



## HOW TO USE THE NEW COMMUNICATION - TECHNOLOGIES SAFELY

The high acceptance by consumers which the new technologies meet with, and their enormous political impact hide easily how vulnerable and how dependent on the media consumers can become. This module deals with the social and economic aspects of the new technologies and aims primarily at strengthening consumers by discussing the new technologies. Its main focus is on the changes the new technologies bring about in our daily environment.

### 1. Subject-specific information

#### 1.1 Problem-areas - telecommunication and consumers

1. what are "new communication-technologies"?
2. how do "new communication-technologies" change the consumers' everyday-world?
3. changes regarding consumption
4. ecological consequences
5. the "digital divide"
6. privacy, data protection, surveillance
7. further acute problems
8. pedagogic objectives

##### *1.1.1 What are the "new communication-technologies"?*

The term "new information- and communication-technologies" is used for those appliances of communication-electronics which have been developed and commercialized during the past 20 years. These are primarily the **PC** (personal computer), together with an internet-connection and **internet-use** (e-mail, www (World-Wide-Web), chat, instant-messaging), the **mobile phone**, and all **interactive combinations** of traditional technical systems or traditional communication-technologies (radio, TV) with a feedback-channel, e.g. telephone or e-mail.

Other examples are **interconnected house- and household-technical systems**, such as the "smart home", and automatic or interactive **techniques of surveillance** which permit to identify persons, such as the CCTV-video-systems with personal identification, or controls of access which work with biometric identification-techniques, e.g. fingerprints. Another example is **position-finding by satellites (GPS)**, used in private cars as a traffic-guide-system.

Occasionally these systems are also called telematic (operated from a distance) [57].

#### **Quick dissemination and penetration of the market**

These "new information- and communication technologies" (this would be the correct term for these new technologies) have in common their fast dissemination (market-penetration), as compared to older technical innovations, like TV or automobiles, in the western world, a high acceptance by consumers (catchword: user-friendly), and the fact that they are given much attention by the conventional media.



## 1.2 How do the new communication-technologies change the everyday-world of consumers?

Technology always affects people's everyday-life, - it gives - in different degrees - forms and structures to the everyday-life of individuals or groups. A typical historic example is the railway, which has revolutionized economy and, as a consequence, the everyday-life (gainful employment) of many people. The changes occasioned by the automobile - especially during the 2nd half of the 20th century - were maybe even more extensive. A mental experiment, which for some persons is difficult to perform, and which consists in leaning back and imagining a world totally without cars. illustrates how much our everyday-life has changed by this technical product [58].

The new communication technologies really remodel our private life as well as our work-life. The use of internet (e-mail) and of mobile phones in the sphere of work has led to what is called tele-presence [59]. Even when not present in person, the boss as well as the staff members are almost constantly within reach, and instructions can, as it were, be given by pushing a button.

- ◆ e-mail and mobile phones have not only expanded the domain of information and instructions, but also accelerated the process of work significantly;
- ◆ the style of communication - this is especially true for e-mails - has become more concise, - abbreviations are common, introductory and final formulations are reduced, and instructions are often brusque and command-like.

Tele-presence has also **placed work (gainful employment) into the private sphere**, - the former strict separation of work-life and leisure-time or time with the family has been noticeably softened. What is also new is that many people have acquired their personal skills and work-techniques regarding electronic communication during their leisure-time.

## 1.3 Changes regarding consumption

The increasing equipment of households with appliances of communication-technology leads to a change in the distribution of expenses. The Austrian consumer-inquest 2000 lists the category of communication-costs, with an increase of 50 % in six years, as the strongest-growing category. Pilot calculations have shown that the full equipment of a private household with appliances of communication technology (PC, modern, standard telephone, mobile-phone, PDA) and internet-use costs every month about 250 €. In addition, the time spent on maintenance, replacements, the solution of technical problems etc. amounts to 8 hours a month. This does not include time spent on classical electronic media [60].

Inquiries on how time is spent show that the time spent with watching TV has continuously increased, - on the average the time people spend every day watching TV is about 2 hours, whereas the time spent on personal contacts has lessened.

### 1.3.1 New sales-channels

The new communication-technologies (especially the internet) are also used commercially, as an additional sales-channel. The traditional mail-order service, with catalogues and ordering via phone or on the postal way, has found its electronic complement. This expansion of mail-order business and also the self-service technology used for bank-services (home-banking) have already produced noticeable changes of infra-structure in different industries.

Especially the self-service principle applied to shopping, bank-services, and official formalities (e-government) help the supplier to rationalize, although users often need to invest more work (which they frequently don't mind because they need not go to the respective office). On the other hand, personal contacts and support are done away with, and only the consumer is held responsible [61].



## Depersonalisation

This expansion of DIY (do-it-yourself), self-service, and the resulting depersonalisation are consequences of a way of life where things get done electronically, via graphic interfaces, and addressing only one dimension, as opposed to dealing with other persons, with whom one communicates in several dimensions, and who give feedback. Such a depersonalisation of information, communication, and transaction can possibly result in serious isolation. [62].

In addition, comfortable forms of selling and of payment stimulate impulsive buying, and many consumer-groups do unplanned buying, which affects the economy of the household.

## 1.4 Ecological consequences

It is often assumed that electronic forms of communication and the "new technologies" diminish the general ecologic burden on the environment, because in contrast with traditional forms of mobility, or in the case of intelligent household-technology (smart home), the flow of energy can be optimised.

This may hold true to some extent, e.g. in the case of chatting in a chat-room instead of driving with the car to a restaurant. But basically communication-technology-appliances, like PC or mobile phone, carry a heavy ecologic burden. Due to rapid cycles of innovation millions of functioning appliances are thrown away because new ones are purchased, and the production of even small appliances, like mobile-phones, causes high amounts of pollutants.

In addition, many users expect quick delivery when buying articles by electronic mail-order; as it were, electronic mail-order makes the consumers expect that they will receive the ordered product almost instantly. This entails ecologic strain caused by distribution, because of costly delivery to private households. Such individual distribution also causes more traffic.

## 1.5 The "digital divide"

The catchword "digital divide" refers to a so-called "digital" division of society, because new communication technologies are often called "digital" technologies. It has been forged on raising the question of the "sociality" of the new communication-technologies. The question is whether these new technologies make the wealthy wealthier, and the poor poorer, and whether they only increase social differences.

Seen from a general perspective, new technologies always show a course of diffusion which goes from the financially strong households to the financially weak. This is due to the fact that they are not distributed by the state, but offered on the free market, and that their diffusion depends on cost and usefulness.

Two typical examples of this development were the private automobile and the television set, and later, colour-TV. It is the wealthy who profited from these things by winning more mobility and entertainment, - for the economically weaker social classes owning a TV-set was for a long time not a matter of course, and even today it can not be taken for granted that poor people in central Europe can afford a car.

### Reasons for the "digital divide"

The main reason is that the use of appliances and technology depends on existing contracts, and that purchase and use produce costs of investment and additional running expenses.

A meaningful and secure use of the new communication-technologies also creates costs because information - which is very time-consuming - is needed. Telephone-costs must be considered, and on investing or re-investing in equipment respective information must be sought; for internet-shopping prices must be compared, and in order to prevent financial losses secure shops must be known.

When not given specific attention, user-costs can easily explode (this is often true for telephone, internet-service-provider, internet-shopping, the use of credit-cards, games of chance in the internet or in interactive TV).



For the above-mentioned reasons a meaningful use of new information- and communication- technology depends on the one hand on a person's income, and on the other hand on respective information [63].

In order to give also financially weaker consumer-groups the possibility to use new communication technologies, terminals free of charge in public institutions (offices, public libraries) have been created. In addition, the traditional channels of distribution have been conserved.

### **An example of intensified "digital divide"**

The offer of the Republic of Austria to buy directly from the republic so-called "national treasures", which represent high-interest and risk-free investment-opportunities, is limited to the diffusion-channel internet - consumers without internet-access cannot use it.

## **1.6 Privacy, data protection, surveillance**

For the majority of Austrian consumers the main problem regarding data-protection consists in getting flooded with undesired publicity (in written, as well as in electronic form/spam). Other questions regarding privacy and informational autonomy are of comparatively little importance, although they can entail dramatic consequences.

### **What does informational autonomy mean?**

The terms "privacy" and informational autonomy are related to the human-rights' concept of human dignity, the non-violability of the secrecy of letters, telegraphic messages, and the private sphere as a whole. The individual shall himself decide to what degree his/her opinions and data can be accessed by others.

At present, data input of different enterprises still varies considerably, but systems which gather the complete data of consumers (or potential consumers) are noticeably increasing (data-mining). The objective of such a complete data-input and successive mechanical analysis is to better use marketing- and sales-opportunities and present the client with individualized offers.

By uniting different data, enterprises which make it their object can really produce a "consumer of glass". Although a certain transparency of the individual was given before (e.g. on shopping in the local shop, or on consuming in the habitual haunt, or among neighbours), these transparencies were manageable and under control. This is not anymore true for modern, digital data-collections made possible by new technology [64].

For this reason the data-protection rights of the European Union try to regulate commercial data-collection. But the gap between legal norms and enterprise-activities increases constantly, which is also due to the fact that most people do not even know which of their data have been collected.

### **Official security surveillance**

Basically, one may assume that in practically all states of the world a far-reaching or even total surveillance of electronic data exists. Not only can the connection-data of internet and e-mail be accessed by national authorities, but information running via satellite is also recorded and exploited on an international level (echelon-system).

At the same time official competences have been expanded (wiretapping, criminal screening). In view of fighting terrorism and crime the surveillance of public areas (by video-cameras and identification of persons) has been expanded. Additional measures in some countries, e.g. USA ("US-Patriot-Act") give authorities access to many data of individual transactions (e.g. who bought which book where and from whom).

### **Surveillance at the workplace**

In many enterprises - according to experts the number is rising (USA: 3/4 of existing companies) -surveillance of electronic activities of staff has become standard practice (log-data of the websites visited at work, tracking of e-mails, etc.) Although such measures are only permitted when backed by transparent office-intern rules, a large grey-zone is, as it seems, developing [65].



In addition, appropriate software facilitates, so to speak, a private control of internet-activities in the household and in the family. Unnoticed by the user, this kind of software registers all activities on the PC.

**On principal, it may be assumed that all electronic activities of users, as well as all activities which can be electronically recorded, are recorded and documented.** Even in cases where the registration of a phone-number from where a call was done was inactivated, the number is registered, because the inactivation was limited to the dialled number. An activated (connected) mobile phone can be geographically located, even when no call is done. CCTV ("closed-circuit-television" - "systems of video-surveillance") permits not only the surveillance of occurrences, but also electronic registration of a detected person [66].

*Recommendable web-site: [www.buergerwelle.at](http://www.buergerwelle.at)*

## 1.7 Further acute problems

### ◆ Increase of offers which cost

Consumers who are poorly informed may easily be trapped by an increasing number of offers which cost, and can even be quite expensive. This refers to publicity-SMS with pre-registered expensive recalls (flirt-SMS), as well as recall-channels to media, which are operated via numbers with higher-than-standard costs.

In the internet the number of offers which used to be free of charge and now cost, has increased. In addition, there is a large number of electronic games of chance and commercial esoteric offers.

### ◆ Internet-addiction

Especially in relation with the internet (chat-rooms) new attitudes which resemble addictions have developed. According to respective inquiries 3 to 5 % of users show internet-related forms of addiction.

### ◆ Impoverishment of forms of communication and of the capacity to communicate

Technology has brought about communication via the media, which has led to both changes of style and new expectations (quick reactions are considered a matter of course). As the new media jeopardize self-determination with regard to information, they have led to an intrusion of the private sphere.

Many users apparently have problems to find a personally satisfying solution, - like connecting and disconnecting the mobile-phone, not checking e-mails constantly, choosing different channels of answering (e.g. answering an e-mail by a phone-call), etc.

### ◆ Consumer empowerment, citizen empowerment?

In the "early aera" of the new communication technologies, in the beginning nineties, it was often heard that the new communication technologies (internet, mobile phones) would lead to an empowerment (strengthening of position) of the individual, and consequently entail a democratisation of communication. This refers to the development of new citizen-initiatives on the internet, or the autonomous connection to the largest existing automatic system (meaning the wire-telephone net) by mobile phone, and according to personal user-needs.

This expectation of empowerment and democratisation has not been fulfilled on a large scale, - expressed in simple words we can say that the new communication-technologies today are primarily used like TV. The majority of users frequents costly large-scale sites which offer entertainment, and which create expectations and preferences which small, alternative suppliers of information cannot fulfil, because of limited financial resources.

Costly design and continuous actualisation have created considerable marketing-barriers for financially weaker suppliers.

### ◆ Democratisation of organizational processes of information

In organizations (companies, wage-work) the use of new communication technologies has up to the present not led to a democratisation of organizational structures and a breaking down of hierarchies, but rather to a re-organization of hierarchies and a strengthening of formal structures.

### ◆ E-learning

Recently a growing number of critical voices have declared that the high expectations in the new communication-technologies regarding teaching and apprenticeship, and education in general, have not been fulfilled.

Realistically, the new communication-technologies are rather a supplement of other audio-visual means, - they cannot create new or improved teaching- and learning-scenarios. They can at best complement, but not replace, personal teaching and learning.

### ◆ Commercialisation

Informational offers in the new media seem to follow the development of TV, namely quality-offers on the public channels and on pay-TV, and publicity-financed entertainment-programs on commercial (so-called private) TV.

On the whole this leads in the long run to a levelling of the totality of programs in the direction of entertainment, instead of an expansion of the cultural and aesthetic sector, and of education.

## 1.8 Pedagogic objectives

In the field of pedagogy it goes without say that the responsible, individually meaningful, and sustainable use of the new media and the new communication-technologies is a central objective.

For the holistically oriented human being, who is anchored in European history and culture, the new communication-technologies can be seen as new aspects and complements of traditional forms of communication and socialization, if they respect his autonomous individuality, - and that's it. There are no developing new virtual qualities or lifestyles (cyberspace, etc.), although there are new aesthetic experiences.

Basic technical understanding, and awareness of risks and economic interests related to the new communication-technologies should be at least as common as their practical use. It should be obvious that the diffusion of these technologies was not impelled by cultural or social ideals, but by economic considerations of important industries, which meet with consumer- and user-interests of communicative mobility.

## 1.9 Important consumer-rights regarding the use of the new technologies

### 1.9.1 *The right of exchange*

While for traditional shopping a basic right of exchange or of return, in the case that the merchandise does not fulfil the consumer's expectations, does not exist, - exchanges are totally voluntary transactions of fair-dealing - , everything which was bought "at distance", - e.g. online, or by mail-order - , can legally be returned. Nevertheless, the following points need to be considered:

- ◆ Only buyers can return a product, not people who received it as a present (they are not the legal party). According to an EU-directive the right of cancellation exists for all web-shops who are set up in the EU.
- ◆ On cancellation, money is returned. Online-dealers are not obliged to exchange (for other merchandise).
- ◆ The right of cancellation has to be claimed within 7 days (not counting Sundays and holidays).
- ◆ In some cases, the right of cancellation is expanded to three months: e.g. when the online-dealer has not given the client specific information (regarding the right of cancellation, address which must be used for complaints, information regarding after-sales service, and pertinent terms of warranty), either in written form or on a durable data medium (e.g. disk).

### 1.9.2 *Payment of online purchases*

On paying with credit cards their misuse represents a potential danger. To assure that data are transmitted in a safe way the "SSL"-system (secure sockets layer) should be used. This is an encoding-system for credit card data. But it cannot eliminate one disadvantage of credit card payments, which is that on cancellations clients must run after their money.



The money is not returned by the card-company, but by the merchant. Only bookings made by illegal manipulations can be directly returned. Somebody who does not want to use credit cards online can do without. A classical money order, or PaySafeCards (sold at petrol stations or in tobacco-shops\*) or use of the pay-box are possible alternatives.

*Tips on secure online-shopping can be found under: [www.ombudsman.at](http://www.ombudsman.at)*

### 1.9.3 Protection from being overheard

- ◆ install an access-filter on the PC
- ◆ do not send private e-mails from the workplace
- ◆ use a mail-service for private mails in the www (e.g. [www.web.de](http://www.web.de))
- ◆ encode delicate information with special programs
- ◆ do not reveal passwords

### 1.9.4 Security measures regarding home-banking

- ◆ do not store PIN, TAN and passwords on the PC
- ◆ always keep TAN-lists separated from other access-data
- ◆ erase confidential data when PCs need to be serviced
- ◆ change passwords regularly
- ◆ always give attention to the HBIC-appearance of internet-pages
- ◆ find creative passwords, do not use names

### 1.9.5 The e-commerce quality label

It is conferred to companies which distinguish themselves by above-average friendly customer-service and trustworthy transactions:

*Respective information: [www.guetezeichen.at](http://www.guetezeichen.at)*

## 2. Didactic processing

	Introduction/ orientation	How to use the new communication- technologies safely
		Form groups of five.
1	Methods	<p><b>Reflection:</b> the participants describe how they use the new technologies:</p> <ol style="list-style-type: none"> <li>1. what do you understand by new communication-technologies?</li> <li>2. how do you use them privately and at work?</li> </ol> <p>A list is made and divided into use at work and private use.</p>



		<p><b>Quiz:</b> the participants identify their own weaknesses and lack of information regarding consumer-rights and the new technologies; each participant receives a questionnaire which permits him to verify his knowledge of the new technologies.</p> <p><b>Solution:</b> Each group is given a sheet with solutions and corrects its own answers. The group identifies the three most common mistakes and notes them down on an A4-sheet.</p> <p><b>Discussion:</b> How do the new technologies alter the life of consumers? 3 keywords proportion an impulse, - stimulation of the discussion by three emotive words.</p> <p><b>Supplement:</b> alterations of the life of consumers</p>
2	Objectives	<ul style="list-style-type: none"> <li>• creation of awareness of individual views regarding advantages and disadvantages of the new technologies;</li> <li>• deduction and presentation of general problem-areas;</li> <li>• identification of problem areas and demonstration of how they influence the consumers' everyday lives.</li> </ul>
3	Contents	- Problem areas for consumers of the new technologies; "the intelligent house"
4	Duration	40 minutes
5	Material	<ul style="list-style-type: none"> <li>✓ questionnaires</li> <li>✓ sheet with answers</li> <li>✓ emotive words on a poster or OH-transparency (privacy, acceleration, consumption-expenses)</li> <li>✓ poster for marking weaknesses</li> <li>✓ pens</li> <li>✓ OH-transparency; graphic of a "smart home"</li> </ul>

		<b>How to use the new communication-technologies safely</b>
	<b>Planning</b>	<p>The participants work in the computer-room.</p> <p>The weaknesses and lack of knowledge regarding consumer-rights and the new technologies are shown on a poster and hung up in the computer-room for all to see.</p>



<p>1</p>	<p>Methods</p>	<p><b>Clarifying the question:</b> what is meant by “new communication-technologies”? (From the GPS traffic-system to interactive technologies of surveillance, from the mobile phone to the www)</p> <p><b>Beginning a discussion</b> on social, economic, and ecologic adequateness with the following example: <i>Miss Müller, 18 years old, travels to Turkey. Her boyfriend Mr. Dorfer stays in Austria because of urgent business-appointments. Both of them are internet-freaks, and during the day many e-mails are exchanged, so that both know how the other one is passing his time. In the evening, they have a long phone-call, and around midnight a MMS is sent. But at the end of the month she was in for a bad surprise. Miss Müller had been sure that she had been called, but...</i></p> <p>Which problem areas can be deduced? Write them down.</p> <p><b>Exercise:</b> send secure e-mails (encodement)</p> <p><b>Exercise:</b> learn to ward off junk mail; know the areas which can lead to health-problems in the home by a wrong choice of materials or unwise behaviour.</p> <p><b>Discussion</b> on desirable attitudes (netiquette) when communicating via e-mail. Comment also potential weaknesses (see introductory phase).</p> <p><b>Exercise:</b> plan a purchase from the internet – make a decision: "I want to buy..." – compare 2 addresses of web shops (help for finding good examples: <a href="http://www.vzbv.de">www.vzbv.de</a>). Compare product-information. Test free trial-programs for serious price-comparison (e.g. <a href="http://www.acses.com">www.acses.com</a>)</p> <p><b>Practical work:</b> The user-friendly portal – visit good examples and take note of aspects of user-friendliness.</p> <p><b>Supplement:</b> free of charge or paid service in the internet? Surveillance at the workplace</p>
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2	Objectives	Reflect own internet-activities: <ul style="list-style-type: none"> <li>• plan in detail a purchase from the internet – test different shops with regard to user-friendliness</li> </ul>
3	Contents	<ul style="list-style-type: none"> <li>- user-friendliness of web-portals</li> <li>- protection of privacy</li> <li>- information and publicity/voluntary, under obligation?</li> </ul>
4	Duration	50 minutes
5	Material	<ul style="list-style-type: none"> <li>✓ computer and internet-access</li> <li>✓ markers</li> <li>✓ choose suitable websites</li> <li>✓ OH-transparencies</li> </ul>

Translation into action		How to use the new communication-technologies safely
		For this phase, the computer room is used again
1	Methods	<p><b>Exercise:</b> the participants execute all but the last two steps of shopping in the internet (up to confirmation of payment); they cancel their order; they explore different possibilities of payment; use of web-washer.</p> <p><b>Reflection:</b> how do I pay when shopping in the internet? Have I taken into account possible risks?</p> <p><b>Supplement:</b> modalities of payment in the internet</p> <p><b>Reference:</b> From a new channel of communication and self-service to one-dimensional communication – danger of depersonalisation; increase of impulsive shopping due to frustration.</p> <p><b>Practical work:</b> consequences regarding consumer-protection which, due to the increasing use of the new communication-technologies, needs to be enforced in the future: consumer-policy, protection of children, learning, access-regulations, etc.</p>
2	Objectives	<ul style="list-style-type: none"> <li>• learn to recognize dangers produced by insecure paying modalities;</li> <li>• know consumer-rights regarding cancellation when shopping in the internet;</li> <li>• realize the importance of getting access to the new communication-technologies as a basis of social balance and justice.</li> </ul>



3	Contents	<ul style="list-style-type: none"> <li>- publicity and information on the internet (advertisement from gangs), and by MMS and SMS</li> <li>- modalities of payment on the internet</li> </ul>
4	Duration	60 minutes
5	Materials	<ul style="list-style-type: none"> <li>✓ prepare example of a case regarding information and publicity (reading matter)</li> <li>✓ publicity from different telecommunication-companies</li> </ul>

	Testing/ evaluating	How to use the new communication-technologies safely
1	Methods	<p><b>Reflection:</b> Why and in which way could I be personally affected by the "digital divide"? In which areas regarding the use of the new technologies do I have problems: what can I change?</p> <p><b>Supplement:</b> Further acute problems regarding the use of new technologies (internet-addiction, commercialization, impoverishment of forms of communication, loss of democratic structures, weakening of consumer-rights).</p> <p><b>Discussion:</b> Which advice can we offer participants? Where to get valid and up-to-date information? (e. g. Konsument extra (1999): Internet leicht gemacht. Wien*)</p> <p><b>Visualization:</b> Where have I really learned something in this module? On a poster, different-colour sticker-points are glued next to the respective aspects. Red point: learned a lot, yellow point: learned something, black point: learned nothing.</p> <p><b>Summary</b> of the weaknesses defined in the orientation-phase and of what was learned</p>
2	Objectives	<ul style="list-style-type: none"> <li>• investigate possible changes of attitude regarding the use of the new technologies;</li> <li>• define what was learned regarding security on using the new technologies.</li> </ul>
3	Contents	<ul style="list-style-type: none"> <li>- in which areas are there personal problems and insecurities regarding the use of new technologies?</li> </ul>
4	Duration	30 minutes
5	Material	<ul style="list-style-type: none"> <li>✓ poster with problem-areas</li> <li>✓ coloured sticker-points</li> </ul>

\* Consumer extra. (1999): Internet rendered easy. Vienna (translator's note)

