of man that information system specialists hold about people. She divides them into three groups: a person is either described in terms of business economy, information technology or work processes.

According to Isomäki, from the viewpoint of business economy the most important factor in building an information system is the design and implementation of a framework that maintain the competitiveness and economic efficiency of the company. We get the feeling that the practices of constructing information systems have been dictated by financial conditions to such an extent that there is no room left for treating the client as a human being. Seen from the viewpoint of information technology, though, the border between a person and IT is vague and may be interpreted to be only technical. This may lead to the fact that people are ignored or that they are just like embryos in a system. So, an individual must behave like all the other parts of the system, mechanically. Again, seen from the viewpoint of work processes the world is considered a system

and a person is seen as part of this system.



“System development must put the emphasis on the skillful and intelligent person using the system.”

What is common to all these conceptions is that the system developers do not see the user as an equal partner and human being with his/her humane needs, but as performers that are led from outside. There seems to be an ideal model for work that people have to

follow. The essential thing then seems to be to control and monitor this work.

It almost feels like the systems have been built for robot-like people who are controlled and monitored by programs. It may be that the actual usability has got a lot of attention and the physical aspects may also have



Good usability is a sum of many factors. It is essential that we do not succumb to using badly designed systems and devices. Constructive feedback helps the designers too.

been evaluated very carefully but mental factors have been left aside in so many ways.

There are other ways to look at the development of information society and the information systems that were developed for people along the line than the idea of man of information system professionals. However, through this idea of man thinking we are trying to understand why individuals feel so stressed about the new information technology. If we think that the users can be controlled from outside, it is easy to understand that there is less critical consideration than normal. For example, new systems are introduced to users before the quality of the systems is good enough and before they have been properly

designed. The prevailing system is that the users succumb to the situation even though the programs are not ready yet. It seems that this is taken for granted, as this is how it has been done and will be done in the future.

Pressure from outside

Another outside pressure is the assumption that all others have already taken up the new system. You must do as the others do if you want to stay up-to-date. Following the others may spur you to act fast, but this is not always a good idea. It is easy - by just looking at advertisement slogans - to get an erroneous picture of how widely these systems have been employed by others, especially if you do not know much about the stage of development of the different systems. Because of this erroneous impres-

sion, someone may feel bad for not wanting to employ new policies.

We should try to put the emphasis on the skilful and intelligent people using the systems when developing new systems. This should decrease the stress and the number of unpleasant experiences in employing new technology.

People feel a natural interest towards things that bring them pleasant experiences or facilitate their work etc. It is obvious that there will be more technical devices and applications in people's lives in the future. We would experience much less grief and sorrow in future if we had more consideration for the user, the human being, and if we put the emphasis on people in all actions regarding technology.

The users should demand more humane systems of higher quality and the developers should try to find new ways to take the user into consideration even during the design phase. Small changes would make technology so much more pleasant for us all. ■

References:

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Humanity and feelings are the core of usability research

“The best way to fight poor usability is not to buy the product”

Usability is a popular topic and it is being researched more than ever. The period of IT hype contributed to the rise of usability research. We now examine their emotional usability, i.e. the pleasure and fun we get from having and using these products, in addition to the functionality of tools.

Advertisements promise us ease of use. But the reality is something else. Who is to define what usability is? And how ?

There are various definitions for usability. To make it short, we could say that a functional appliance, program, or service is easy, efficient and pleasant for the user. Usability is the product's quality factor. To achieve usability, we need user-centred design.

- Usability and user-centred design are not new concepts. The wheel was re-invented as information technology got more popular. People started to talk about usability when the manufacture of mobile phones started. Ergonomics has long been a science that studies the interaction of people and technology, systems and machines. As an occupational field it applies theories to optimize people's well-being and the performance of systems, in the same way usability does now, says professor Leena Korpinen, Doctor of Technology and Medicine.

From ergonomics to usability

Thus, IT fever created new terminology and gave birth to new research. Ergonomics has included, and will include, studies on social systems in addition to the studies about physiological and mental meanings. The

interdisciplinary approach is also emphasized in usability research: computer sciences, psychology, cognitive psychology and cognition science, industrial design and even social sciences are in cooperation.

Usability research has changed a lot although it is not a new subject. Usability is an essential part of the design process, not just a separate testing phase after the product is complete.

- The image of man and human considerations have been made a more important part of the design process. The number of usability studies has also gone up, Korpinen explains.

- The systems and devices designed in the infancy of IT fever were apt to increase the research. A lot was done back then without anyone knowing where or how these systems were to be used. Consumers, too, shopped but did not know what they were buying. It wasn't before this that someone started to figure out what kind of appliances we really could use or buy.

There is still a lot to do to improve cooperation, although research is thought to be interdisciplinary.

- Also people who do not know all the research methods do usability research. For example, it is possible that someone with a technical background designs a questionnaire research or a brief preliminary report, but technical education does not teach the scientific nature of a questionnaire study in a way the traditional university sciences do. Scientific criteria may suffer from this.

From tools to gratifying personal devices

Researchers of computer equipment usability have tried to create different measuring systems by defining usability, in order to make this somehow vague issue, where opinions play a big part, more concrete and manageable. Initially the need for usability research came from outside and mostly to serve the implementation of IT. The products were mainly regarded as tools. It is possible to measure usability reasonably well through some concepts of functionality, i.e. efficiency, facilitation, manageability, learnability and accessibility. Hedonism has now come into this picture, like in other spheres of life. That means that we study the gratification we get by owning or using these products, their emotional usability.

Pleasure consists of many things. A product's looks and design bring us physical pleasure, as well as the touching or using of a product. The feeling of the product helping its user to perform a task brings mental pleasure. Other pleasure-bringing factors are i.e. sociability enabled by the device, opportunity to interact and belong to communities and the value related issues when using a certain product.

Korpinen believes that the emotional usability factors can only be studied within basic university research.

- Emotional usability must be achieved with the help of basic scientific research and not as part of product development.

Is emotional usability just a new trend that might even reduce the amount of functional usability research, or is it really of importance to the consumers?

- It seems that the factors bringing pleasure are close to the product's functions, so I do not believe that it will harm the research of functionality. If the device is pleasant to use, it will sell better. Increased use can bring out new issues that were not foreseen, Korpinen says.

- Pleasure is an image. Different users have very different opinions about devices in various usage situations. These stem from a mixture of one's own personality, knowledge, experiences and beliefs and are thus very hard to test. But by gathering organized feedback a lot of new ideas can be collected for product design.

Ease of use should not mean underestimating the user's intelligence

Ease of use is self-evident, if we believe advertisements. Reality however is still something else, unfortunately. But ease of use does not make the device or program necessarily usable. Functions that have been simplified too much restrict the efficient use of the device.

Korpinen also warns about excessive simplification.

- A great deal of our population is well educated. You should not insult the user by regarding them as simple minded. I think the user's intelligence is not being harnessed sufficiently in the present applications. This might be due to the artificial intelligence research, which presupposed that a machine is intelligent and the human mind is only a shadow of it.

But it seems that the vast popularity of the Internet and Google, for example, depend on the fact that they let people use their brain.

What about the number of functions in the devices? Why isn't there a device on the market for which the user could download only the things s/he wants? Now the most needed functions are lost in the middle of all those functions you do not need.

- It is expensive to customize – are the users ready to pay? Korpinen asks but goes on to explain that there are easy-to-use and simple devices on sale and these do not even have the 'grandma phone' reputation any more.

- So it seems we are coming to our senses again. There is no longer the kind of social pressure to buy the devices, at least not as much as before. "The best way to fight poor usability is not to buy the product" Before you change your phone for a new one (which ,by the way, is now again more a phone than a status symbol) you should talk to a salesperson. They know when the worst problems are over and whether the device is usable.

*Mice and men.
Which one is redder when, for instance, one is learning a new computer application?
Multidisciplinary usability research is looking for answers to this.*



The hype was not a totally useless period

A typical example of attempts to offer people just anything, even though they are not accepting all that is being offered, is WAP, the protocol for wireless applications that enables us to browse www-pages in our mobile

phones.

- It was predicted that WAP would kill text messages, but they are still alive and kicking because they work and are easy to use. All in all, bursting the IT bubble has cleared up the situation. However, those extremes were still necessary, as there were a lot of visions then and a lot was done too, so there was a lot of good things to pick, says Korpinen.

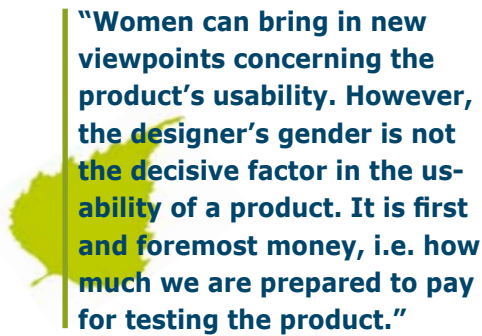
- For example, it is no more necessary to be available all the time in spite of our mobile phones. We are now getting rid of this idea. We have learned to turn off the mobile phone. The mobile phone is a very important device – socially. It enables

new kind of communication, it is an easy device to use in difficult situations and a safety device for children.

What about the much discussed question of whether the devices would be more usable if there were more women designing them?

- Not necessarily. It might have some effect but I'm sure men can do the same. Gender does not solve the usability question, it is money. The money put into testing of the products is transferred to the price the consumer pays for the product. The question is, how much the consumers are willing to pay for the tests.

Although we aim to make products with total usability that pays attention to functionality and user gratification, we can assume that even in the future the relationship between the user and the device is at least to some degree a surprise. ■



“Women can bring in new viewpoints concerning the product’s usability. However, the designer’s gender is not the decisive factor in the usability of a product. It is first and foremost money, i.e. how much we are prepared to pay for testing the product.”