

MEASURING AND BRIDGING THE DIGITAL DIVIDE IN GERMANY

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Introduction

Almost every day we are told by industry leaders, politicians and researchers that the ongoing societal diffusion of Internet services will alter existing forms of communication and transaction in nearly all spheres of life – from the purchase of goods and services and administrative procedures to educational measures, entertainment and political decision-making. However, to date, only a minor and rather homogeneous share of the German population actively utilizes Internet services in their daily life. The population of Internet users is strongly biased along certain socio-demographic variables like age, gender, education, and income. This is termed a division between information haves and have-nots, users and losers or as a digital divide. There is a broad consensus in industry, politics, and academia that this divide should not be taken for granted, for economic as well as for social reasons.

To improve the inclusion of Internet non-users, various initiatives have been launched to stimulate interest in Internet services and to overcome existing barriers and hurdles of Internet access and utilization. To foster such attempts, there is a need for enhanced data about access and utilization, deeper analysis of these data and the dissemination of best-use practice cases. Existing barriers can only be identified by systematic evaluation of previous actions and enhanced exchange of experience. Thus, more effective measures regarding different target groups can be developed in order to increase inclusion.

There is no single solution for supporting the people who are currently not connected to the Internet. The hurdles and barriers to successful utilization are as diverse as the possibilities and solutions to overcome them. Therefore, many different steppingstones are needed to bridge the existing digital divides. That way at least all people should have the possibility of using the Internet if they want to. With respect to this goal, this report has three main objectives:

1. Systematically analyzing the existing data about the socio-demographic structure of the Internet users and non-users and quantifying the digital divide with respect to relevant sociodemographic dimensions and their development over time. In particular, we want to find out whether the gap has become smaller or even greater during the last two years.
2. Identifying the barriers and hurdles of Internet utilization by an analysis of the behaviors and attitudes of Internet non-users towards the Internet and its services.

3. Paraphrasing and introducing recent and current interventions and initiatives that are likely to bridge existing digital divides in Internet utilization.

The studies and data, which are used for this secondary analysis are listed below.

Table 1: Classification of Surveys about Internet Access and Utilization

| Title | Author | Date | Sample Size | Population Represented by the Sample ¹ |
|--|---|--|---|--|
| GfK Online-Monitor | Association for Consumption Research | 01/99, 07/99, 01/00, 07/00 | 01/99: 5,662 07/99: 5,063 01/00: 8,019 07/00: 8,004 | 01/99 and 7/99: persons in Germany aged 14 to 59 living in private households with telephone (44.3 million) / Since 01/00: same persons aged 14 to 69 (53.1 million) |
| ARD/ZDF Online-Survey | ARD/ZDF Working Group Multimedia | 05/97, 04/98, 05/99, 04/00 | On the basis of preceding interviews and trend polls, about 1,000 online users were interviewed for each survey | German online users aged 14 and older. The whole population, represented by the survey, accounts for about 63,5 million people |
| @facts | Forsa Association for Social Research and Statistical Analysis | 03/00 | 11,507 | German speaking people, aged 14 and older, living in Germany (63.51 million) |
| Measuring Information Society – Eurobarometer 50.1 | Instituts et Responsables de Recherche (INRA) | 11/98 | 2,053 | German people aged 15 and older (68.76 million) |
| Media Vision Trends | Frauenhofer Institut for Industrial Engineering IAO / Market Research Institution EMNID | 1997, 1998 | About 1,000 interviews for each year | Persons living in private households in Germany, age 14 and older (ca. 62.9 million) |
| W3B | Fittkau and Maaß, Limited Liability Company | Since 1995 twice a year in spring and winter | The number of participants is permanently growing. Between winter 99 and spring 2000 it increased from 26,000 to 30,000 | All German speaking people with access to the Internet and the WWW |
| ECATT National Report – Germany | EMPIRICA, Association for Commu- | 04/99 | About 1,000 | People living in Germany, aged 14 |

¹ The population size of the different surveys varies for two main reasons: (1) Different surveys account for different age ranges, (2) Population data are taken from different surveys. Most German surveys are based on data from the *Media Analyse (MA)*, a regularly conducted comprehensive survey for compiling basic data, which can be used by the member organizations of the *Working Group Media Analysis* for their own surveys. The differences between the *@facts Survey* and the *ARD/ZDF Online Survey* can be explained by the two different populations offered by the *MA* (see <http://www.agma-mmc.de/>). The *Eurobarometer* relies on data from the European population survey *Eurostats*, which is again a different source.

| Title | Author | Date | Sample Size | Population Represented by the Sample ¹ |
|----------------------|----------------------------------|-------|-------------|---|
| | nication and Technology Research | | | and older |
| Stern Brand Profiles | Stern Advertising Department | 11/99 | 10.022 | 51,24 million German speaking people, aged 14 to 64, living in private households |

I. Internet Access and Utilization

Most information about Internet access and utilization is based on polls and surveys conducted generally by market research companies at the request of various institutions. Basically all these surveys account for a steadily growing share of the population who access and use the Internet. The difference between access and utilization is sometimes neglected. Access only describes the general possibility to use the Internet, while utilization requires occasional or regular use of Internet services. People who have no access require different analysis and support than people who have access, but do not use this possibility. The diffusion scope and pace differ among the various surveys. For spring 2000, for example, the percentage of the population who uses the Internet varies between 20 and 30 percent. Explaining the high deviations in the results of the surveys requires a closer look at their methodology.²

The existing surveys, for example, do not apply a common definition of Internet utilization. In some cases, utilization is a regular, in others an occasional activity. Biases are also caused by different survey populations. Whereas some surveys, for example, include the German population between 14 and 59 years of age, others cover all people 14 years and older. Different sample designs and applied interview techniques may also cause additional biases. Thus the survey results presented below must be interpreted with care. They should not be read as exact facts about Internet access and utilization. However, they give an outline of the basic trends in Germany.

² A comparative analysis of several studies available in 1998, conducted by Bernd Wingert shows a lot of differences (see Wingert 1998).

1. Computer Access and Utilization

In most cases, access to a Personal Computer (PC) is a basic requirement for Internet utilization. According to the *B.A.T. Freizeitforschungsinstitut*, only 20 percent of the German population used a computer in their household in 1996. Two years later, the number increased to 26 percent of the population. At the end of 1998, *Media Vision* found that 30 percent of the population had access to computers at home or at the workplace. According to the *German Federal Census Bureau*, in January 1999, 45 percent of the private households owned a computer. Comparable results are provided by the *ECATT National Report – Germany*, conducted by *Empirica*, a company for communication and technology research. Accordingly, the number of individuals who had access to a computer at home in April 1999 accounted for 52 percent of the population. While this percentage only accounts for the private realm, people also use computers at the workplace, in school or at the university.

In sum it can be assumed that more than half of the German population has access to computers in the private realm. Probably, a higher percentage of the population has at least been exposed to computers to date. However, little is known about to which extent and for which purposes these computers are used. Many of them may be used as game machines or typewriters only, while others are not even technically capable for Internet utilization.

2. Internet Access

For using the Internet, access to an Internet account is a basic pre-condition. In late-1998 the *Media Vision* found that from the 30 percent of the population, who had access to a computer at home or at the workplace, only 11 percent of the computers were equipped with online tools. According to the *Federal Office of Statistics*, among the 45 percent of the private households equipped with a computer, 11 percent had access to the Internet in January 1999.

Overall, people are more likely to have access to the Internet outside from home than in the private realm. The data, gathered by the *GfK AG* for January 1999 account for a share of 15 percent (6.6 million) of the people aged 14 to 59 with access in the private realm. Additionally, 20 percent (8.8 million) had access outside from home. Until July 1999, this number increased to 27 percent, while the share of access at home grew to 18 percent. Until January 2000 this gap further increased. Al-

most twice as many people had access outside the home (40%) than at home (21%).³

Altogether, according to the *GfK*, the population share with Internet access grew from 29 percent (13 million age 14-59) in January 1999 to 46 percent (24.3 mil, age 14-69) in January 2000. On this basis, already at the beginning of 2000, almost half of the German population aged 14 to 69 had at least some kind of access to the Internet.

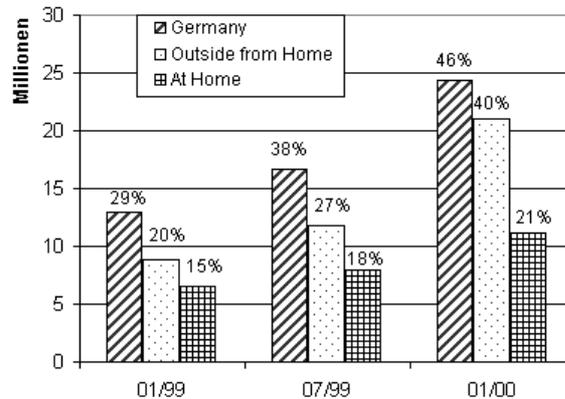


Figure 1: The Scope of Internet Access in Germany (Source: GfK Online-Monitor 3rd, 4th, and 5th Wave)

3. Internet Utilization

3.1 The Overall Scope of Utilization

Internet access is only a precondition for Internet utilization. Actually, just a significantly smaller share of the people with Internet access uses it. There is no agreement between the various studies about the characteristics of Internet use and users, which limits comparability. For the *ARD/ZDF Online-Survey*, for instance, a user is somebody, who utilizes online services more or less regularly. The *GfK* however, already considers someone to be an Internet user, if he or she uses the services of an Internet Service Provider (ISP) or the World Wide Web (WWW) occasionally.

In January 1999, the *GfK Online-Monitor* identified 19 percent of the population (8.4 million) at the age 14 to 59 as occasional Internet users. In April of the same year, according to the *ECATT* survey, 22 percent of the population aged 14 and older were regular Internet users, whereas 33 percent had used the Internet at least once. One month later, the *ARD/ZDF Online-Survey* only found 17.2 percent (11.2 million) regular users of online services at the age of 14 and older. Compared to 1997, the number of Internet users more than doubled during this time (1997: 4.5 mil (6.5%), 1998: 6.6 million (10.4%)).

At the end of the year 1999, the *@facts-survey*, conducted by *Forsa* on request of the *Mediagruppe Digital* found about 10.3 million people aged 14 and older, who

³ Note that the *GfK* expanded the population of its survey in January 2000 (5th wave) to include people aged 60 to 69 into the poll.

were using the Internet at least occasionally. By January 2000, according to the *GfK*, 30 percent of the population (15.9 million) aged 14 to 69 were using the Internet at least occasionally. According to a market study conducted at the request of the magazine *Stern*, 11 million people, aged 14 to 64, were using the Internet in January 2000. In March 2000, according to the results of *@facts* for March, 14 million people aged 14 and older were using the Internet at least occasionally (21.8 percent of the population). One month later, the *ARD/ZDF-Online Survey* found 18.3 million occasional Internet users aged 14 and over (28.6 percent of the population). In July of the same year, there were 18 million occasional Internet users, aged 14 to 69, according to the *GfK* (34 percent of the population).

On the basis of the existing survey results it is impossible to make a comprehensive statement about the quantitative dissemination of Internet utilization. The current number of users lies somewhere between 11 and 18 million people, which equals a population share between 20 and 30 percent.

Table 2: The Share of Internet Users in Germany

| Date | Survey | User Definition | Number of Internet Users | Percentage Share |
|-------|-----------------------|---|--------------------------|------------------|
| 05/97 | ARD/ZDF-Online Survey | People aged 14 and older who use online offers more or less regularly | 4.5 million | 6.5% |
| 04/98 | ARD/ZDF-Online Survey | People aged 14 and older who use online offers more or less regularly | 6.6 million | 10.4% |
| 01/99 | GfK Online-Monitor | People aged 14 to 59, who use, at least occasionally , services of an ISP or the WWW | 8.4 million | 19% |
| 05/99 | ARD/ZDF-Online Survey | People aged 14 and older who use online offers more or less regularly | 11.2 million | 17.7% |
| 07/99 | GfK Online-Monitor | People aged 14 to 59, who use, at least occasionally , services of an ISP or the WWW | 9.9 million | 22% |
| 12/99 | @facts | People aged 14 and older, who use, at least occasionally , the Internet or the WWW | 10.28 million | 16.2% |
| 01/00 | GfK Online-Monitor | People aged 14 to 69, who use, at least occasionally , services of an ISP or the | 15.9 million | 30% |

| Date | Survey | User Definition | Number of Internet Users | Percentage Share |
|-------|-----------------------|---|--------------------------|------------------|
| | | WWW | | |
| 03/00 | @facts | People aged 14 and older, who use, at least occasionally , the Internet or the WWW | 13.8 million | 21.8% |
| 04/00 | ARD/ZDF Online-Survey | People aged 14 and older who use online offers more or less regularly | 18.3 million | 28.6% |
| 07/00 | GfK Online-Monitor | People aged 14 to 69, who use, at least occasionally , services of an ISP or the WWW | 18 million | 34% |

Source: ARD/ZDF Online-Survey 1999-2000, GfK Online-Monitor 3rd to 6th Wave, @facts Survey 03/2000. Note that the date of the single surveys does not refer to the publishing data of the survey. Instead, the data refers to the last months in which the survey was in the field.

3.2 Locations of Internet Utilization

There are different locations where people use the Internet. The various surveys approach the question of where people use the Internet from different perspectives. However, this section tries to illustrate how the relevance of different locations for utilization has been changing during the last three years.

In November 1998, according to the *Eurobarometer 51.1*, more people used the Internet at the workplace (12.2%) than at home (7.1%). In contrast, according to the *GfK Online-Monitor*, in July 1999, 5.7 million (13% of the population) used the Internet at home (January 1999: 4.9 million, 11%). At the same time, only 4.3 million (10%) used it at the workplace (January 1999: 3.9 million, 9%). During both months, the number of people who used the Internet in school or at the university remained constant (1.6 million, 4%). In July 1999, also 0.9 million people used the Internet at other locations (not further specified) than the ones mentioned before. According to the 5th and the 6th wave of the *GfK Online-Monitor*, between January and July 2000, only the share of home Internet users increased from 16 to 22 percent (8.4 million to 11.6 million) while utilization outside from home and at both locations remained relatively stable (outside from home: January 2000: 10.1 million (19%), July 2000: 10.3 million (20%), at both locations: January 2000: 3.2 million (6%), July 2000: 3.9 million (7%).

The *ARD/ZDF-Online Survey* found that between 1997 and 2000 the number of online users who could use the Internet only at the workplace, school or university

steadily declined, while the number of people who used the Internet only at home or at both locations permanently increased (see Figure 2).

According to these data, schools, workplaces, and universities seemingly lost some of their relevance as sole places for Internet utilization, while also an increasing number of people have been making Internet utilization a sole domestic pleasure. Table 3 provides some further information about the different locations of utilization.

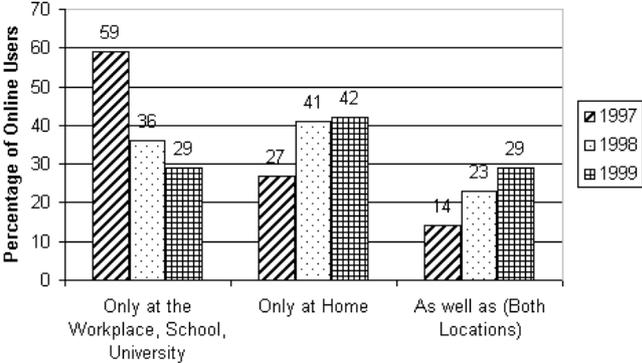


Figure 2: Locations of Internet Utilization. Source: ARD/ZDF Online-Survey 1997, 1998, 1999

Table 3: Locations of Internet Utilization (Percentage of Internet Users)

| | At Home | Workplace | Schools, Universities, Place of Apprenticeship | Internet Cafés | Others |
|------------------------------|---------|-----------|--|----------------|-------------------------|
| Stern Brand Profiles (11/99) | 56.4% | 33.7% | 13.8% | 13.7% | 10.5% (other locations) |
| @facts (03/00) | 73.2% | 36.4% | 14% | 2.6% | 8.4% (at friends) |

Source: Stern Brand Profiles 11/99, @facts 03/00

Even while the @facts survey accounts for much more people, who use the Internet at home, utilization at the workplace and at schools, universities, and places of apprenticeship account for relatively similar results. From the survey results it remains unclear, how many people actually make use of Internet Cafés. It would be also interesting to know what the other locations discovered by the Stern Brand Profiles are. It is also notable that apparently many people rely on friends for Internet utilization.⁴

⁴ There is some evidence that people who use the Internet at friend's places are actually non-users while they rely on the expertise of their friends to handle the Internet for them (see p. 22).

The *GfK Online-Monitor* data for January 2000 provide evidence that people are more likely to use the Internet when they have access at home than if they have access from outside the home. Figure 3 shows that almost twice as many people have access from outside the home than at home (21% vs. 40%). But the utilization rate for both places is almost equal (16% vs. 19%). This is a notable phenomenon, but it cannot be clarified completely why home access is normally followed by utilization, but access from outside the home is apparently only used in half of the cases where people have access. Possible explanations may be grounded in the fact that people have to pay for access at home and thus make use of it instead of leaving it unused. Utilization

| | |
|--------------------------|------------------------------------|
| Access at home: 21% | Access outside from home: 40% |
| Utilization at home: 16% | Utilization outside from home: 19% |

Figure 3: The Scope of Internet Access and Utilization.
 Source: GfK Online-Monitor 5th Wave (January 2000)

outside from home may be also accompanied by certain limitations (e.g. no permission for private utilization at the workplace, time restrictions, or inconvenient locations), which hinder utilization.

3.3 The Digital Divide in Internet Utilization

Most surveys show that the Internet user population is slowly moving towards a representation of the general socio-demographic structure of society. But there is still a divide in Internet utilization along socio-demographic variables like age, gender, income and educational qualification. The typical Internet user still most likely is a male person, 20 to 40 years old, well educated, and earning a relatively high income. US-American surveys show that diverse societal groups adapt to the Internet with different paces. Thus, some of the existing divides relatively increased instead of steadily diminishing.⁵

The analysis of the existing data about Internet utilization with regard to the development of existing digital divides in Germany is a difficult task. There exists no data

⁵ The *Falling Through the Net* survey conducted by the U.S. National Telecommunications and Information Administration illustrates that groups that were already connected before 1999 (e.g. groups with higher-income or high educational standards) were in 1999 far more connected than those that

source for analyzing Internet utilization by different groups on a comparative basis.⁶ The data about Internet utilization provided by the German Federal Census Bureau cannot be used for a longitudinal analysis along socio-demographic criteria for several reasons: The main source for the small amount of information related to Internet utilization is the *Income and Consumption Sample*. It is only conducted every five years and the 1998 sample included information on Internet utilization for the first time. Comparison will be possible in 2003. In addition, the sample surveys households, not individuals. Thus the data only allow limited statements about Internet utilization by certain socio-demographic groups, as they cannot be broken down for different groups. Another survey which asks for Internet penetration, is the *Continuing Economical Accounting for German Private Households*. Because it applies the same categories as the *Income and Consumption Sample* it can also not be used for the purpose of this report.

Therefore, the following explanations are based on the available data about Internet utilization taken from the surveys mentioned above. Due to the methodological problems described in chapter I and the lack of valid comparative data, the following estimates cannot be sufficiently comprehensive. However, they are a first attempt to identify existing digital divides in Internet utilization in Germany and their specific causes. The following analysis includes the socio-demographic variables age, gender, income, and education.

3.3.1 The Age Divide in Internet Utilization

During the mid-1990s, when the utilization of Internet services became increasingly popular, utilization mainly occurred in the universities, where most people are younger than the average population. This provides some explanation for the large share of younger Internet users. In 1997, according to the *ARD/ZDF Online-Survey*, approximately two-thirds of the Internet users were between 20 and 39 years old. Only 9 percent of the users were older than 50 years. During the following two years, some changes in the age structure of Internet users appeared. Until May 1999, the share of the 20 to 39 years old decreased to 26 percent, while all other groups, ex-

were already left behind before from using the Internet like low-income people or poorly educated groups (see <http://www.ntia.doc.gov>).

⁶ The *Falling Through the Net* surveys have been conducted 1995, 1997, and 1999. They rely only on data from the U.S. Census Bureau. This provides a homogeneous database, identical samples and sample designs for all studies and facilitates the analysis of Internet utilization over time between different user groups.

cept the 40 to 49 year olds, could increase their share. The share of Internet users older than 50 years even jumped to 17 percent (see Figure 4).

However, from the 27.9 percent of the population who were 60 years and older in April 2000, only 4.4 percent were counted as Internet users. On the other hand, 54.6 percent of the people aged 14 to 29 were identified as Internet users, but they accounted for only 13.2 percent of the

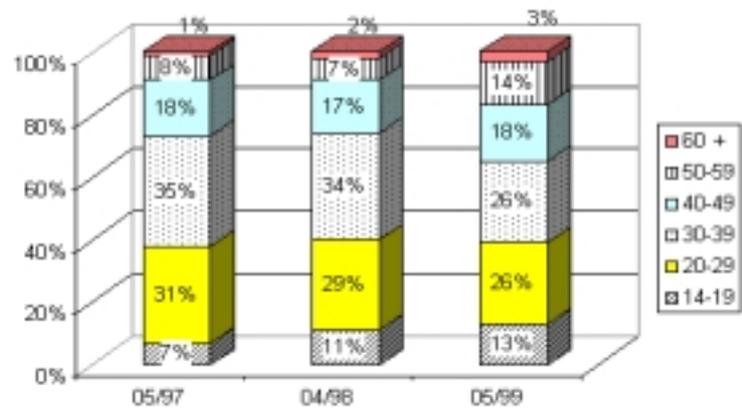


Figure 4: The Age Structure of the German Internet Users
Source: ARD/ZDF-Online-Monitor 1997, 1998, and 1999

population. Thus the age divide between these two groups increased from 13 percentage points in 1997 to 50.2 points in 2000 (see figure 5 and Appendix 1.1 for further details).

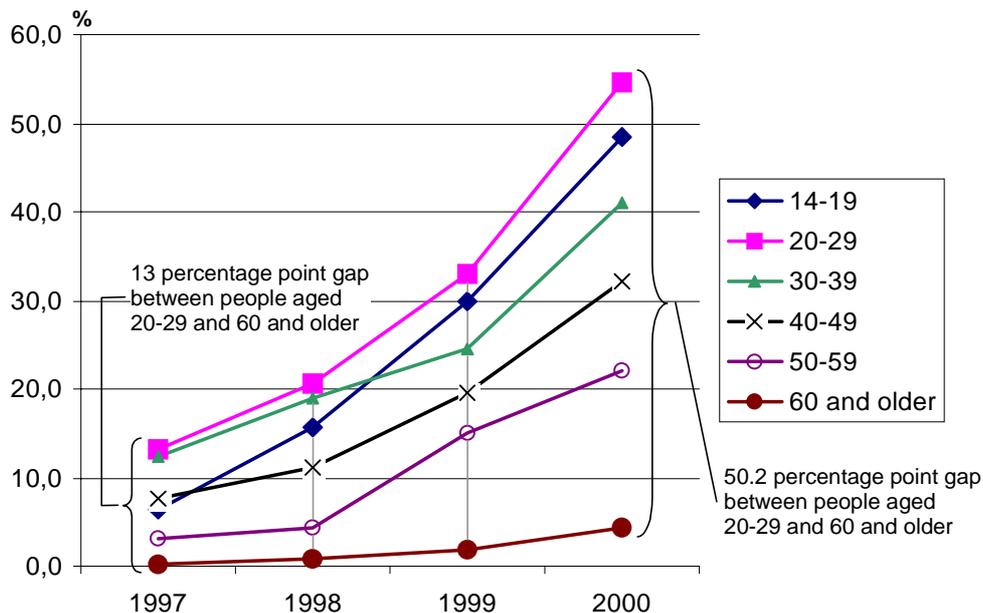


Figure 5: The Share of Internet Users in Different Age Groups
Source: ARD/ZDF-Online Monitor 1997 to 2000

The data from the 5th and 6th wave of the *GfK Online-Monitor* basically confirm the findings of the *ARD/ZDF Online-Survey*. But there is one exception. Between January and July 2000, the share of Internet users aged 14 to 38 declined for all age groups, while at the same time, the number of Internet users, aged 40 to 69, slightly increased. Even if this is a small move towards a more balanced representation of all

age groups, the 14 to 29 years old remain the most over-represented group, while the 60 to 69 years old are still the most under-represented group (see Figure 6 and 7).

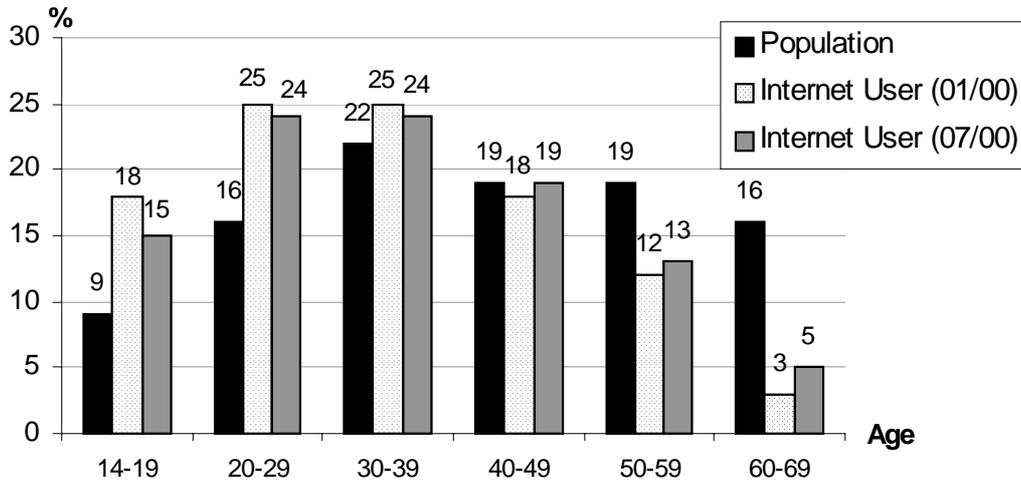


Figure 6: The Age Structure of the German Internet Users and the Share of Certain Age Groups on the Population
 Source: GfK Online-Monitor 5th Wave (January 2000)

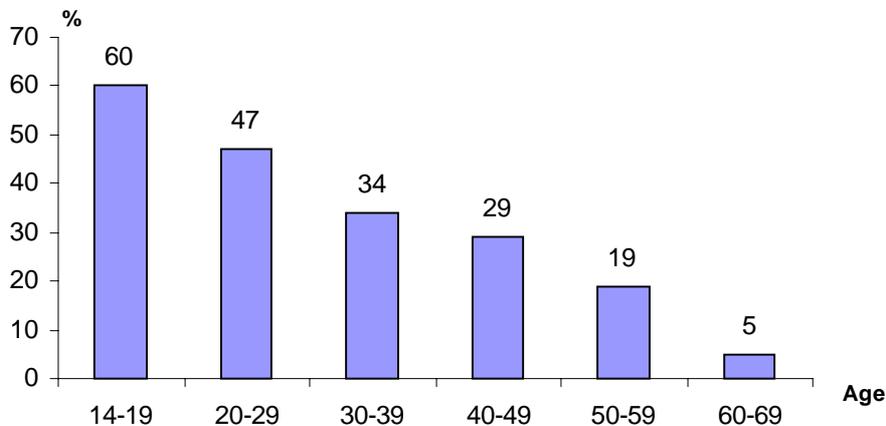


Figure 7: The Scope of Internet Utilization in Different Age Groups.
 Source: GfK Online-Monitor 5th Wave (January 2000)

The *@facts* data for March 2000 confirm those findings. The study found 13.8 percent of the Internet users aged 14 to 19. 24 percent of the users were between 20 and 29 years old. Only 14 percent of the users were 50 years and older, but almost 40 percent of the population belonged to this group. Obviously, Internet utilization is still dominated by younger people. The probability of Internet utilization declines with rising age, especially for people older than 40 years. However, at least the *GfK*-data

provide some clues that this gap is becoming smaller. Thus special measures to foster the inclusion of elderly people may show first results.

3.3.2 The Gender Divide in Internet Utilization

There is also still a significant gender bias for Internet utilization, although the share of male Internet users decreased while the share of female users increased permanently during the last three years. But that does not mean that the gender divide has been reduced.

The *W3B surveys*, a poll conducted online show that the percentage of male users decreased from 89.5 percent in 1997 to 76.8 percent in May 1999. During this time period, the share of women increased from 10.5 to 23.2 percent. But between May 1999 and November 1999, the share of male users slightly increased to 77.5 percent, whereas the share of women decreased to 22.5 percent. Thus, according to these data, the gender divide again slightly increased during the second half of 1999.

Analyzing the *ARD/ZDF-Online Surveys* shows that the divide between male and female users further increased between 1997 and 2000 despite a growing number of women who went online. This is because the number of men who started to use the Internet still exceeded the number of women who did so. In 1997, 10 percent of the male and 3.3 percent of the female population were online. This accounts for a gap of 6.7 percentage points between both groups. Until April 2000, the gap increased to 15.5 percentage points because indeed 21.3 percent of the female population was using the Internet but also 36.6 percent of the male population did so (see Figure 8 and Appendix 1.1).

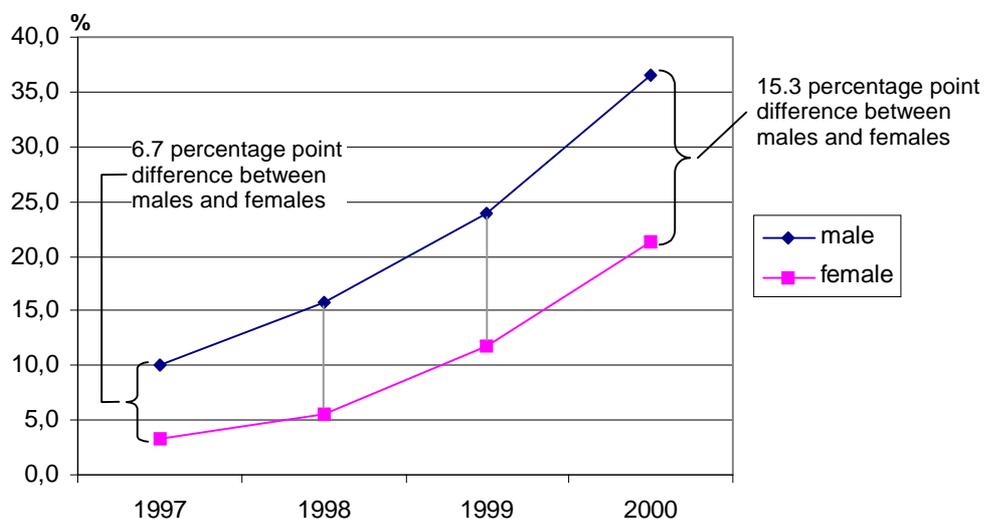


Figure 8: The Share of Internet Users in the Gender Groups
Source: ARD/ZDF-Online Survey 1997 to 2000

The *GfK Online-Monitor* does not confirm the trend described by the *ARD/ZDF-Online Survey*. Between January and July 1999 the gender gap slightly decreased by 0.6 percentage points. After changing the population basis of the survey in January 2000, the gap again increased, but further decreased until July 2000 by 1.2 percentage points (see Figure 9 and Appendix 1.2).⁷

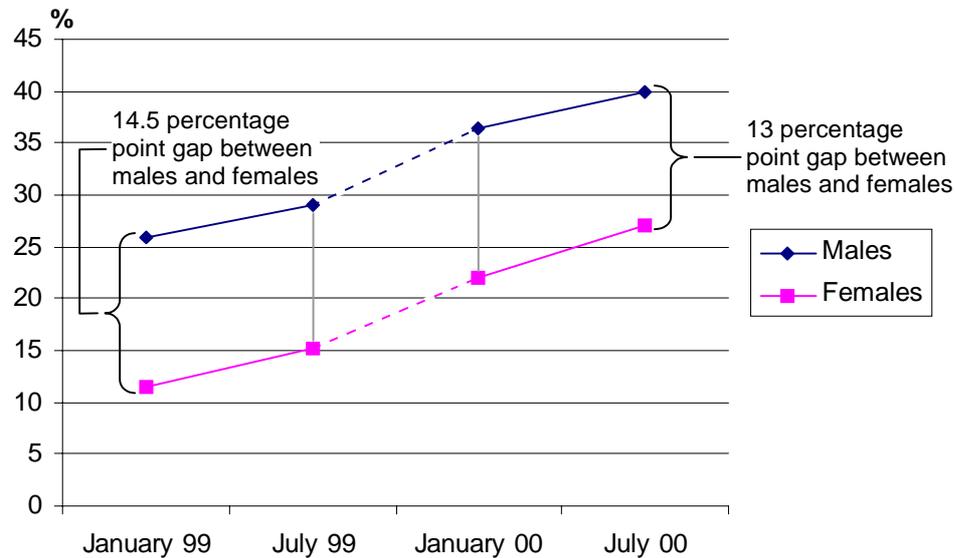


Figure 9: The Share of Internet Users in the Gender Groups
Source: GfK Online-Monitor 3rd to 6th Wave

A careful explanation for the increase of the gender gap after changing the population basis may be grounded in the assumption that more older men than women are using the Internet.

According to the *@facts surveys*, the gender gap in Internet utilization remained relatively stable between December 1999 and March 2000. Respectively, the share of Internet user of the male population increased from 22.9 percent (7.01 million) to 28.5 percent (8.7 million). During the same time, the share of women increased from 9.9 percent (3.28 million) to 15.6 percent (5.1 million). Thus, the gender gap only increased by 0.1 percentage points.

In sum, the data show that the number of female Internet users increased significantly. But as the number of male users increased on a high level, the gender gap has not diminished yet. As the available data contradict each other, more research on the gender divide is needed.

⁷ Due to the change of the population basis, results cannot be compared between all four measuring

3.4.3 Internet Utilization and Income

Income is considered to be an important variable, strongly influencing the likelihood of Internet utilization. But it is difficult to make a comprehensive statement about this relation. Questions about income are critical, because, according to information from an *GfK*-employee, income questions account for survey failure rate around 20 percent. Thus the provided information about the relation between Internet utilization and income should not be over interpreted. For the preparation of this report, we used the data from the *GfK Online-Monitor*, because at the time of the writing of this report only this survey provided enough data for analyzing the relation of Internet utilization and income over time (see Figure 10 and Appendix 1.3).⁸

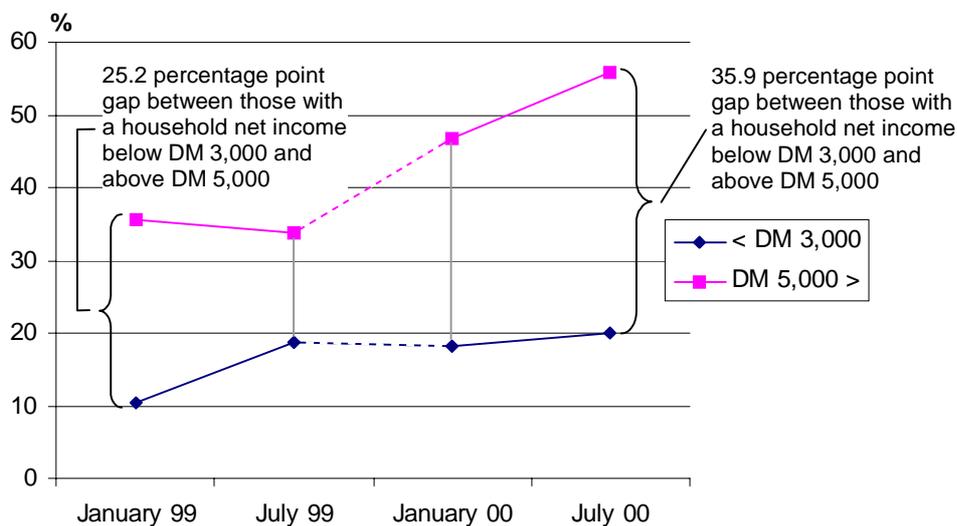


Figure 10: The Share of Internet Users on Certain Household Net Income Groups
Source: GfK Online-Monitor 3rd to 6th Wave

In January 1999, 1.2 million Internet users (15%) had a monthly household net income below DM 3,000. 3 million Internet users had an income above DM 5,000 (36%). Accordingly, only 10.4% of the population with such an income used at least occasionally Internet services. On the other hand, 35.6% of the people with an income below DM 5,000 did so. This accounts for an income gap of 25.2 percentage points. Six months later, the gap went down to 15.1 percentage points. In January 2000, after changing the survey population, the situation changed again. The number of Internet users, earning more than DM 5,000 almost doubled to 6.2 million (39%)

points. Comparable with each other are only the data for 1999 and the data for 2000.

⁸ Of course, due to the alteration of the population represented by the survey, a cumulated comparison between all four measuring time points is not possible.

Thus, than 46.7 of this income group were accounted as Internet users. The number of people earning less than DM 3,000 only went up to 2.3 million, so that only 18.1 percent of this group used the Internet. Respectively, the income gap in January 2000 accounted for 28.6 percentage points. Until July 2000, the gap further increased to 35.9 percentage points, because 1.2 million additional people earning more than DM 5,000 went online, while only 220,000 people with an income below DM 3,000 did so.

These data confirm the assumption that Internet utilization is strongly influenced by household income, because people with a low-income are less likely to use the Internet than people with a high income. It is a troublesome development that during the first half of 2000, people with a low-income felt further behind. But in this case too, further and deeper research is recommended which may focus, among others, on the situation of the so-called working-poor. Such an approach would exclude pupils and students, who indeed normally live on low-income, but as they are in a training stage, cannot be compared with people who have small earnings or live from welfare services.

3.3.4 The Educational Divide in Internet Utilization

The sharpest divide in Internet utilization occurs for Internet use and educational qualification. Comparing the overall size of certain educational groups with data about the educational qualification of the Internet users shows that there is a deep and increasing educational divide in Internet utilization. Admittedly the share of the main educational groups on Internet utilization has been increasing for all groups since 1997, but the rates for every single group grew at different paces.

The *ARD/ZDF Online-Survey* shows that the share of secondary school graduates of the whole group with such a qualification only increased from 1.3 percent in 1997 to 7.5 percent in May 2000 while the share for the group with a college degree went up from 29.1 percent to 86 percent during the same time period. Thus the divide between both groups widened from 27.8 percentage points in 1997 to 78.5 percent points in 2000 (see Figure 11, 12 and Appendix 1.1 and 1.4).

The *GfK Online-Monitor* provides similar results. The percent of people with a secondary school leaving certificate who used the Internet grew from 8.8 percent in January 1999 to 10.5 percent in July 1999. During the same time, the share of Internet users on the population group of college graduates grew from 40.6 percent to

49.7 percent. Thus the education gap increased from 31.8 to 39.2 percentage points. After enlarging the sample basis for the January 2000 survey, 50.9 percent of the college graduates were counted as Internet users, but only 17.5 percent of the population with a secondary school. However, the divide in January 2000 decreased to 33.4 percentage points. But because of the alteration of the survey population, this change cannot be compared. However, six months later the share for secondary school graduates only increased to 19.7 percent, while the share of college graduates increased to 64.7 percent. Thus, during this period the educational divide again increased to 45 percentage points.

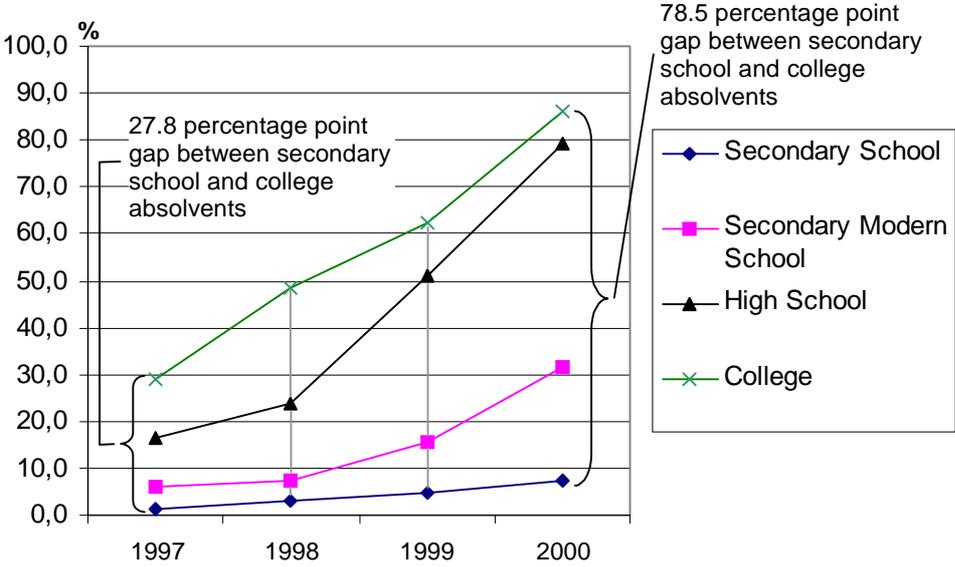


Figure 11: The Share of Internet Users on Certain Educational Groups
Source: ARD/ZDF-Online Survey 1997 to 2000

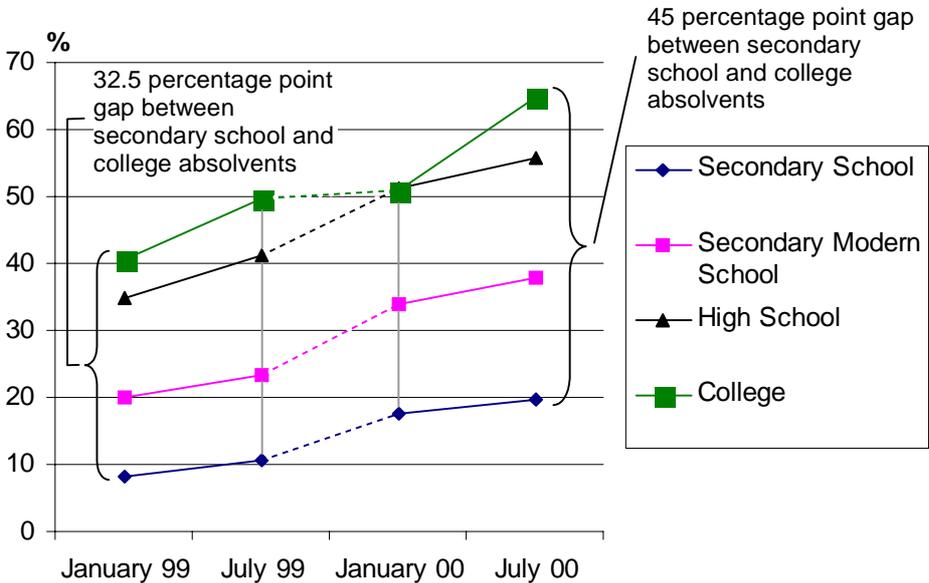


Figure 12: The Share of Internet Users on Certain Educational Groups
Source: GfK Online-Monitor 3rd to 6th Wave

In sum, people with secondary school qualification are the least likely group to be on the Internet. Their share of the Internet users only increased marginally during the last years, while the share of all other educational groups increased much faster.

In a first summary, the figures show that the digital divide is not a completely new division between different groups in society. Rather we find the well-known differentiation along the dimensions of education, income and gender. Again ICT enforces existing trends, if there is no explicit counteraction.

The US-studies "*Falling Through the Net*" show that there are three other dividing lines: Race/ethnicity, handicaps and household structures. With respect to the last mentioned aspect, among female householders with children under 18 years only 15 per cent use the Internet, while 39.3 per cent of the white married couples with children use the Internet. There are no data available on the German situation with regard to household structure, handicapped people or non-German-speaking citizens. As the existing surveys are marketing-driven, there is a need to supplement these data by official statistics comparable to the "*Falling-Through-the-Net*"-studies in the U.S..

II. Barriers and Hurdles of Internet Access and Utilization

The majority of the German population does not currently use the Internet. Even by taking into account the highest utilization rate of 30 percent of the population who are using the Internet at least occasionally, about 70 percent of the population remain unconnected. These off-liners can be separated into three groups: (1) people who do not have access to the Internet, (2) people who have access but do not use it, and (3) former Internet users who already quit utilization. There are two main realms, where the reasons for non-utilization are grounded:

- (1) People do not take the necessary steps for utilization, if they do not expect significant personal benefits or gratifications from Internet utilization. Such a decision is based on the attitudes towards the Internet and its services. Unrealized expectations may also lead to quit utilization.
- (2) People may be interested in using the Internet, but perceive existing barriers of Internet utilization as being too high for overcoming them.

This chapter analyses the existing reasons for not using the Internet in greater detail by examining the attitudes and expectations of the non-Internet users towards

Internet utilization. Besides people who have never been on the Internet yet, there are a considerable number of people who do not use the Internet currently, but were accounted as users earlier. Thus it is necessary to pay attention to reasons for giving up Internet utilization.

1. General Reasons for the Non-Utilization of the Internet

1.1 Attitudes About the Information Society

Internet utilization is embedded in the societal process, broadly described as the transformation towards an Information or Knowledge Society. A survey conducted at the request of the *Verband der Elektrotechnik, Elektronik, Informationstechnik (VDE)* (Association of Electronics and Information Technology) in February 2000, provides some evidence that non-utilization of the Internet goes along with negative or ambivalent attitudes about this transformation. Survey participants were asked for their opinion about the 'German' Information Society, shaped by the developments in the realms of information technology and telecommunications.

Table 4: Attitudes About the Development of the Information Society

| | all | Gender | | Age (Years) | | | Education | | |
|------------------------|-----|--------|-----|-------------|-------|-----|-------------|-------------|---------|
| | | Women | Men | -34 | 35-45 | 55+ | Sec. School | High School | College |
| Rather positive | 51% | 44% | 58% | 66% | 59% | 31% | 38% | 55% | 73% |
| Rather negative | 10% | 10% | 9% | 5% | 8% | 16% | 12% | 11% | 2% |
| Ambivalent Attitudes | 34% | 40% | 29% | 26% | 27% | 48% | 41% | 30% | 24% |
| Don't know / No Answer | 5% | 7% | 4% | 4% | 6% | 6% | 9% | 3% | 0 |

Source: VDE-survey *Technikakzeptanz* (Technology Acceptance), January/February 2000.

The data show that indeed half of the German population had a rather positive attitude about the developments of the Information Society. Still one-third of the population had ambivalent views about this development, and a remaining 10 percent perceived the development as being rather negative.

It is striking that the groups who are currently under-represented in Internet utilization, were much more ambivalent in their views about the Information Society than the groups with a high rate of Internet utilization. Additionally the least connected groups like seniors and people with secondary school qualification had the most negative perception of the Information Society. Whereas, for example, only 5 percent

of the people aged 34 and younger had a rather negative attitude, 16 percent of the people aged 55 and older had such an attitude. Still 12 percent of the people with a secondary school qualification had a negative attitude. Only 2 percent of the people with a college degree shared this view.

Approval of the Information Society also seemingly increases with growing household net income. 40 percent of the people with an income not higher than DM 2,499 judged the development of the Information Society as being rather positive. For the people with a net income higher than DM 5,000, 71 percent shared this view. From this group, only 4 percent perceived the development of the Information Society being rather negative. 12 percent of the people with an income not higher than DM 2,499 shared this view. Except for the group, earning more than DM 5,000 (23%), more than one-third of any questioned income group had ambivalent views about the Information Society.

Relating these results to the findings about Internet utilization pointed out in the earlier chapters, supports the presumption that Internet non-utilization is not only due to structural factors, which inhibit utilization, but also to an overly negative or at least ambivalent perception of the societal development Internet utilization is embedded in. This is especially true for the least-connected groups like people with 'low' educational attainment and the elderly population. This might lead either to a proactive behavior, that means that people feel forced to get on the Internet; or to a behavior of resignation, shaped by the assumption that Internet utilization cannot foster the improvement of their living conditions.

1.2 The Willingness to Use the Internet

A basic parameter for the further development of Internet utilization is the anticipated willingness of the non-Internet users for going online in the future. According to the *@facts* survey, there were 49.6 million people who were not using the Internet in March 2000, which accounts for approximately 78.2 percent of the population represented by the survey. Accordingly, 31 million of the non-Internet users (62.4%) will definitely not go online during the next six months. This accounts for about 48.9 percent of the population aged 14 and older represented by the survey, which is not interested in using the Internet (see Table 5).

Table 5: Probability of Online Utilization for Non-Internet Users

| Definitely won't go online | Probably won't go online | Will go online perhaps | Will definitely go online | I do not know |
|----------------------------|--------------------------|------------------------|---------------------------|-----------------------|
| 31 million (62.4%) | 7 million (14.1%) | 7.6 million (15.3%) | 3.9 million (7.8%) | 0.1 million (0.3%) |

Source: @facts Survey 03/2000

The *ARD/ZDF-Offline Surveys* – conducted by the *ARD/ZDF Working Group Multimedia* in May 1999 and April 2000 provide some further insight. It has to be noted that these surveys do not represent all Internet non-users. Instead, the numbers presented below, only account for the share of the off-liners, who either used the Internet earlier or had at least a perception about the Internet, without further specification of such a statement.⁹ In April 2000, this group accounted for about 34.5 million people (May 1999: 37.6 million). In May 1999, 60 percent of this group was definitely not planning to purchase an Internet access. In April 2000, still 54 percent shared this opinion. During the same time, the percentage of 'experienced' off-liners who definitely wanted to purchase an Internet account increased from 8 to 13 percent (see Table 6 for further details).

Table 6: Probability of Online Utilization for 'Experienced' Non-Internet Users

| Probability of Online Utilization | ARD/ZDF-Offline Survey May 1999 | ARD/ZDF-Offline Survey April 2000 |
|-----------------------------------|---------------------------------|-----------------------------------|
| Definitely won't go online | 22.6 million (60%) | 18.6 million (54%) |
| Probably won't go online | 5.6 million (15%) | 4.8 million (14%) |
| Will go online perhaps | 6 million (16%) | 6.6 million (19%) |
| Will definitely go online | 3 million (8%) | 4.5 million (13%) |

Source: ARD/ZDF Offline –Survey 1999, 2000

On this admittedly limited data basis we cannot make a comprehensive statement about the interest in Internet utilization. The @facts survey provides the most disillusioning outlook with almost 60 percent of the population not interested in Internet utilization. And even the people with an idea about the Internet, whatever that means, together with people who used the Internet in the past, account for approximately 37 percent of the population currently.

⁹ The results of this survey must be interpreted with care, because the sample size for all realms of the survey is rather small. The sample for the people who used the Internet in the past or had at least a perception of the Internet only included 272 people. This increases the risk of biases and deviations.

1.3 Attitudes About the Internet and Internet Services

To find out why so many people are currently not interested in using the Internet requires a closer look at the reasons for non-utilization. The following part first looks at the general attitudes towards the Internet and its services, while the personal appreciation of certain services is an important incentive for setting-up a personal Internet account. Then follows a deeper discussion of the known reasons of the off-liners for not using the Internet and its services.

1.3.1 Overall Interest in Internet Services

In November 1998, the *Eurobarometer 50.1* asked people about their interest in several Internet services related to communication, transactions, and information retrieval. Overall there was no Internet service that more than 50 percent of the interviewees were interested in. The largest number of people (44.7%) showed an interest in consulting local town or council services, followed by online job searches (37.5%), and preparing a trip online (36.7%). The three least popular applications were getting in contact with a politician or taking part in political debates online (10.8%), going through the online collections of a museum (14.7%), and reading the content of publications or documents online (25.8%).

In February 2000, the *VDE*-survey asked people about their interest in services based on information and telecommunication technologies and which of these services they would like to use. From the services related to Internet utilization, only accessing and pulling personal information via computer, multimedia, and worldwide data-networks raised the interest of more than one-third of the population (35%). 25 percent of the respondents were interested in computer and online-shopping. 22 percent declared their interest in tele-working. Interestingly, one-third of the interviewees (33%) apparently did not appreciate any Internet services. They either answered the question with 'I don't know' or made no statement at all.

Interest in Internet services, like general Internet utilization, is biased along the socio-demographic variables gender, age, income, and education. In most cases men showed a greater interest than women in the presented services. Much more men than women, for instance, were interested in obtaining personal information by using ICT (men: 41%, women: 29%). Only for tele-working, slightly more women (23%) showed an interest than men (22%).

Younger people were significantly more interested than older people in the services mentioned above. Whereas, for instance, 54 percent of the people aged 34 and younger were interested in obtaining personal information via ICT, only 15 percent of the people, age 55 and older had such an interest (age 35-54: 41%). While 43 percent of the people younger than 34 years showed an interest in online-shopping, only 11 percent of the respondents aged 55 and older had such an interest (age 35 to 54: 24%).

Appreciation of services also increased with growing formal educational qualification. People with a college degree, for instance, were almost three times more interested in accessing personal information via ICT than people with a secondary school leaving certificate (college: 66%, high school: 43%, secondary modern school: 41%, secondary school: 23%).

Eventually, interest in using Internet services increases with growing individual household net income. 25 percent of the people with an income not higher than DM 2,499 were interested in accessing personal information. Twice as many people (53%) with an income of DM 5,000 shared this interest. The same is true for online-shopping. Whereas 15 percent of the first group was interested in this service, 40 percent of the people with an income of DM 5,000 and more showed such an interest.

Interest in specific Internet services is biased in the same way like the overall appreciation of the Information Society. The population groups who are underrepresented in Internet utilization are interested in Internet services to a much smaller degree than those who have the highest share of Internet users.

1.3.2 Reasons for Non-Utilization of the Internet and its Services

One of the main reasons for not using the Internet and its services is the non-existing need to use it. In April 2000, 88 percent of the *ARD/ZDF Offline-Survey* respondents explained that they do not need an Internet account, neither for their private life, nor for their job (May 1999: 81%).¹⁰ Still 50.4 percent of the *Eurobarometer 50.1* participants who had no interest in Internet services explained that they did not need Internet services in their private life. Almost one-third indicated that they did not

¹⁰ Note that this group does not account for all Internet non-users but for those who either used the Internet in the past or had a perception about the Internet and probably or definitely do not want to go online. This is the case for all information presented from the *ARD/ZDF-Offline-Survey* in this chapter if not stated differently.

need them in their working life. Another 14.6 percent stated that they are not interested in new technologies in general.

Internet utilization requires access to some equipment, mainly a computer. 31.2 percent of the *Eurobarometer* interviewees said that they do not possess the equipment, needed for the utilization of Internet services. Obviously, many of the off-liners are not interested in purchasing such equipment. According to the *ARD/ZDF Offline-Survey* the majority of respondents who were not using a computer at the time of the interview explained that they do not want to purchase one (April 2000: 71%, May 1999: 81%). Only 13 percent were interested in purchasing one soon (May 1999: 11%). Unwillingness to purchase a computer increases with rising age. While 40 percent of the 14 to 39 years old stated in April 2000 that they would not purchase a computer (1999: 57%), 88 percent of the respondents 60 years and older made such a statement (1999: 90%).

Using the Internet and its services requires a considerable amount of training and practice for generating the necessary media competence for successful utilization. It requires technical competence to operate the computer, connect it to the Internet and navigate through the Internet with an Internet browser. Competence is also needed for dealing with safety concerns (e.g. protecting the own data against computer viruses and privacy violations). Additionally, only a sufficient amount of information and communication competence enables the user, among others, to validate content and analyze its meaning. This is a challenging and demanding process that requires a considerable amount of time, self-confidence and external support. According to the *ARD/ZDF-Offline Survey*, in April 2000, 31 percent of the non-Internet users did not feel comfortable operating the Internet (1999: 24%). 15.6 percent of the *Eurobarometer 50.1* respondents stated that they did not know enough about Internet services for using them and another 22.2 percent found them too complicated.

Time is not only needed for receiving media competence but also for every utilization session. Many non-users apparently think that they do not have such time. In April 2000, 56 percent of the *ARD/ZDF Offline-Survey* respondents said that they do not have the time or motivation for interacting with the Internet (1999: 61%). However, the number of participants of the *Eurobarometer 50.1* who made similar statements is much smaller. Only 10.3 percent stated that they do not have the time to use Internet services. Another 7.5 percent explained that they do not have the time to learn how to use Internet services.

Apparently, many off-liners simply rely on people who already have access in case they need the Internet for something. In April 2000, 78 percent of the *ARD/ZDF Offline-Survey* respondents stated that they could ask other people for that reason (1999: 75%). Respectively, 55 percent of the respondents stated that they could use the Internet together with friends or acquaintances (1999: 51%). This is an important point for further research. It would be important to know, for example, how frequently non-users can use such a form of access and for what reasons they do consult a friend or an acquaintance?

Many non-users also found the Internet still too expensive. According to the *ARD/ZDF-Offline Survey*, 47 percent of the non-users considered Internet utilization as too costly (1999: 52%). The *Eurobarometer 50.1* identified 27.7 percent of the non-users of Internet services who judged these services as being too expensive. Another 16 percent of the respondents declared that they felt uneasy about services on the Internet which involve payment.

Many off-liners are also concerned about the contents they expect to encounter on the Internet. Objections to available Internet contents focused, above all, on explicit and radical political contents. 76 percent of the participants of the *ARD/ZDF Offline Survey* found pornographic contents on the Internet offensive (1999: 78%). 43 percent considered the dissemination of extreme political contents as dangerous (1999: 44%).

Many off-liners also expect negative consequences from Internet utilization. 67 percent were afraid that unauthorized people could get access to personal data (1999: 64%), or that others could see what they have done on the Internet (2000: 45%, 1999: 49%). 45 percent of the off-liners were also afraid, that using the Internet causes neglect of existing social relationships (1999: 41%). Eventually, 19 percent of the respondents generally declined the Internet (1999: 14%).

However, the majority of the off-liners (93% in 2000, 1999: 90%) were sure that the Internet would establish itself like television, radio, and the press did in previous generations. And despite their own concerns about the Internet, the non-Internet users nevertheless acknowledged generally expected benefits of Internet utilization. 84 percent agreed that Internet utilization leads to getting in contact with new people (1999: 85%). 76 percent said that using the Internet might help to improve the understanding of other cultures (1999: 74%). Another 71 percent thought that information available through the Internet support equality of opportunities (1999: 65%). Thus the

attitudes towards the Internet are not homogeneous. Both negative and positive attitudes supplement each other.

2. Turning Off-Line – Reasons to Quit Utilization

Besides the people who have not been using the Internet yet, there is another group of off-liners that has been neglected in most surveys. These are the people, who used the Internet in the past but have already quit utilizing it. According to the *ARD/ZDF Offline Survey*, 6 percent of the population (3.8 million) belonged to this group in April 2000 (1999: 5.7 million or 9%). Nevertheless, the *ARD/ZDF Offline-Survey* did not explain different motives of non-users and no-more users, because the answers of both groups were cumulated.

In mid-1997, most participants of the *W3B* survey complained about the telephone charges which were considered as being too high (70%). Almost 60 percent stated that at certain times their Internet connection was too slow. Many people also had problems navigating the Internet, and 55 percent said that they simply could not find certain online offers. About the same number of users (54.6%) declared that the available contents were too superficial and commercial.

In the 6th wave of the survey in spring 1998, still 74 percent found the telephone charges too high. More than half of the respondents (54%) still found their Internet connection too slow during certain times, while 41 percent declared that their online connection was too slow during almost anytime. Eventually, 28 percent stated that the charges of their provider were too high. Also in mid-1999, 73 percent of the respondents found the telephone charges for Internet utilization still too high, and 29 percent complained about the provider charges.

According to these data, connectivity speed and costs are major obstacles to online utilization. More detailed research is needed to further specify the reasons, which lead to the decision to quit Internet utilization.

3. The Need for a More Convenient Internet

Eventually, the *ARD/ZDF Offline Survey* asked the non-users who used the Internet earlier or have a perception of the Internet for activities suitable to lower the threshold for Internet utilization. One postulation of the non-users is lowering the costs which accompany Internet use. In April 2000, 75 percent of the respondents agreed that computers and additional supply must be cheaper (1999: 66%). A signifi-

cant share of 78 percent of the non-users also asked for free opportunities for acquiring media competence (1999: 67%).

But particularly, operating the Internet needs to become much easier and more comfortable to use for reaching many of the non-users. The off-liners would like to see hooking up a computer to the Internet becoming as easy as connecting a TV set or a radio (2000: 82%, 1999: 74%). They wish that operating the Internet should be as easy as using a TV remote control (2000: 82%, 1999: 72%). 74 percent of the people also wanted the Internet to be accessible through the TV set (1999: 65%). Apparently there is a strong affinity between patterns of TV utilization and the expectations towards the functionality of the Internet. Such a perception is probably influenced, among others, by the Internet industries advertising campaigns, which suggest people that the Internet is just a plug and play medium, immediately ready to use. This supports the false hopes that the existing troubles of Internet utilization can be simply solved by technological solutions. It is critical that even more off-liner agreed with such views in 2000 than in 1999. What is needed here, is adequate media competence and well edited content easy to find and convenient to handle. These are important requirements for the successful socio-cultural embedment of the Internet. Before introducing recent and current activities, the dimensions of Internet access are pooled briefly to emphasize the requirements of comprehensive Internet access.

III. Stepping-Stones into the Digital World

1. Overview

The necessity to improve the possibilities and conditions of Internet access for the German population has been increasingly recognized by a growing number of societal institutions. Government, social agencies, educational institutions, private companies, and others have been deploying programs and initiatives mainly in joint actions with the purpose to improve Internet access and utilization throughout the German society.

Many societal institutions and agencies, like governmental entities, private companies, education institutions, social service agencies, unions, employment offices and others have been involved with programs and measures aimed at improving Internet utilization.

In its action program *Information and Jobs in the Information Society of the 21. Century* released in September 1999, the Federal Government states that by 2005 the share of Internet subscribers should increase to over 40 percent of the population (see <http://www.iid.de/contents.html>). To reach this goal, the Government has been setting up several initiatives, and tries to coordinate and moderate the overall process aimed at shaping the Information Society. A federal information and demonstration campaign *Internet for Everyone* shall be a center of activities. Supporting this campaign is an important task of the *Forum Information Society* (<http://www.forum-informationsgesellschaft.de>). The forum consists of working groups staffed with multimedia experts from all level fields and societal groups. The forum shall inform, provide stimulus, develop best practice models, and, above all, create a platform for a broad societal discussion about the chances and challenges of the Information Society.

The state governments follow up with similar goals and most of them maintain initiatives aimed at accelerating and fostering the societal utilization of ICT in the respective state. Measures carried out by governmental entities on all levels are normally joint efforts in cooperation with other societal groups, who can contribute additional resources like funds, knowledge, expertise and staff for program operation (see http://www.bmwi-info2000.de/glob_invent_d/index_a.htm for a searchable database of projects including governmental players).

Common forms of such cooperation are public-private partnerships. Such partnerships are based on activating private funds and know-how for the fulfillment of public tasks under remaining public control. The underlying assumption is that such partnerships benefit all involved players. On the national level, the *Initiative D21* (<http://www.initiaved21.de>) provides an example of such a partnership. But also many activities on the state and local level are based on this form of cooperation.

In order to structure the state of the art and to identify possible deficits we assume that access covers four important factors or dimensions:

1. For the non-techies, Internet access is not a goal of its own but rather a means to get to certain information and/or communication processes which are viewed as gratifications. As long as there is no relevant information for a particular group there is no reason for them to get access.

2. A necessary but no sufficient precondition for getting relevant information or participating in communication processes are the technical means of access, i.e. computers or other tools, Internet access, etc.
3. To find relevant content on the net, guiding information based on content indexing tailored for different user groups is necessary.
4. Finally, people themselves need to have technical skills to connect their computers, and they need information and communication competence to make use of the guides and search engines, to evaluate information from different sources, etc. (see Figure 13).

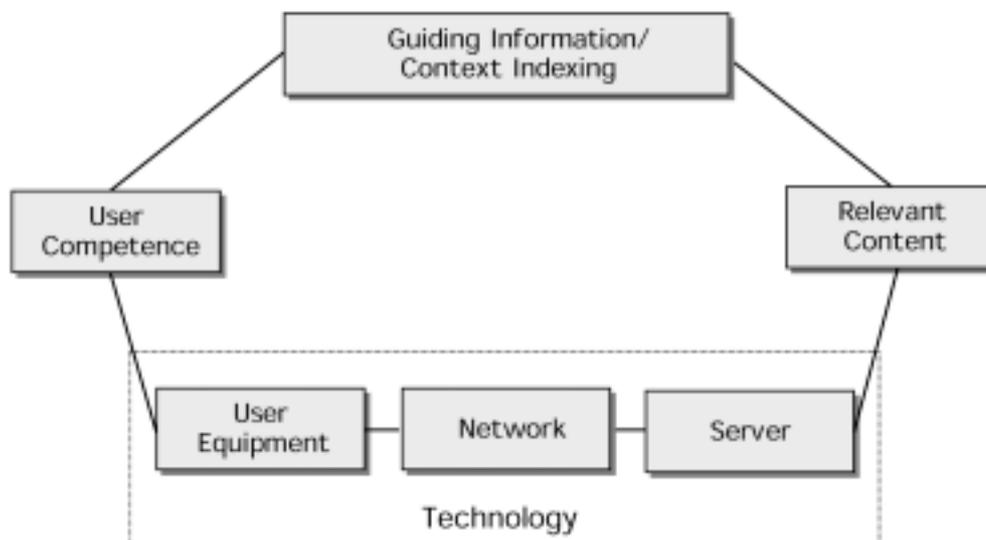


Figure13: The Core Dimensions of Internet Access

2. Activities Aimed at Specific Institutions

The majority of institutions, which are subject to measures for improving Internet utilization are gathered in the educational realm. These are, above all, public schools, public universities, adult education centers, the public library and so-called media competence centers. Media competence centers are a new institution, created as a reaction of the rapidly increasing demand for media competence. All other institutions are currently adapting to the new demands put on them by the growing societal relevance of ICT utilization.

Certain problems and hurdles accompany this re-structuring process. At all of the institutions mentioned above, the technical conditions for Internet utilization should be improved (e.g. Internet access with adequate bandwidth, sufficient hard- and software pools for staff and users, internal and external networks) to provide ade-

quate preconditions for Internet use. At most institutions, with the exception of the media competence centers, many staff members (teachers, instructors, and other employees) still need more training to become media competent themselves. These problems should be solved, and at the same time, opportunities for the public for gaining media competence and using the Internet should be enlarged to improve the conditions of Internet utilization on a broad basis.

Because people have different means of receiving education, it needs to be assured that every societal group finds sufficient means of education, which provides access to media competence. This is especially important for groups with limited possibilities of access to formal and further education like people not in the workforce, seniors, or unemployed persons. At least 30 million people belong to this group. Therefore, special attention must be paid to institutions beyond schools and universities, which are not only accessible for a certain user clientele but for all people (see Kubicek 2000).

2.1 Universities

Researchers and scientists belong to the early adopters of the Internet. Today, Internet utilization is indispensable for both, academic research and teaching. Students are increasingly required to use the Internet for their university education. For providing equality of opportunities and sufficient conditions for Internet utilization, it must be assured that students find enough possibilities for successful Internet utilization in the realm of the universities.

The universities have been subject to measures aimed at improving the conditions of computer and Internet utilization for a much longer time than any other public institution. Respectively, the conditions of Internet utilization are probably better than in any other educational realm. According to a national survey conducted by the *Working Group University Research at the University of Konstanz* around 1997/98, approximately 65 percent of the students perceived Internet access at the university as good (very good: ~24%, rather good: ~40%) (see Bargel 2000: 27). However, there is an ongoing need to close existing gaps in utilization conditions between different study subjects respectively departments, and to assure that students of all subjects at every university find good conditions for Internet utilization. The universities lack the means to fulfill such task alone. About 90 percent of the German universities are state institutions. Reduced public spending especially during the last decade caused stagnating or decreasing university budgets. External support is basically provided in

three main realms: (1) Network access, (2) Hardware, and (3) Educational applications (e.g. development of educational software and virtual learning environments).

Internet access for universities has traditionally been provided by the *Deutsche Forschungsnetz (DFN) (German Research Network)*, which is administered and maintained by the *DFN-Verein (DFN-Association)* (see <http://www.dfn.de>). The construction of this high-speed research network including the regular replacement of outdated network technology with new one with higher transmission capacities, has been funded by the *Federal Ministry of Education and Research*. Operation of the *DFN* is financed by user charges. Just recently, the core of the *DFN*, the *Breitband-Wissenschaftsnetz, B-WiN (Broadband Research Network)* has been replaced by *G-WiN*, which allows ultra high-speed data transmission, new multimedia applications and worldwide connectivity with speeds up to 2,5 Gbps. The construction of this new network has been funded by the *Federal Ministry* with DM 85 million over a five year period.¹¹ Today, the *DFN* offers its service not only to universities, but it is also used, among others, by libraries, museums, institutions of further education, and public authorities, which accounts for a number of around 750 institutions. Currently, also about 4,000 public schools use the network which is free of charge for them until 2003.

German university politics are mainly a responsibility of the single states. However, there are several cases where both, the federal and the state governments, share this responsibility and provide, among others, mutual support for improving the conditions of academic research and teaching. With regard to Internet utilization, two measures are of main importance: (1) the *Hochschulbauförderungsgesetz (University Support Act)* and the (2) the *Hochschulsonderprogramm III (HSP III) (University Special Plan III)*. Financial contribution to both measures is relatively equally shared between the states and the federal government.

Legalized by the *University Construction Support Act*, the *Computer Investments Programm (CIP) (Computer Investment Program)* and the *Wissenschaftler Arbeitsplatz Programm (WAP) (Researcher Workplace Program)* have been providing means for purchasing networked computer workstations. According to information from the *DFN*, *WAP* allowed the set-up of 19,400 workplaces between 1991 and 1999 while *CIP* made available roughly 31,000 workplaces for students clustered in so-called *CIP*-pools during the same time. During the last years, the federal govern-

ment and the states also provided around DM 790 million (€395 million) for the set-up of internal computer networks. For 2000, about DM 163 million (€81.5 million) shall be available for this purpose (see also Appendix 2.1).

The *HSP III* passed in 1996. Altogether, around DM 240 million (€120 million) have been available for the realm 'universities and multimedia'. It remains unknown, how much has been spent for improving the conditions of Internet access. According to the *Federal-State-Commission for Education Planning (BLK)* until summer 1999, most money went into improving the quantity and quality of available hardware and building up the necessary network infrastructure.¹²

While the *HSP III* will expire at the end of 2000, the federal and the state governments already signed an agreement to support, among others, the further development of universities and science. One of the six programs of the agreement supports the development of new media for the university curriculum and for 2001 about DM 40 million (€20 million) have been proposed for funding. The *Federal Ministry of Education and Research* also recently announced the Support Program 'New Media in Education', which will support the creation of content for Internet applications and development of utilization concepts for new media (see Appendix 2.2 and <http://www.bmbf.de/foerde01/bildung/schwerpunkte/3-1-1-2.htm>).

Besides joint actions with the federal government, most states have been maintaining programs aimed at improving the utilization of multimedia technology for university teaching and research purposes. These programs are not specifically aimed at improving the conditions of Internet utilization for students. But they have the potential to cause synergetic effects by integrating, for instance, Internet utilization into certain courses, or contributing to the dissemination of media competence (see Appendix 2.1).

Currently, in the educational realm, the universities have probably the far most developed conditions for Internet utilization. However, in 1999 the *BLK* pointed out that, among others, support programs are under-funded, that there is a lack of a stringent and cooperative federal-state support concept, and that structures are missing, which could assure sustainability of measures already taken. Therefore, in the realm of the universities, as in any other realm, further efforts are needed for making sure that all

¹¹ The construction of the *B-WiN* was, according to information from the *DFN* association supported by the Ministry with roughly DM 80 million (€40 million).

¹² In North-Rhine Westphalia, for example, every university received, depending on its size, between 20 and 150 computers annually between 1997 and 1999.

students and researchers can benefit from Internet and multimedia utilization at the university.

2.2 Public Schools¹³

The public school system is essential for providing children and youth with basic formal education, which prepares them for their full participation in societal life. Schools not only help pupils to understand and contextualize their own world, but prepare them for their entrance into realms of higher education and to the labor market through an apprenticeship. As Internet utilization increasingly affects all three realms, teaching this subject and the dissemination of respective skills is considered to become an integral part of the school curriculum. Therefore, schools need to be sufficiently equipped with computers and Internet access according to their teaching schemes and forms (computer labs and/or classroom access). Equally important, suitable curriculum integration of Internet and multimedia utilization is needed, and teachers need the qualification for teaching such curricula.

Due to a lack of comprehensive statistics, it remains unclear how many schools fulfill at least the technical conditions to integrate Internet utilization into the curriculum. The construction of figures about Internet diffusion throughout German schools starts with existing problems to account for an exact number of public schools, while federal and state statistics apply different methods for counting the number of schools.¹⁴ According to the Government's action plan *Innovations and Jobs in the Information Society of the 21st Century*, information from the *Federal Ministry for Research and Technology* there were 12,000 general schools out of 40,000, which were equipped with computers and Internet access in late 1999 (see BMWI/BMWT: 1999: 30).

Around the mid-1990s, the federal and the state governments, often on the basis of public-private partnerships with private companies mainly from the telecommunications and IT-sector, started programs for improving Internet utilization in public schools. In 1996, the federal government, for instance, launched a so-called education-offensive to spur the implementation and deployment of multimedia in the educational realm. Support for public schools was emphasized through offering cost-effective Internet access through the *German Research Network* and starting the ini-

¹³ Public schools in Germany are schools, which are funded by public authorities. They are basically open to all pupils and do not charge school fees.

¹⁴ The federal statistic counts school forms, which leads to a multiple number of single entities. Accordingly, there were 43,118 general and 9,300 vocational schools in 1997/98. Instead, the states

tiative *Schulen ans Netz e.V. (SaN) (Schools Online)* (<http://www.san-ev.de>) in April 1996.

According to information from the project office, more than 13,000 schools got support by *SaN* until January 2000. About 11,000 of them received one multimedia-capable computer together with an Internet account. Around 1,000 schools which already had some access have been taking part in model projects. The remaining schools received support not further specified. Theoretically, all supported schools also get media pedagogical and –didactical and technical support for successfully implementing computer technology into the curriculum. But the practical outcomes of this support are very limited, and by no means sufficient (see also Appendix 2.2).

Currently, *SaN* also administers two educational online projects for women. *Leanet* (<http://www.leanet.de>) is aimed at female teachers and students who want to become teachers. The network, among others, provides information around the topics society, school, and new media and offers online-workshops for gaining Internet competence, mailing lists, and chats. It shall become an important online resource for female teachers to become Internet and ICT literate. *Lizzynet* is based on a similar design, but its target groups are girls and young women aged 14 and older (<http://lizzynet.de>). Between 1999 and 2001, both projects together receive DM 1,8 million (€900,000) funding from the *Federal Ministry of Education and Research*.

The *Deutsche Telekom AG*, together with the *Federal Ministry of Education and Research* provides most of the funding for *SaN*. Additional support comes from 23 private companies. In March 2000 the *Deutsche Telekom AG* announced to intensify its engagement for *SaN*. By 2001, all public schools shall get a free *T-Online* account (the company's Internet service), more than 20,000 used computers shall be donated to schools and a volunteer organization of *Telekom* employees shall support the necessary installation and train teachers in Internet utilization. As a reaction to this initiative, *AOL* announced to give free online accounts to public schools too.

The traditional forum for cooperation in educational matters between the Federal Government and the states is the *Bund-Länder Kommission für Bildungsplanung (BLK) (Federal-State Commission for Educational Planning)* (<http://www.blk-bonn.de>). With regard to education, the *BLK*'s work includes in the first place support for pilot projects under programs which generate important impulses for further development in school education, vocational training, higher education and continuing

count administrative school units. As a unit includes several schools (e.g. a secondary and a high

education. Since 1998 the program *Systematische Einbeziehung von Medien, Informations- und Kommunikationstechnologie in Lehr- und Lernprozessen (Systematic Inclusion of Media, Information- and Communication Technology into Education and Learning Processes)* exists. It includes 24 initiatives for all school levels and forms in all 16 states, which shall foster the comprehensive integration of new media into the curriculum, of which Internet utilization is becoming an important part. The program is scheduled until 2003. Funding of single projects is normally shared between the Federal Government and the states.

But the states also maintain their own initiatives. In early 1999, 13 of the 16 German states had launched own initiatives for improving the conditions of Internet utilization in public schools (see BMBF 1998 for an overview of respective programs until October 1998). Below some of the initiatives started in North-Rhine Westphalia and Baden-Wuerttemberg are summarized, because both states made strong efforts with exemplary character in this realm during the last years. Moreover, around 23 percent of the German population live in these two states.

In 1996, the North-Rhine Westphalian government launched *NRW-Schools Online – Communication Worldwide*, to foster the dissemination of media competence and utilization of new media in the classroom (see <http://www.media-nrw.de/ppp/learnl.html>). Based on a public-private partnership including the state and local governmental entities, business partners, associations, and foundations, several projects were realized until 1998. Through an 'Equipment Initiative', two-third of all secondary schools received a computer with Internet access and a waiver for on-line charges. Further initiatives, like the *Netd@ys NRW* supplemented the *Equipment Initiative* and eventually in early-1998, one-third of the North-Rhine Westphalian schools owned at least 10 computer workplaces. In cooperation with the *Bertelsmann- and Heinz-Nixdorf-Foundation's* program *Education Pathways in the Information Society* (<http://www.big-internet.de>) a network with about 150 moderators for teacher consulting and qualification was taken in operation to prepare teachers for the new educational demands. The successor of *Schools Online* is the *e-initiative.nrw* (<http://www.e-initiative.nrw.de>). In July 2000, the state government declared that it will make available about DM 85 million (€42,5 million) for Internet access, hard- and software and means for teacher qualification (see also Appendix 2.2).

school) the states found 31,113 units with general and 2,317 with vocational schools in 1997/98.

Since the mid-1990s, the public schools in Baden-Wuerttemberg are the target of several activities, which shall improve the conditions of Internet utilization. Like in North-Rhine Westphalia, initiatives are aimed at improving the availability of Internet access locations and improving the qualification of teachers. Since 1997, activities are bundled under *edu-medi@* which is part of *Baden-Wuerttemberg medi@*, the state-wide multimedia initiative. Activities have been focusing, among others, on improving the hardware conditions, qualifying teachers for the new educational demands, innovative school projects and the utilization of new technology for the pedagogical support of handicapped people.¹⁵ So far, about DM 58 million (€29 million) have been spent on such activities (see Ministerium für Kultus 2000). Again, one of the main partners of this program too, is the *Deutsche Telekom AG*, which is involved as a partner in many cases. With its various activities, the state of Baden-Wuerttemberg is moving continually into a position, where Internet and computer utilization is becoming an integral part of the curriculum (see also Appendix 2.2). Support for public schools is also provided by *D 21*, an initiative launched in July 1999 by representatives of the business community (see <http://www.initiated21.de>). *D 21* maintains various activities to help foster the utilization of ICT especially by public schools. Through an Internet-market place, for example, it tries to bring together schools with companies, willing to cooperate with them to improve the availability of ICT technology. Another current activity of *D 21* is the *Initi@tive D21-RegioN* (<http://www.initiated21.de/content/D21-RegioN.htm>), which shall help to launch regional public-private partnerships to improve the utilization of ICT by public schools (see also Appendix 2.2).

The examples presented here illustrate that the public school system is continually moving towards trying to meet the demands of comprehensive multi-media utilization in the classroom. But there is still a long way to go. The existing approaches towards infrastructural improvements are not comprehensive enough as they mainly focus on single investment without considering the ongoing costs for maintenance und upgradings, for example. This burden is shifted to the school districts which are administered by the local authorities and actually do not have the means to fulfill this task.¹⁶

¹⁵ According to a survey of 4,000 public schools conducted in autumn 1999, two-thirds of the schools are connected to the Internet. 4,100 computer labs were counted and altogether about 45,000 multimedia computers and 30,000 computers with a graphical interface were in operation (see Ministerium für Kultus 2000: 11).

¹⁶ The school districts are administered by the local authorities, which, among others, have to carry the material costs of the school service. Therefore they must carry the consequential costs of Internet

Teacher education also needs to be improved and intensified to assure that all teachers will be able to use multi-media applications in the classroom on a proficient level. Additionally, there has not been a curriculum reform yet, which really acknowledges the changes caused by the increasing demand for the utilization of multi-media applications in the classroom. Thus, more efforts are needed which help to sustain the existing accomplishments and can bridge the existing deficits.

2.3 Institutions of Adult and Further Education

Adult and further education in Germany is a complex field, and numerous entities make various offers for learners. Traditionally the *Volkshochschulen (VHS)* (Adult Education Centers) are the main institutions of adult education and have been providing a vast offer of means of further education. Present in every state, more than 1.000 *VHS* with approximately 3.500 branches guarantee access to education throughout most areas of Germany (see DIE (Deutsches Institut für Erwachsenenbildung) 1999: 10).

The *VHS* – like most societal institutions depending mainly on public funding – have been confronted with serious budget restrictions during the last decade. The stagnation or reduction of public funding has been causing a cost shift for the disadvantage of the participants. Today, approximately two-fifths of the funding comes from course charges paid by participants. Internal means of cost-compensation (e.g. rationalization, reorganization) are exhausted and course charges are close to the limit of reasonableness. Accordingly, after years of steadily increasing attendance, there has been stagnation and in some cases even a draw back of participants recently.

However, the *VHS* offer an educational program with high standards arranged around the educational demands of the population. Media competence is an important part of this offer. In the program sector ‘work and occupation’, about 44 percent of all courses offered were related to ICT topics in 1998. It remains unknown, how many courses were linked to Internet topics. Also the number of *VHS* which offer Internet classes can only be estimated. According to information from the *Deutsche Institut für Erwachsenenbildung (DIE)* (*German Institute for Adult Education*) (<http://www.die-frankfurt.de>), approximately two-third of the *VHS* were offering Inter-

utilization like telecommunications and provider fees, software and repair work or equipment replacements. This causes strong problems for the local authorities, because most of them are in a financial crisis and actually do not own the means for such expenditures.

net classes in early 2000. The situation varies between different states. In Bavaria and Baden-Wuerttemberg, for example, according to information from the state *VHS*-associations, at least 80 percent of the *VHS* do offer Internet classes. In Lower-Saxony, about half of the *VHS* offer such courses.

According to the *DIE*, demand for Internet classes is high and in some cases exceeds the capacities of classes offered. Classes range from short basic introduction courses to comprehensive special-topic classes. In some cases, also classes for certain target-groups are available. As all *VHS* do their own calculation, there is no standard price for Internet classes.¹⁷ To make courses available to everyone, many *VHS* offer discounts for socio-economically disadvantaged groups.

In many cases, adult education centers in urban and suburban areas are more likely to offer Internet classes than centers based in peripheral and rural areas. Initiating courses is closely related to the individual engagement of staff, available equipment and funding. In many cases, household limitations restrict the set-up of computer labs which are needed, among others, for Internet classes.¹⁸

External support for the *VHS* so far has been rather small. In the corporate sector, are some cases of sponsoring on the local level, which have not been documented yet. Only *America Online (AOL)* and the *Deutsche Telekom AG* provide some support on a broader level. Both offer discount rates for Internet access. In Spring 2000, approximately 400 adult education centers took advantage of these measures. Additionally, the *DIE* is developing an Internet curriculum for seniors together with the *Bertelsmann-Foundation* (<http://www.bertelsmann-stiftung.de>), mainly funded by the foundation (see III.4.3 for further details). Some *VHS* benefit from the *SaN* program, because they use school computer labs for holding Internet classes.

From September 2000 on, more than 500 of the 1,000 *VHS* will offer nation-wide, cost-effective Internet introduction courses in cooperation with the *Bertelsmann-Foundation*, the magazine *Stern*, and with the support of the ISP *Commundo* and some more Internet companies. The effective promotion of this opportunity will be accompanied by a detailed series about the Internet featured by the *Stern*. The issue 35/2000 contained a free CD-ROM, which offers, among others, an Internet introduc-

¹⁷ In Berlin, for instance, prices for Internet introduction classes range from DM 22 to DM 127 for a course, depending on the length of a course.

¹⁸ Due to budget restrictions, the *Volkshochschulen* cannot save money in one year and transfer it into the next year, as the complete budget must be spent in the respective year. The restrictions also do not allow the *Volkshochschulen* to distribute bigger expenditure like for a computer lab over several budget years (e.g. financing over three years).

tion course and other useful information for Internet novices. The initiative's web page has a searchable database providing the VHS-locations, which offer such courses (see <http://www.internet-fuer-einsteiger.org>). Maybe this initiative will be followed by other initiatives, likely to strengthen the function of the *Volkshochschulen* as a first address at least for the dissemination for media competence.

2.4 Public Libraries

Public Libraries are a long-standing custodian of the principle of free and equal access to information for everyone. As they are operated and funded primarily under the responsibility of the local governments, they are directly concerned by the financial crisis of the local authorities. The cut-back of financial means led, among others, to a reduction of staff and business hours, the introduction of fees for library service, and the closing of a considerable number of branch libraries. However, there is some programmatic societal consensus that the public library will remain an important institution of public access to information worth the support to fulfill such task.

Computers are relatively new in the realm of the public library. ICT use by the library originally concentrated on the improvement of internal work flow and the open access catalogue (OPAC). In 1996, only 20 percent of the 4,400 public libraries with full-time professional staff were computerized and the internal technical re-structuring process is not finished yet. Additionally, library staff needs training to meet the demands of ICT utilization in the library. During the mid-1990s, the first libraries began to offer public Internet access to their patrons.

Traditionally, federal and state financial support for the Public Library has been marginal. But there have been some changes from the mid-1990s on accompanied by a growing number of activities which provide increasing federal and state funds for IT-utilization in the Public Library. Meanwhile, most states conducted programs or have them still under operation, which have been improving internal and public connectivity. The first programs started around 1996. In most cases the respective measures provide matching grants. Thus the libraries need partners, such as local authorities or private partners, which provide the missing assets for successful program operation. There have also been programs which focus on single libraries to allow them, not only to receive one or two Internet terminals but a couple of them in combination with means for media competence-disseminating programs. Under such conditions these libraries can become real media centers, similar to a *Community Technology Center* (see also Appendix 2.3).

Since the late-1990's, also the federal government made significant efforts to support the utilization of ICT by the Public Library. Since 1999, the governments maintain the *Aufbauprogramm "Kultur in den neuen Bundesländern"* (*Cultural Support Program for the East-German States*), which among others, provide additional financial means for the East-German Public Libraries. Funds are not solely earmarked for Internet access. However, equipping libraries with multimedia work and learning stations and creating public Internet access at the libraries is an important part of this action.¹⁹ The *Federal Ministry of Education and Research* agreed with the *Deutsche Telekom AG* to launch a program in September, which will provide the means for equipping 700 Public Libraries with two or five computers with Internet access (see Appendix 2.3).

Besides the engagement of the *Deutsche Telekom AG*, corporate support for the Public Library has not been very strong. Several of the Public Libraries state advisory committees report about local ISP's, which provide libraries with Internet access at discounted rates and/or single cases of equipment sponsoring. Only the *Sisis GmbH*, a library service provider (http://www.Sisis.de/FrameSet_Web4lib.html) launched another rather extensive support project. In 1999, the company placed 66 Internet kiosk systems for public use in Public Libraries. While the kiosk system is free, the libraries only have to pay for the Internet connection. The project is financed through monetary contributions from several companies, and advertising on the kiosk system's homepage.

Providing access to information in the public libraries has always been accompanied by editing and developing such information for the convenience of the user. For successful Internet utilization, this service is even more important because of the vast amount of available unstructured information. Thus, already in 1996 the Bremen Public Library in cooperation with the *University of Bremen* started the *BINE* project (*Bibliothek + Internet = Navigation und Erschliessung*) (*Library + Internet = Navigation and Development*) (<http://www.stadtbibliothek-bremen.de>). During the time of the project for the subjects 'computer' and 'environment', URL's were checked and given keywords and made accessible via a web-based database. Part of the project was also the installation of four public access points for library users. *BINE* was finished 1998, but the idea and the experiences made find their continuation in *ILEKS* (*Internet-Lektoratsservice*) (*Internet Editing Office Service*) ([---

¹⁹ In Thuringia, for example, DM 1 million \(€500.000\) have been available for equipping public libraries](http://usp1-051.gbv.de/cgi-</p></div><div data-bbox=)

bin/nph-wwwredir/usp1-051.gbv.de:63926/) . *ILEKS* is based on a cooperation between three libraries and a state library advisory committee. It allows the search for Internet contents through a web-based database.

However, not all public libraries have access to the Internet for internal use to date and an even smaller number is able to offer public Internet access yet. There are no statistics available for the dissemination of public Internet access through the libraries on a national level. But the library advisory committees of the states confirm that the number of libraries with internal and external Internet access is increasing permanently. Momentarily, mainly libraries in urban areas benefit from the support actions. The probability to have Internet access, both internal and public, decreases with subsiding library size. Thus libraries in rural areas, which are normally only small branches, are less likely than libraries in urban areas to offer public Internet access.

2.5 Additional Means for the Dissemination of Media Competence

Media competence is a crucial requirement for successful and responsible Internet utilization. There are always new Internet services emerging, and most of the existing ones are under permanent alteration. The curricula for disseminating media competence must be adapted to these changes to ensure that the taught media competence is always on the latest level. Special efforts are needed for revealing best practices for disseminating media competence and for designing comprehensive curricula. Currently there is also a special need to train teachers and instructors for accelerating the societal dissemination of media competence. To meet the demand for the development and dissemination of media competence, some states meanwhile launched special initiatives, which are concerned with the development and dissemination of media competence.

In Berlin, the *Hochschule für Bildende Künste (University of Educational Art)* and the *Fraunhofer Institut für Software- und Systemtechnik (Fraunhofer Institute for Software and System Technology)* are developing the media competence network *mecomp.net* (<http://www.mecomp.net>) The project's basic purpose is to overcome existing deficits of multimedia education and further education in occupational context. The project will offer, among others, workshops for media competence experts, arrangements, and activities for increasing the development and dissemination of

with ICT. Approximately 30 to 40 percent of this money is used for offering public Internet access.

media competence. The creation of an association for media competence shall foster the acceptance and sustainability of the project (see Appendix 2.4).

Another network for media competence is the North-Rhine Westphalian *Mekonet* (*Media Competence Network*), which pursues the aim of constructing a cooperative, organizational, and virtual network of media competence for the state. *Mekonet's* focus is on offering non-commercially-oriented mediatory, counseling, and information services to various target groups on the subject of new media. Potential project partners are, among others, institutions of further education, community centers, and public libraries. The project is a cooperation between the North-Rhine Westphalian *State Government*, the *State Broadcasting Regulation Office*, and the *European Center for Media Competence (ecmc)*.

The *ecmc* is an interfacial organization set up in the form of a public-private partnership (<http://www.ecmc.de>). The center carries out research, operates as an intermediary and provides advice. As a service provider of the North-Rhine Westphalian Government, the *ecmc*, among others, supports the creation and dissemination of media competence in all educational realms throughout the state. Through networks like *Mekonet*, different institutions, which are concerned with media competence issues, shall be engaged to foster the development and dissemination of media competence. The *ecmc* was started in January 1997 and received start-up funding from the state government until the end of 1998. Since then, the *ecmc* is an economically independent limited-liability company, supported by public and private shareholders. Besides shareholder contributions, main funding comes from projects and business services offered by the center. Thus the *ecmc* is a good example of the successful transition from a public funded project towards a financially independent institution.

To foster the development and dissemination of media competence 13 media competence centers were put on stream in Hesse since 1998 as a part of *Hessen-Media*, the multimedia initiative of the state of Hesse for facilitating the societal dissemination of ICT (see <http://www.hessen-media.de/kompeten/zentren.htm> and <http://www.httc.de>). There are six regional and three statewide centers with educational focus and four competence centers for e-commerce. Besides businesses which are targeted by the e-commerce centers, teachers, trainee teachers, and employees of the school administration are main target groups for the centers. The centers provide information and knowledge in various forms. The centers for e-commerce mainly foster the development and implementation of e-commerce activi-

ties, while the other two centers offer, among others, classes and courses for disseminating media competence or do consulting, for instance, for schools, to help them with the implementation of ICT into the curriculum.

All three examples illustrate various possibilities to foster and improve the development and dissemination of media competence. While the availability of such competence is crucial for successful and responsible Internet utilization, it is recommendable to further fund and disseminate such practices.

3. Target Group Specific Activities

The population of German Internet users is clearly biased along certain socio-demographic variables (see I.3.2). Meanwhile, various initiatives and programs have been launched aimed at improving Internet utilization by certain societal groups. These groups are, above all, currently under-represented groups on Internet utilization like seniors, women, and youth. While youth is not an under represented group in statistical terms, it was shown that young people with low-level formal education are less likely to use the Internet than youth with higher educational attainment. It is especially important to provide the younger generation with sufficient opportunities to learn about the Internet, because the Internet will affect their life like no other generation before. The following chapter provides an overview about the activities aimed at certain target groups.

3.1 Programs and Initiatives Aimed at Women

We have shown in chapter I.3.2.2 that there is still a significant gender gap in Internet utilization. The federal government already proposed in its action plan that the gender divide should diminish by 2005 (see BMWI/BMBF 1999: 26). For the realization of this goal and others the working group 'women' of the *Forum Information Society* (<http://www.forum-informationsgesellschaft.de>) advises the federal and the state governments. To increase the share of female Internet users, two important areas of support can be identified: One the one hand, several initiatives have been offering Internet courses for women in a non-co-educative learning environments, as many women do not feel comfortable to learn about the Internet together with men. On the other hand, some activities are aimed at improving the availability of content which meet the interests of women.

In September 1999, the *Federal Ministry of Education and Research*, the woman's magazine *Brigitte*, the *Federal Employment Office*, and the *Deutsche Telekom AG*

started *Frauen-Ans-Netz (Women to the Net)*, a nation-wide initiative, which has been offering free one-day Internet Introduction courses to women (<http://www.frauen-ans-netz.de>). Until February 2000, 2,000 Internet introduction courses were conducted, visited by approximately 33,000 women. Women were introduced to the basic services of the Internet and could learn how to use them through at hand experience immediately on the scene. Due to the great demand and success, new introduction courses are scheduled for autumn 2000. Later this year, additional cost-effective courses for advanced learners will be offered, too. The whole measure is coordinated by the *Competence Center Women in the Information Society and Technology*, which is overviewed by the association *Women Give New Impetus to Technology*) (<http://www.frauen-technik-impulse.de>) (see also Appendix 3.1).

Besides these federal initiatives, some states also have been launching measures to improve the availability of media competence for women. The *Saarlandian* and the *Rhineland-Palatinateian State Employment Office* performed a joint action with educational institutions in 1998 and offered free computer and Internet classes to 600 young women in one week. Until March 2000, the Schleswig Holsteinian research project *Internet Access for Women – Reducing Barriers* counted 300 women who took part in information talks and courses about Internet utilization. The project also includes a broad survey, which shall accumulate deeper knowledge about the attitudes of women about the Internet (<http://www.uni-kiel.de/zif/internet/projekt.htm>). Since November 1999, *Linie-I*, a mobile Internet café tours villages and small cities in North-Rhine Westphalia to provide women of all ages with information, orientation about the Internet and Internet short-term qualification through introduction courses (<http://www.isis-de.de/linie-i/linie-i.htm>) (see also Appendix 3.1).

Many women are still complaining that they face difficulties finding content on the Internet which meets their interests. The remaining two examples illustrate that even small efforts can have long-reaching effects for the improvement of content availability. In Baden-Wuerttemberg, for example, in early 1998, none of the 57 member associations of the *Women State Council* had a web page. After several Internet courses offered by the *State Office of Broadcasting* and the *Deutsche Telekom AG*, 24 of the associations had a web page in late January 1999. In Schleswig Holstein, the *Woman State Council* is currently developing the *InfoNet Frauen Schleswig Hol-*

stein (Women Info Net Schleswig Holstein). This portal shall offer a web space which meets especially the interests of women living in the state (see also Appendix 3.1)

To find out whether all these initiatives are sufficient to bridge the gender divide in Internet utilization remains to be seen. Upcoming surveys will at least illuminate whether this gap seen as a quantitative gap will close. Besides, also more research is needed to find out more about the hurdles and barriers which hinder women from using the Internet.

3.2 Programs and Initiatives Aimed at Disadvantaged Young People

Young people generally belong to the population group most over-represented with regard to Internet utilization. But especially disadvantaged youths need special support to find at least some basic equality of opportunity for using Internet services. This is especially true for young school dropouts, unemployed youths, and the growing number of youths who live under materially deprived conditions. In accordance with the legal mission of youth work which is to enable youth to self-determination and to stimulate their interest in the societal share of responsibility and social engagement, especially disadvantaged youths need to be included and integrated.

Meeting such mission in a society which is increasingly shaped by electronic media like the Internet requires youth work to integrate these media into its service. Youth work must provide opportunities for youth to give serious thoughts to the relevance of digital media for the different realms of their lives and for developing a critical understanding and awareness of these media. A growing number of institutions concerned with youth work have been starting various initiatives to provide mainly youth with opportunities for Internet utilization.²⁰

There have been several initiatives which are especially concerned to provide opportunities for disadvantaged youths (e.g. unemployed youths, youths with low educational attainment) to engage with the Internet. Between September 1998 and December 1999, four German cities took part in the EU-project *Using the Information Society as a Tool to Tackle Social Exclusion in Disadvantaged Areas*. In every participating city, about 100 youths received training and, among others, learned how to use the Internet. Another important purpose of the project was to raise public aware-

²⁰ Mainly means in this context that several of the projects described here above all serve youth, but are also open to other population groups. To see which other groups are served by the projects introduced here, refer to the Appendix.

ness about the potential benefits of such project for youth living in disadvantaged areas (see also Appendix 3.2).

The probably currently most far-reaching activity to provide especially disadvantaged youth but also young mothers and older women with opportunities to engage with the Internet is maintained by the *State Offices of Employment*. Since 1997, they support the establishment of Internet cafés in partner institutions, which already conduct educational measures financed by the employment offices. Meanwhile, about 70 of the 181 *Offices of Employment* confirmed the operation of such centers under their responsibility. While the cafés are used for instruction in the morning, they are open to the public from the afternoon on. Between utilization in occupational context, the centers are also aimed at supporting the creative and communicative abilities of youth and enriching their leisure and spare time activities (see <http://www.internetcafes-landesarbeitsamt-nrw.de/index.html> for centers in North-Rhine Westphalia and Appendix 3.2).

Mainly aimed at youth is the project *Internet Cafés in Youth Work* (<http://www.berlin.de/home/Land/SenSchulJugSport/>), which started in 1997 as a part of the Berlin Senate's *Project Future*, the cross-departmental initiative to accelerate, coordinate, and create the structural change of Berlin towards the Information Society. In April 2000, eleven stationary and one mobile Internet café were under operation. In all cafés, media-pedagogical support through qualified staff is available and different courses are offered. These opportunities are not only available for youths, but also for parents, educators, and staff of youth institutions (see Appendix 2.2).

Meanwhile, also several chapters of the *Deutsche Gewerkschaftsbund (DGB)* (*German Union Federation*) are engaged with running computer and Internet centers. In Bremen, the local *DGB* section, in cooperation with the *University of Bremen* and a local telecommunications company runs the *Internet Center Bremen* (<http://www.ic-bremen.de>). While all others have to pay for Internet utilization and Internet classes, these services and job counseling are free for youths and union members. In the North of Brandenburg, the local *DGB* chapter runs two *Internet Meeting Points*, where, above all, youth and young adults can explore computers and the Internet. While the region is concerned with a high rate of youth unemployment and right wing activities, the *Internet Meeting Points* are one attempt to help tackling and solving the problems of the region. All courses are for free. Besides courses for youths and

young adults, the centers focus on educating potential multipliers, like teachers, parents, and pedagogues (see also Appendix 3.2).

A good example for improving the availability of youth-specific content is the project *Jugendnetz Baden-Wuerttemberg (Youth Network Baden-Wuerttemberg)* (<http://www.jugendnetz.de>). It is a portal which hosts youth-related offers of information and allows inclusion and networking of regional and local media initiatives originated by youth associations, youth media centers, and individual web pages designed by youths themselves. Thus, youths find a platform, where they cannot only find content but also produce it. Perspective, regional and local windows as a part of the overall offer shall supplement the *Youth Network*. A portal with such a scope is unique in Germany and may serve as an example for other states how content availability especially for youths can be improved (see also Appendix 3.2).

Obviously, youths, compared to the other population groups, are the ones who find most opportunities for using the Internet, not only in school, but increasingly also in extracurricular realms like youth work and education. This is especially important for youths, who already left school. These different measures are important steps to assure that the young generation is able to gain the skills necessary to meet the demands of the emerging Information Society.

4.3 Programs and Initiatives Aimed at Seniors

Seniors are the most under-represented group of Internet users in relation to age. Like for any other group, the Internet offers interesting perspectives for the enrichment of senior's personal life. Elderly people who are limited in their mobility, for example, may use Internet-based forms of computer-mediated communication interaction for maintaining participation in societal life despite physical handicaps. Many seniors may not only be afraid of introducing themselves to the technology but also still perceive the Internet as a medium with content tailored to the interests of younger people and thus do not expect to find interesting contents for themselves there. Thus it is necessary to demonstrate seniors the possibilities of the Internet for older people, and to provide them with opportunities to gain media competence and use the Internet.

Since 1997, the working group 'Seniors' of the *Information Society Forum* (<http://www.forum-informationsgesellschaft.de>) is concerned with the interests of seniors in the Knowledge Society. Following a suggestion from the working group, in April 1998 the association *Senioren und Seniorinnen in der Wissensgesellschaft*

(*VSiW*)(*Seniors in the Knowledge Society*) was formed to foster the development of activities for seniors in the Knowledge Society (<http://www.iid.de/vsiw>). The association's activities are aimed, among others, at supporting the dissemination of media competence and reducing and overcoming access barriers to the Internet for seniors. In summer 1998, the association organized a national information campaign to allow seniors a first encounter with ICT. Since 1999, the *VSiW* runs the *Senior-Info-Mobil*, a remodeled bus equipped with computer and Internet workplaces. In early 2000, already more than 40,000 people had received information about the Internet and related themes. In 1999 the *Federal Ministry of Economics and Technology*, which provides the funding for the *VSiW*, also organized the *German Multimedia Prize for Seniors*. In the realm of this competition, among others, Internet Cafés and networked computer clubs for seniors were launched, and special Internet introduction courses for seniors were developed. Further actions shall follow this year. Besides these actions on the federal level, additional activities are conducted on the state and local level, mainly aimed at providing seniors with the necessary media competence for Internet utilization (see also Appendix 3.3)

In Saxony, the initiative *Senioren ans Netz* (*Seniors on the Net*) (<http://www.seniorenansnetz.de>) brings together seniors and pupils for an intergenerational learning approach. In 1998 and 1999, several courses were conducted where pupils taught seniors how to use the Internet. A growing number of local initiatives have also been launched, which offer access through Internet Cafés. In Saxony-Anhalt, *Café Net* (<http://www.cafe-net.de>) enables elderly people to use the Internet in an intergenerational environment. In Bremen, the *Bremer Heimstiftung* (*Bremian Home Foundation*) runs several Internet Cafés in its old-age homes, which are not only open to residents, but also to people from the neighborhood, which also facilitates an intergenerational learning approach (see also Appendix 3.3).

The share of content tailored to the interests of seniors is increasing. Since 1997, *Seniorennet* (<http://www.seniorennet.de>), for example, maintains a web space especially for seniors. Besides the national offer, nine regional portals were offered in April 2000. *Senior Web* (<http://www.seniorweb.uni-bonn.de>) follows up with the same goal. Since August 1999, the North-Rhine Westphalian project *Senioren OnLine* (*SOL*) (<http://www.senioren-online.net>) is under operation. This competence network not only makes available web-based content for seniors but also supports the dissemination of media competence and Internet access possibilities by supporting organi-

zations, which are concerned with Internet utilization by seniors. As an additional measure, the *Volkshochschulen* will offer special Internet courses for seniors from March 2000 on (see also Appendix 3.3).

The examples presented here show that various activities exist, which are likely to lower the threshold for older people to become Internet users. It has to be seen, whether such activities are sufficient to increase the number of older Internet users. Until there is no significant increase of this user group, additional measures are needed to change this situation.

6. Measures Aimed at Rural and Peripheral Areas

People who live in rural and peripheral areas often face infrastructural disadvantages compared to people living in urban and suburban areas. Access to educational matters, for instance, is often more limited with regard to availability and accessibility in rural areas than in urban and suburban areas. At the end of 1998, the German Federal Census Bureau found 42.7 percent of the population living in communities having not more than 20,000 inhabitants (20,000 – 100,000: 26.8%, 100,000 +: 30.7%). Especially states which have a large share of rural communities like Baden-Wuerttemberg or North-Rhine Westphalia, meanwhile initiated activities aimed at improving the conditions of Internet utilization in these areas. Special activities may also be recommended for peripheral areas with small employment opportunities caused, among others, by insufficient economical development.

Several states meanwhile utilize mobile concepts to demonstrate the possibilities of the Internet and provide people with opportunities for gaining media competence. Baden-Wuerttemberg, for instance, uses *Mobiles Internet Cafés (MIC) (Mobile Internet Café)* and the *Mobile Internetschule (MobIS) (Mobile Internet School)* (<http://www.mfg.de/mic>). Between October 1997 and October 1999, about 35,000 people received information about the Internet through *MIC* and could gain first Internet experience on the spot. Since September 1999, *MobIS* offer Internet introduction classes in the peripheral regions of the state. The *Academy for Rural Areas*, which overviews *MIC* and *MobIS* also set up the contest *Unser Internetdorf soll schöner werden (Make Our Internet Village More Beautiful)* (<http://www.internetdorf.de>), which shall provide incentives to small cities and villages to set up their own web pages for improving content availability. Respectively, in late-1999, more than 44 percent of the Baden-Wuerttembergian communities had their own web pages. Also in Baden-Wuerttemberg, the association *Jugend am Netz (JAN) (Youth Online)*

(<http://www.jugend-am-netz.de>) plans to use a rebuilt coach as a mobile Internet Café to serve peripheral regions (see also Appendix 3.4).

In North-Rhine Westphalia two mobile projects are under operation. *Line I* is aimed at girls and women living in rural areas (see chapter III.4.1). The other pilot project is *Webmobile für Nordrhein Westphalen (Web Mobils for North-Rhine Westphalia)* (<http://www.webmobil.jugend-nrw.de>). In cooperation with institutions of youth work the *Webmobile* offer projects, seminars and informational campaigns for youth and multipliers of youth work. The main focus is on information and qualification of youth and multipliers, consulting and support of institutions of youth work to sustain the utilization of multimedia devices in their work, and support cooperation and net-working between institutions of youth work (see also Appendix 3.4).

A single region, which has been subject mainly to EU-programs to improve the utilization of multimedia technology is the Torgau Duebener Heide region in Saxony (<http://www.torgau.de>). Between early 1996 and late 1997, the region participated in the *MIND*-project (*Multimedia Initiation of the Digital Towns*). *MIND* was mainly a demonstration project aimed at showing people the possibilities of the Internet. In the city of Torgau, a public *MIND*-office was created, where people could explore the Internet, a kiosk system and some other technical devices. Help was available and service was provided for free (http://www.torgau.de/mind_buero/). Also in 1996, the *Leader II* project *Multimedia in Rural Areas* was started to establish a multimedia information and communication system for the region for improving the quality of life and facilitating people's regional identification (see Appendix 2.4). While many people complained that they could not afford to buy a computer on their own (approx. 20% of the population are unemployed), the state of Saxony and five companies teamed up to offer people subsidized computer. 60 percent of the necessary funds were provided by the state. More than 200 of these computers were sold to the public during 1998. Since January 1998, the region takes part in the *IMAGINE* program (http://www.torgau.de/mind_buero/ imagine.htm). Existing online applications and services shall now be integrated into an open platform for improving the quality of the information system and to facilitate the maintenance of existing contents and services. At least half of the project activities are still aimed at demonstrating people the possible benefits of online utilization. For this purpose the *MIND*-office's capacities were expanded to give people more possibilities for engaging with the Internet (see also Appendix 3.4).

The various programs initiated so far in the Torgau region illustrate how long-winded the process of implementing multimedia technology in peripheral areas is. Mobile concepts may be a good solution to introduce people to the Internet and provide them with single short-term opportunities for gaining media competence. To assure equality of opportunity for Internet utilization independently from the personal place of living, continuing activities targeting rural areas are recommended.

IV. Conclusions

Internet access and use are continuously growing. But behind these growth rates there are trends of uneven developments. In particular social groups which are already disadvantaged are also underrepresented in Internet use, thereby falling even more behind those groups who can make use of the Internet to improve their position in society.

However, available data do not cover the whole range of disadvantaged groups. Surely, data which allow for longitudinal analysis cover gender, age, education and income as dividing criteria, but not race/ethnicity, handicaps and the household structure which according to the US reports "*Falling Through the Net*" are additional dividing lines.

Altogether, available data mainly provide descriptive data on access and only superficial data on use. The data on reasons for non-use are completely unsatisfactory. As long as we do not know more about these reasons, measures to support access and use are difficult to target more precisely.

There are a number of actions taken to improve access and use, but they do not address all underrepresented groups equally. Most measures aim at supporting women and senior citizens, but they could not stop the digital divide so far. Therefore, an evaluation of previous action and programmes is necessary. Additional measures are required for young people with little or no formal education, for single woman households with children, for non-German-speaking citizens and handicapped people. Programmes should have an evaluation procedure integrated.

In their report, Booz, Allen and Hamilton suggest a national master plan for bridging the digital divide (the report is available at <http://www.initiated21.de>). It might be difficult to find a master who is accepted by all relevant actors. The study explicitly mentioned the Digital Divide Network established in the U.S. by Benton Foundation, AOL Foundation and others. This network serves as an information resource and as a platform for exchange of experiences. It is funded by industry and foundations. In

Germany, there is no comparable engagement of foundations for this type of action. Therefore government should support the start-up phase of such a network in Germany.

References

- ARD/ZDF-Arbeitsgruppe Multimedia (1999): ARD/ZDF Online-Studie 1999: Wird Online Alltagsmedium? In: Media Perspektiven, Heft 8. S. 401-414.²¹
- ARD/ZDF-Arbeitsgruppe Multimedia (1999): Nichtnutzer von Online: Einstellungen und Zugangsbarrieren. In: Media Perspektiven, Heft 8/99. S. 415-422.
- Bargel, Tino (2000): Studierende und die virtuelle Hochschule. Computer, Internet und Multimedia in der Lehre. Hefte zur Bildungs- und Hochschulforschung 30. Konstanz. Universität Konstanz: Arbeitsgruppe Hochschulforschung.
- BMBF (Bundesministerium für Bildung und Forschung) (1998): Schulen am Netz in Deutschland. Eine Momentaufnahme der Zahlen, Daten und Programme in den Bundesländern. Berlin.
- BMWi (Federal Ministry of Economics and Technology) ; BMWT (Federal Ministry of Education and Research) (1999): Innovations and Jobs in the Information Society of the 21st Century. Berlin.
- http://www.bmwi.de/download/english/innovation_and_jobs.pdf [02.03.2000].
- DIE (Deutsches Institut für Erwachsenenbildung) (1999): Volkshochschulstatistik. Arbeitsjahr 1998. Frankfurt a.M.
- Empirica (Gesellschaft für Kommunikations- und Technologieforschung) (1999): Conditions for the Development of New Ways of Working and Electronic Commerce in Germany. Bonn.
- GfK AG (1999): GfK Online-Monitor. 3 Untersuchungswelle: Präsentation der zentralen Ergebnisse. Hamburg. <http://www.gfk.de> [08.04.2000].
- GfK AG (1999): GfK Online-Monitor. 4 Untersuchungswelle: Präsentation der zentralen Ergebnisse. Frankfurt a.M. <http://www.gfk.de> [08.04.2000].
- GfK AG (2000): GfK Online-Monitor. 5 Untersuchungswelle. Präsentation der zentralen Ergebnisse. Köln. <http://www.gfk.de> [08.04.2000].
- GfK AG (2000): GfK Online-Monitor. 6. Untersuchungswelle. . <http://www.gfk.de> [23.08.2000].
- Grajczyk, Andreas; Mende Annette (2000): Nichtnutzer von Online: Zugangsbarrieren bleiben bestehen. In: Media Perspektiven, Heft 8. S. 350-358.
- INRA (1999): Eurobarometer 50.1. Measuring Information Society. Report Produced for the European Commission, Directorate General XIII. Brüssel. Information Society Activity Center and Directorate General X/A/2Ms.

²¹ The ARD/ZDF Online-Surveys are also available at http://www.br-online.de/br-intern/medienforschung/md_mm/

Kubicek, Herbert; Breiter, Andreas; Croll, Jutta; u.a. (Hrsg.): (2000). Lernort Multimedia. Positionen und Perspektiven. Stiftungsreihe. Stuttgart, Alcatel SEL Stiftung.

Media-Gruppe-Digital (2000): @facts Basics März 2000.

<http://www.mgd.de/frames.html> [01.08.2000].

Ministerium für Kultus, Jugend und Sport Baden Württemberg (2000): Medien machen Schule. Die "Medienoffensive Schule" Baden Württemberg. Stuttgart. MFG

Medien und Filmgesellschaft Baden Württemberg. <http://www.baden-wuerttemberg-media.de> [20.08.2000]

VDE (Verband der Elektrotechnik, Elektronik, Informationstechnik), (2000): Technikakzeptanz Januar/Februar 2000. .

Wingert, Bernd (1998): Zum Stand der privaten Nutzung von Online-Diensten. Karlsruhe. Forschungszentrum Karlsruhe.

Appendix

Appendix 1: Tables

Appendix 1.1: Reference Data for the ARD/ZDF-Online Survey

| Population Data (Media Analyse) for the ARD/ZDF-Online Survey | | | | | | | | | | | | |
|---|------|-------|--|------|-------|--|------|-------|--|------|-------|--|
| Adults Aged 14 and Older | 1997 | | | 1998 | | | 1999 | | | 2000 | | |
| | Mio. | % | %-Share of Internet User on the Respective Group | Mio. | % | %-Share of Internet User on the Respective Group | Mio. | % | %-Share of Internet User on the Respective Group | Mio. | % | %-Share of Internet User on the Respective Group |
| Gender | | | | | | | | | | | | |
| Male | 30,1 | 47,5 | 10,0 | 30,2 | 47,6 | 15,7 | 30,4 | 47,7 | 23,9 | 30,4 | 47,7 | 36,6 |
| Female | 33,2 | 52,5 | 3,3 | 33,3 | 52,4 | 5,6 | 33,4 | 52,3 | 11,7 | 33,4 | 52,3 | 21,3 |
| | 63,3 | 100,0 | | 63,5 | 100 | | 63,8 | 100,0 | | 63,8 | 100,0 | |
| Age (Years) | | | | | | | | | | | | |
| 14-19 | 4,6 | 7,2 | 6,3 | 4,7 | 7,4 | 15,6 | 4,8 | 7,6 | 30,0 | 5,0 | 7,8 | 48,5 |
| 20-29 | 9,6 | 15,2 | 13,2 | 9,2 | 14,5 | 20,7 | 8,8 | 13,8 | 33,0 | 8,4 | 13,2 | 54,6 |
| 30-39 | 11,6 | 18,4 | 12,4 | 11,8 | 18,6 | 18,9 | 11,9 | 18,6 | 24,5 | 12,0 | 18,8 | 41,1 |
| 40-49 | 9,6 | 15,1 | 7,7 | 10,0 | 15,8 | 11,1 | 10,3 | 16,1 | 19,6 | 10,6 | 16,6 | 32,2 |
| 50-59 | 11,0 | 17,4 | 3,0 | 10,5 | 16,6 | 4,4 | 10,4 | 16,2 | 15,1 | 10,0 | 15,7 | 22,1 |
| 60 and Older | 16,9 | 26,7 | 0,2 | 17,2 | 27,1 | 0,8 | 17,6 | 27,6 | 1,9 | 17,8 | 27,9 | 4,4 |
| | 63,3 | 100,0 | | 63,5 | 100,0 | | 63,8 | 100,0 | | 63,8 | 100,0 | |
| Education | | | | | | | | | | | | |
| Sec. School | 32,9 | 52,0 | 1,3 | 32,1 | 50,5 | 2,9 | 31,9 | 50,0 | 4,9 | 31,7 | 49,6 | 7,5 |
| Sec. Mod. School | 19,5 | 30,8 | 5,9 | 20,3 | 32,0 | 7,5 | 20,7 | 32,4 | 15,7 | 20,9 | 32,8 | 31,4 |
| High School | 5,2 | 8,1 | 16,5 | 5,2 | 8,2 | 23,9 | 5,3 | 8,3 | 50,9 | 5,3 | 8,3 | 79,2 |
| College | 5,8 | 9,1 | 29,1 | 5,9 | 9,2 | 48,5 | 5,9 | 9,3 | 62,5 | 5,9 | 9,3 | 86 |
| | 63,3 | 100,0 | | 63,5 | 100,0 | | 63,8 | 100,0 | | 63,8 | 100,0 | |

The population data presented here were from the *Media Analysen 1997-2000*. The data for the percentage share of the Internet users on the various groups were taken from the *ARD/ZDF-Online Survey 2000*.

Appendix 1.2: Internet Utilization and Gender

| | Men | Women |
|---|---------------------|---------------------|
| GfK Online-Monitor 01/99 | | |
| Internet User | 5.8 million (69%) | 2.6 million (31%) |
| Share on the Overall Population (n= 44.3 million) | 21.71 million (49%) | 22.59 million (51%) |
| Share of Internet Users on the Respective Gender | 26% | 11.5% |
| GfK Online-Monitor 07/99 | | |
| Internet User | 6.5 million (66%) | 3.4 million (35%) |
| Share on the Overall Population (n= 44.3 million) | 21.71 million (49%) | 22.59 million (51%) |
| Share of Internet Users on the Respective Gender | 29% | 15.1% |
| GfK Online-Monitor 01/00 | | |
| Internet User | 9.7 million (61%) | 6.1 million (39%) |
| Share on the Overall Population (n= 52.9 million) | 26.55 million (50%) | 26.55 million (50%) |
| Share of Internet Users on the Respective Gender | 36.5% | 22% |
| GfK Online-Monitor 07/00 | | |
| Internet User | 10.8 million (60%) | 7.2 million (40%) |
| Share on the Overall Population (n= 52.9 million) ²² | 26.5 million (50%) | 26.5 million (50%) |
| Share of Internet Users on the Respective Gender | 40% | 27% |

Appendix 1.3: Internet Utilization and Monthly Household Income

| | < DM 3,000 | > DM 5,000 |
|--|--------------------|-------------------|
| GfK Online-Monitor 01/99 | | |
| Share of User on All Internet Users | 1,2 million (15%) | 3 million (36%) |
| Percentage of the Population, aged 14-59 with such an income | 11,5 million (26%) | 8.4 million (19%) |
| Share of Internet Users in Income Group | 10.4% | 35.6% |
| GfK Online-Monitor 07/99 | | |
| Share of User on All Internet Users | 1.9 million (19%) | 3.3 million (33%) |
| Percentage of the Population, aged 14-59 with such an income | 10.2 million (23%) | 9.8 million (22%) |
| Share of Internet Users in Income Group | 18.65% | 33.8% |
| GfK Online-Monitor 01/00 | | |
| Share of User on All Internet Users | 2.3 million (15%) | 6.2 million (39%) |

²² Reference data were taken from the 5th Wave of the *GfK Online-Monitor*.

| | < DM 3,000 | > DM 5,000 |
|--|-----------------------|-----------------------|
| Percentage of the Population, aged 14-69 with such an income | 12.8 million (24%) | 13.3 million (25%) |
| Share of Internet Users in Income Group | 18.1% | 46.7% |
| GfK Online-Monitor 07/00 | | |
| Share of User on All Internet Users | 2.52 million (14%) | 7.4 million (41%) |
| Percentage of the Population, aged 14-69 with such an income ²³ | 12.7 million (24%) | 13.2 million (25%) |
| Share of Internet Users in Income Group | 19.9% | 55.8% |

Appendix 1.3: Internet Utilization and Education

| Educat. Qualification | Number of People (Million) | Population Share | Number of Internet User (Million) | Share of Internet Users in Educat. Group |
|--|----------------------------|------------------|-----------------------------------|--|
| GfK Online-Monitor 01/99 | | | | |
| Sec. School | 18.2 | 41% | 1.6 | 8.8% |
| Sec. Mod. School | 16.8 | 38% | 3.4 | 20% |
| High School | 4.9 | 11% | 1.7 | 34.9% |
| College | 4.4 | 10% | 1.8 | 40.6% |
| GfK Online-Monitor 07/99 | | | | |
| Sec. School | 18.2 | 41% | 1.9 | 10.5% |
| Sec. Mod. School | 16.8 | 38% | 3.9 | 23.2% |
| High School | 4.9 | 11% | 2.0 | 41.1% |
| College | 4.4 | 10% | 2.2 | 49.7% |
| GfK Online-Monitor 01/00 | | | | |
| Sec. School | 23.9 | 45% | 4.1 | 17.5% |
| Sec. Mod. School | 18.1 | 34% | 6.1 | 33.8% |
| High School | 5.8 | 11% | 3.0 | 51.3% |
| College | 5.3 | 10% | 2.7 | 50.9% |
| GfK Online-Monitor 07/00²⁴ | | | | |
| Sec. School | 23.8 | 45% | 4.7 | 19.7% |
| Sec. Mod. School | 18 | 34% | 6.8 | 38% |
| High School | 5.8 | 11% | 3.2 | 55.8% |
| College | 5.2 | 10% | 3.4 | 64.7% |

Appendix 2: Measures Aimed at Institutions

Appendix 2.1: Universities

| |
|---|
| Project: WAP (Researcher Workplace Program) |
| State: National |
| Funding: Federal and State Governments. 1991 – 1997: DM 370 million (€185 million), 1998: DM 28 million (€14 million), 1999: DM 45 million (€22.5 million) |

²³ Percentages were taken from the 5th Wave of the *GfK Online-Monitor*.

²⁴ Percentages for the population share in the respective groups were taken from the 5th Wave of the *GfK Online-Monitor*.

| |
|---|
| Funding Period: at least since 1991, ongoing |
| Activity: Between 1991 and 1997 16,450 networked computer workplaces for researches were created, 1998: 1144, 1999: 1833 |

| |
|---|
| Project: CIP (Computer Investment Program) |
| State: National |
| Funding: Federal and State Governments. 1991 – 1997: DM 299 million (€149.5 million), 1998: DM 30 million (€15 million), 1999: DM 39 million (€19.5 million) |
| Funding Period: at least since 1991, ongoing |
| Activity: Between 1991 and 1997, 25,600 networked computer workplaces for students were created, 1998: 2,280, 1999: 3,120 |

| |
|--|
| Project: New Media in Education |
| State: National |
| Funding: Federal Ministry of Education and Research: DM 118 million (€59 million) for universities out of the overall budget of DM 400 million (-€200 million) |
| Funding Period: 2000 - ? |
| Activity: The program shall stimulate the creation of useful content and the development of improved utilization concepts for new media in several educational realms |

| |
|---|
| Project: Virtual University |
| State: Baden-Wuerttemberg |
| Funding: State of Baden-Wuerttemberg DM 45 million (€22.5 million) |
| Funding Period: 1998 – 2002 |
| Activity: Part of the initiative are six inter-disciplinary and cooperative projects at different locations, where multimedia teaching and learning systems are under development and testing. A competence center for multimedia and telematic shall advice the projects and disseminate knowledge and experience generated by the various project sides (see http://www.virtuelle-hochschule.de) |

| |
|---|
| Project: Multimedia Utilization for Teaching |
| State: State of Bavaria |
| Funding: DM 13.3 million (€6.75 million) |
| Funding Period: 1997 – 1999 |
| Activity: During the first year, core activities were aimed at improving the necessary infrastructure. From the second year on main focus was on developing multimedia-learning systems. (see http://www.fmi.uni-passau.de/meile/). |

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| Project: Activities in Several German States |
| State: Berlin, Bremen, Lower-Saxony and Saxony-Anhalt |
| Funding and Activity: Between 1999 and 2001, Berlin has been investing about DM 15 million (€7.5 million) for fostering the development and utilization of multimedia-based teaching and learning. In 1999, Bremen spent DM 1.1 million (€0.550 mil) for equipping the universities with multimedia technology. Additional DM 112,000 (€56,000) were spent between 1996 and 1999 for |

establishing computer-based curriculum.
 In Lower-Saxony, since 1996 DM 18 million (€9 million) have been invested into hard- and software equipment, the improvement of the Internet infrastructure and digital media technology.
 Saxony-Anhalt proposed an annual budget of DM 2.5 million (€1.25 million) between 2000 and 2006 for multimedia applications, the set-up of services and advice for establishing multimedia for teaching purposes.

Appendix 2.2: Public Schools

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| Project: Schulen ans Netz (SaN) (Schools Online) |
| State: National Initiative |
| Funding: (as of January 2000) Deutsche Telekom AG: DM 96.5 million (€48.25 million), Federal Ministry of Research and Technology: DM 63.5 million (€31.75 million). |
| Funding Period: Since 1996 |
| Activity: Until January 2000, more than 11,000 schools had received one Internet account together with a multimedia computer. 1,000 schools took part in model projects. |

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| Project: Additional Telekom Support for Public Schools |
| State: National Initiative |
| Funding: Support, worth DM 125 million (€62,5 million) |
| Funding Period: 2000 – 2001 (?) |
| Activity: By 2001, all public schools and schools recognized by the government shall receive a free <i>T-Online</i> account (the company's Internet service). 5,000 schools will receive 4 used computers each for Internet utilization. A volunteer organization shall install hard- and software and train teacher in Internet utilization. |

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| Project: Equipment Initiative |
| State: North-Rhine Westphalia |
| Funding: State Government (DM 1,200 (€600)) and Local Authorities (DM 800 (€400) per Computer, Deutsche Telekom AG (DM 3.6 million (€1.8 million), Soft- and Hardware Companies, Internet Service Provider |
| Funding Period: 1996 – 1998 |
| Activity: Every public school could apply for a multi-media computer, free installation of an ISDN-connection and an online fee waiver worth DM 1,600 (€800). Until early 1998, 2/3 of all public schools received one computer. |

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| Project: Further Initiatives Supplementing the Equipment Initiative (e.g. Netd@ays NRW) |
| State: North-Rhine Westphalia |
| Funding: Local Authorities and business companies |
| Funding Period: 1996 - ? |
| Activity: Schools form public-private partnerships with companies to improve their status of connectivity |

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| Project: Teacher Consulting and Qualification |
| State: North-Rhine Westphalia |

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| Funding: Bertelsmann- and Heinz-Nixdorf-Foundation, district governments, credit institutes |
| Funding Period: 1996 - 1998 |
| Activity: Building a network of 150 qualified moderators for teacher consulting and qualification and offering an Internet driving license for teachers with the goal to qualify all teachers successively for the new educational demands |

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| Project: Teacher Education |
| State: Baden-Wuerttemberg |
| Funding: DM 4.3 million (€2.15 million) by the State Government and the <i>Deutsche Telekom AG</i> |
| Funding Period: 1997 – 2001 (?) |
| Activity: All 41 Teacher Education Seminars received a room for multimedia instruction. Thus, since since 1998/99 all trainee teacher receive basic multimedia education |

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| Project: Further Education for Teachers |
| State: Baden-Wuerttemberg |
| Funding: DM 11 million (€5.5 million) by the State Government and the Deutsche Telekom AG |
| Funding Period: 1997 – 2001 (?) |
| Activity: 5 institutions of further teacher education received fully equipped computer labs for multimedia education. Since March 1998 about 2,700 teachers of 4,000 planned, absolved a qualification measure to become school multimedia consultants. Another 1,500 teachers will receive training to become computer network consultants |

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| Project: Networking |
| State: Baden Wuerttemberg |
| Funding: DM 14.75 million (€7.38 million) by the State Government and involved Partners |
| Funding Period: 1997 – 2001 (?) |
| Activity: Set-up of a state educational server (http://lbs.bw.schule.de) as a platform for information, communication, and cooperation teachers, pupils, students, apprentices, parents and everybody interested in education. 2,080 schools got high-quality and cost-effective Internet access through <i>BelWü</i> the state research network. All public schools received on multimedia computer for networking purposes. |

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| Project: New Technologies for the Pedagogical Support of Handicapped People |
| State: Baden Wuerttemberg |
| Funding: DM 1,5 million (€0.75 million) by the State Government |
| Funding Period: 1997 – 2001 (?) |
| Activity: Existing media and consulting centers for handicapped people get extended and two new one are launched. Set-up of equipment pools for advices and software, which facilitate computer utilization by handicapped people. Development of didactical and consulting concepts for the multimedia work with handicapped people. |

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| Project: Initiative D21-RegionN |
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| State: national |
| Funding: Institutions, associations, and companies (DM 1.7 million (€0.85 million for the first project)) |
| Funding Period: 2000 - ? |
| Activity: As the first project of <i>D21-RegionN</i> 270 public schools in Nuernberg (Bavaria) will receive not only free Internet access, but also the complete software and transmission devices, necessary for Internet access. Additional means are available for providing qualification opportunities for teachers. |

Appendix 2.3: Public Libraries

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| Project: <i>Cultural Support Program for the East-German States</i> |
| State: East German States |
| Funding: DM 3.46 million in federal funding matched with ca. DM 3.75 million by the states in 1999/2000 (altogether about DM 7 million (€3.5 million)) |
| Funding Period: 1999 - ? |
| Activity: The DM 7 million are only one part of the whole program, which goes to the Public Library. Funds are not earmarked for Internet access but it can be expected that a significant share of it is used for improving the conditions of public Internet access |

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| Project: Media Competence Centers in Libraries |
| State: National Initiative |
| Funding: DM 5.6 million (€2.8 million) by the Federal Ministry of Education and Research. A waiver worth DM 1,000 (€500) for every library which covers expenditures of an ISDN account |
| Funding Period: 2000 – 2001 |
| Activity: 700 Public Libraries will receive either two or five computer with Internet access together with a waiver for ISDN charges. Included is also some external training for two staff members of the supported libraries. |

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| Project: ISTAR-Program (Information Society Training and Awareness Raising) |
| State: Thuringia |
| Funding: DM 1.2 million (€0.6 million) by the European Social Fund |
| Funding Period: 1998 – 2000 |
| Activity: The program finances the provision of access to several multimedia workstations with Internet access for patrons together with courses for media competence dissemination. |

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| Project: Several Initiatives for Providing Public Internet Access |
| State: Saxony-Anhalt |
| Funding and Activity: In 1997, the State Government maintained a special Internet support program, which provided DM 500.000 (€250,000) for setting up Internet access. Funding was provided up to 90 percent, while the remaining 10 percent had to be matched by the local authorities. In 1999, another DM 100,000 (€50,000) were available for setting-up Internet access. In 1999, also the state together with the Deutsche Telekom AG started a program, worth DM 1,5 million (€750,000). 15 libraries were equipped with two to five computers with free Internet access for the libraries. The program expires in December 2000. |

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| Project: Means For Improving Internet Access |
| State: Bavaria |
| Funding: DM 500,000 (€250,000) |
| Funding Period: since 1996 |
| Activity: The state has been providing means for Internet access since 1996, which cover up to 50 percent of expenditures for hard- and software. Since 1996 126 Internet projects received funding. In early 2000 121 full-time managed libraries had Internet access. While general funds for public libraries were reduced permanently during the last years, available means for Internet access rather increased, because equipping the libraries with Internet access is regard high priority by the state. |

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| Project: Internet Initiative |
| State: City State of Hamburg |
| Funding: DM 1 million (€500,000) by the City's <i>Office of Cultural Affairs</i> |
| Funding Period: 1999 – (?) |
| Activity: With the initiative the library set up 20 public Internet access points until October and opened an Internet center, where various courses are offered and staff receive further qualification based on a program developed by an Internet task force established by the library (see also http://www.rrz.uni-hamburg.de/hoeb/welcome.htm). |

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| Project: Mettenhof Goes Internet |
| State: Schleswig Holstein |
| Funding: DM 10,000 (€5,000) by the Information Society Initiative Schleswig Holstein, DM 10,200 (€5,100) by the Technology Foundation Schleswig-Holstein and the European Union |
| Funding Period: 2000 - 2002 |
| Activity: The Mettenhof Public Library, a branch of the Kiel Public Library receives funding for establishing itself as a media center and will mainly provide access and educational means to the low-income community, the library is based in. |

Appendix 2.4: Additional Means for the Dissemination of Media Competence

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| Project: mecomp.net |
| State: State of Berlin |
| Funding: Berlin State Government, European Regional Fund, University for Visual Arts |
| Funding Period: 1999 – 2001 |
| Activity: Overcoming existing deficits of multimedia education and further education in occupational context. |

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| Project: Media Competence Center |
| State: Hessian |
| Funding: DM 2.5 million (€1.25 million) (further funding proposed) |
| Funding Period: 1998 – 2000 |
| Activity: 13 media competence center (6 regional, 3 state-wide, and 4 for e-commerce) were established to foster the development and dissemination of media competence especially for |

businesses and education.

Appendix 3: Target Group Specific Activities

Appendix 3.1: Programs and Initiatives Aimed at Women

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| Project: Women to the Net (Frauen ans Netz) |
| State: National |
| Funding: DM 626,000 (€313,000) in 1999 by the Federal Ministry of Education and Research. According to the Ministry, the contribution of the other partners (Deutsche Telekom, Federal Office of Employment, Brigitte) even exceeded this amount. |
| Funding Period: 1999 – (?) |
| Activity: Until February 2000, more than 33,000 women participated in Internet introduction courses |

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| Project: Women Give New Impetus to Technology (Association) |
| State: National |
| Funding: DM 1.5 million (€750,000) by the Federal Ministry of Education and Research annually for 5 years, DM 2.8 million DM (€1.4 million) by the Federal Ministry for Family, Seniors, Women, and Youth for 5 years. |
| Funding Period: 1999 – 2004 (?) |
| Activity: The goal of the Association is to make more use of women's potential for shaping and developing the information society and technologies as well as realizing the equality of opportunity of women and men. Above all, this goal ought to be attained through building up the competence center, <i>Women in the Information Society and Technology</i> . With the support and financing of the coordination, a grouping of measures for the equality of opportunity in instruction, education, professions, science and research is created. |

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| Project: Internet Access for Women – Reducing Barriers |
| State: Schleswig-Holstein |
| Funding: DM 100,000 (€50,000) by the Information Society Initiative Schleswig-Holstein |
| Funding Period: 1999 – 2000 |
| Activity: 300 women took part in talks about the Information Society until March 2000. A survey of participants shall accumulate further knowledge about women's attitudes about the Internet |

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| Project: Linie-I |
| State: North-Rhine Westphalia |
| Funding: North-Rhine Westphalian Ministry for Women, Youth, Family and Health, Deutsche Telekom AG (free Internet access), State Office of Employment (For the first year of operation, DM 480,000 (€240,000) were needed). |
| Funding Period: 1998 – (?) |
| Activity: The Internet bus visited more than 400 locations since 1998 and provided information and orientation about the Internet and Internet introduction classes to women of all ages (20 women can use the bus at the same time). |

Project: Woman Info Net Schleswig Holstein

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| State: Schleswig Holstein |
| Funding: DM 49,000 (€24,500) by the Information Society Initiative Schleswig Holstein |
| Funding Period: 1999 – (?) |
| Activity: Under the coordination of the Women State Council Schleswig Holstein, a web portal will be designed for meeting the interests of especially Schleswig Holsteinian women. |

Appendix 3.2: Programs and Initiatives Aimed at Disadvantaged Young People

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| Project: Using the Information Society as a Tool to Tackle Social Exclusion in Disadvantaged Areas. |
| State: National |
| Funding: DM 180,000 (€90,000) from the European Union. Every project had to cooperate with various partners to find space and equipment, while the funding could only be used for staff salaries. In North-Rhine Westphalia, for instance, the City of Oberhausen cooperated with the <i>ecmc</i> (http://www.ecmc.de/ja/index2.html). |
| Funding Period: Sept. 1998 – May 1999 |
| Activity: In 4 cities about 100 youths received training and, among others, learned how to use the Internet.. Another important purpose of the project was to raise public awareness about the potential benefits of such project for youths living in disadvantaged areas. Main target groups of the project were unemployed youths and youth who often face difficulties in finding an apprenticeship (e.g. Turkish girls, non-German Secondary School-, and Special School graduates). |

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| Project: Internet Cafés in the Employment Office Districts |
| State: National |
| Funding: Funding is provided, among others, through § 19 SGB III (Social Policy Act), which legalizes measures not covered by certain law sections. Additional funding comes from the Federal <i>Immediate Program for Reducing Youth Unemployment</i> . Since 1997, the <i>State Office of Employment</i> has been providing at least DM 2 million (€1 million) for setting-up Internet Cafés at the facilities of some of its partners. |
| Funding Period: 1997 – (?) |
| Activity: 69 of the 181 <i>Offices of Employment</i> confirmed in early 2000 that they are funding or co-funding an Internet café The main goals of the cafés are: (1) Provide incentives to problematic groups of youth for using ICT, (2) Improving media competence, (3) Provide special opportunities for disadvantaged youths, and (4) support for girls and young women. But the cafés are not only open to these groups. All other groups of youths, but also long-term unemployed people, single mothers, or older women are welcome to the centers. Each center owns 6 to 14 kiosk computer systems and a lab with multimedia workstations for courses and projects. Until the afternoon, the equipment is used for normal course work. After course work, the Internet Cafés are open to youths until the evening. Service is also offered on Saturdays. The Internet Cafés provide various opportunities to youths. One focus is on youths and occupation. Among others, staff offers Job counseling, and from time to time, youth can participate in so-called job-chats with local employment exchange employees. Youths can also learn how to use the Internet for job or apprenticeship search. Since mid-1999, users can obtain an Internet driving license with different degrees, certified by the <i>State Employment Office</i> . Besides occupational utilization the centers are also aimed at supporting the creative and communicative abilities of youth and enriching their leisure and spare time activities. The Internet Cafés are well accepted by youths. One of the centers, for example, had more than 1.300 first-time visitors in its first year of operation. |

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| Project: Internet Cafés in Youth Work |
| State: State of Berlin |
| Funding: Deutsche Telekom AG (only 1997), Mannesmann-Arcor DM 200,000, Youth and Family Foundation DM 115,000, <i>Senate's Administration for Education, Youth, and Sports</i> : DM 115,000 |
| Funding Period: 1997 – (?) |
| Activity: In April 2000, eleven stationary and one mobile Internet café were in operation. In all cafés, media-pedagogical support through qualified staff is available and different courses are offered. These opportunities are not only available for youths, but also for parents, educators, and staff of youth institutions |

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| Project: Internet Center Bremen |
| State: State of Bremen |
| Funding: The university and the DGB shared the costs for equipment and cover some of the permanent expenses like facility rent and wages. The local telecommunications company Nordcom provides free Internet access. The local employment office covers the salary for one of the employees. |
| Funding Period: 2000 – (?) |
| Activity: The center provides cost-effective Internet access and Internet classes for everybody. For youths and union members Internet utilization, classes, and job counseling are free |

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| Project: Internet Meeting Points |
| State: Brandenburg |
| Funding: DM 400,000 (€200,000) by the European Social Fund. Additional means are provided by the local employment exchange and the <i>DGB</i> , which hosts one of the centers in a union facility. |
| Funding Period: Aug. 1999 – Dec. 2000 |
| Activity: The 2 center provide free Internet access and Internet classes. Besides youth and young adults, the centers focus on educating potential multipliers, like teachers, parents, and pedagogues. |

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| Project: Palaver in the Global Village |
| State: Rhineland-Palatine |
| Funding: DM 800,000 (€400,000) by the Federal Ministry of Family, Seniors, Women, and Youth, Rhineland-Palatine's Ministry of Education, Research, Further Education, and Culture, and the State's Ministry of Youth, Family and Women. |
| Funding Period: Aug 1997 – May 2000 |
| Activity: This model project for the dissemination of computer-mediated communication in non-school youth work The project was launched in August 1997 and will officially end in May 2000. During the funding period, various workshops and projects were initiated, to help youths and young adults to examine new media and the Internet. The whole project was overviewed by <i>Arbeit und Leben</i> (Work and Life), an institution of political and further education, carried by the Volkshochschulen and the German Union Federation, DGB (http://www.arbeit-und-leben.de/palaver). |

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| Project: Youth Net Baden-Wuerttemberg |
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| State: Baden-Wuerttemberg |
| Funding: DM 2.82 million (€1.41 million) (State: DM 2.42 million, Partners: DM 200,000 DM, Others: DM 200,000) |
| Funding Period: Jan 1999 – Dec. 2001 |
| Activity: The network shall help to intensify the utilization of multimedia applications in youth work. It assures central, youth-related information offers and enables the inclusion and networking of previously isolated media initiatives from youth associations and regional media centers. |

Appendix 3.3: Programs and Initiatives Aimed at Seniors

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| Project: Association Seniors in the Knowledge Society |
| State: National |
| Funding: DM 3.1 million (€1.56 million) by the Federal Ministry of Economics and Technology. For 2000, additional DM 950,000 (€475,000) shall be available. Additional support is provided by private companies. |
| Funding Period: April 1998 – (?) |
| Activity: Realization of a national computer and Internet information and demonstration campaign and decentral Internet introduction courses. Since 1999, the Senior Info Mobile travels throughout Germany to allow seniors a first-hand encounter with computers, the Internet and other new communication technologies. |

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| Project: Seniors on the Net |
| State: Saxony |
| Funding: Means for a pilot project by the Federal Ministry for Economics and Technology's Multimedia Prize for Seniors. DM 10,000 for a pre-project study from the Saxonian Ministry for Economy and Employment and another DM 165,000 (€82,500) for project operation in 1999 |
| Funding Period: 1998 – (?) |
| Activity: Offering courses all over Saxony to provide seniors with opportunities for gaining media competence in an intergenerational environment |

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| Project: Seniors OnLine |
| State: North-Rhine Westphalia |
| Funding: DM 2 million (€1 million) by the North Rhine-Westphalian Ministry for Women, Youth, Family, and Health. For a limited time, the Deutsche Telekom AG provides free ISDN lines |
| Funding Period: 2000 – 2003 (?) |
| Activity: The project supports the dissemination of media competence for seniors throughout the State. Therefore potential multipliers receive training to conduct courses for seniors and organizations of senior work get hard- and software to meet the technical conditions for such work. An additional web space functions as a supplement for this statewide competence network and is also a portal tailored to the interests of seniors. |

Appendix 3.4: Measures Aimed at Rural and Peripheral Areas

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| Project: Mobile Internetcafé (MIC) and Mobile Internet School (MobIS) |
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| State: Baden-Wuerttemberg |
| Funding: DM 100,000 (€50,000) by the State and Partners like Companies. Companies also made available free hard- and software and services. MobIS received extra support from Microsoft and the Deutsche Telekom AG |
| Funding Period: October 1997 – December 2001 |
| Activity: <i>MIC</i> is especially aimed at people who had no chance to explore the Internet yet. People not only get information about the Internet and its possibilities, but can try it out immediately. A day with the MIC costs DM 400 (€200) daily. MobIS offers Internet classes for up to 10 people. For a one-day class with instructor for 10 people, communities have to pay DM 800 (€400) daily. |

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| Project: Junior-Internet-Mobil (JIM) |
| State: Baden-Wuerttemberg |
| Funding: DM 25,000 (€12,500) by the Youth Foundation Baden-Wuerttemberg. Additional funds come from the Youth Net |
| Funding Period: 1999 – (?) |
| Activity: JIM will travel especially throughout Baden-Wuerttemberg's peripheral regions and among others, offer Internet introduction courses and free Internet access for youth. Due to a lack of private funding, <i>JIM's</i> start has been delayed significantly and eventually, operation can only be guaranteed by voluntarily engagement of Youth Net members. |

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| Project: Web Mobiles NRW |
| State: North-Rhine Westphalia |
| Funding: DM 395,000 DM (€197,500) by the North-Rhine Westphalian Ministry of Women, Youth, Family, and Health, DM 385,000 (€172,500) by the Youth Stamp Foundation ²⁵ , Two vans by the car manufacturer Ford, 20 ISDN lines free of charge for one year by the Deutsche Telekom AG |
| Funding Period: Sept. 1998 – Sept. 2000 |
| Activity: The Web Mobiles offer projects, seminars, and informational campaigns for youth and multipliers of youth work to sustain the utilization of multimedia devices in their work, and support cooperation and net-working between institutions of youth work Service of the web mobiles is generally free. Only running expenditures like food and accommodation for instructors need to be paid by the communities |

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| Project: Leader II project Multimedia in Rural Areas |
| State: Saxony |
| Funding: DM 230,000 (€115,000) by the European Leader II program, DM 160,000 (€80,000) by local authorities and others |
| Funding Period: 1996 – Dec. 2000 |
| Activity: Establishing a multimedia information and communication system for the region to improve the quality of life and facilitate people's regional identification. During the first two years most effort was put into locating groups and institutions, able to contribute resources to the creation of the information system. Besides this activity, multipliers received training to achieve the necessary skills for processing content for the information system. Project staff was also present at many public events like fairs to inform the public about the possibilities of the proposed project. For practical application three public kiosk systems were set up |

²⁵ In Germany special stamps are sold, which are above the normal price. The additional charge goes to foundations like the Stiftung Jugendmarke.

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| Project: IMAGINE program |
| State: Saxony |
| Funding: DM 1 million (€500,000) by the EU, DM 1.6 million (€800,000) by local authorities and partners (mainly private companies) |
| Funding Period: 1998 – late 2000 |
| Activity: Integrating existing applications and services into an open platform for improving the quality of the information system and to facilitate the maintenance of existing contents and services. Further activities to demonstrate people the possible benefits of online utilization |