

## V. NETWORKED SOCIETY / E-SOCIETY

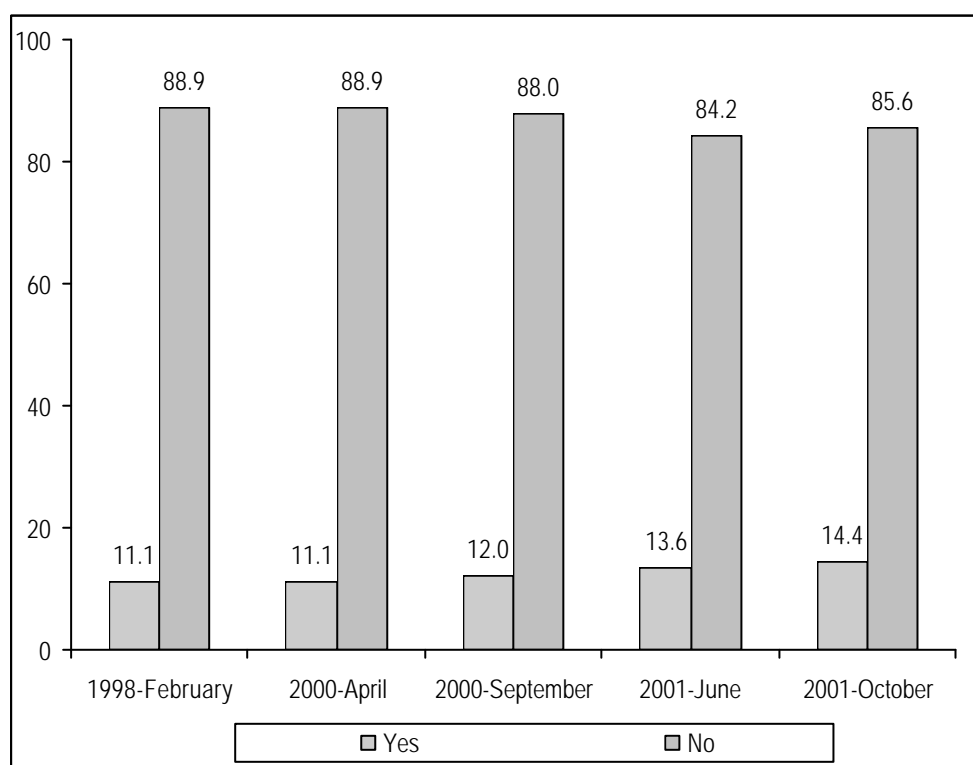
### V.1. Consumer access to ICT

An accurate and reliable assessment of the number of Internet users in a given country is a complex task. Difficulties arise on account of the dynamic expansion of the Internet, the lack of consistent statistical data, as well as of a viable methodology for collecting such data. The present analysis largely draws on data from national representative surveys conducted by Vitosha Research agency in the period 1998-2001.

#### 1.1. Access to computers

Survey findings indicate a low level of penetration of information technologies in the daily life of Bulgarians (see Figure 5.1). Assuming that one per cent of the representative sample equals about 65,000 people, computer users as of October 2001 can be roughly estimated to include 940,000 adult citizens.

**FIGURE 5.1 SHARE OF PEOPLE WITH ACCESS TO COMPUTERS**



Computers are typically used in the workplace and specialized locations (see Table 5.1). The number of users with access to PCs in the workplace is growing.

**Table 5.1. Locations providing computer access**

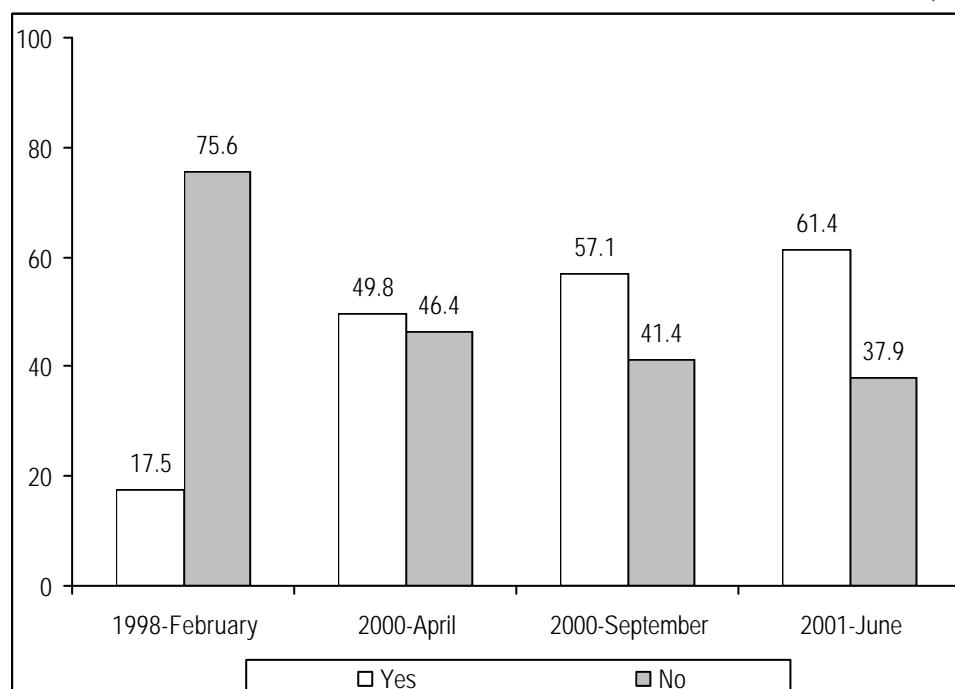
	<i>1998 February</i>	<i>1999 January</i>	<i>2000 April</i>	<i>2000 September</i>	<i>2001 January</i>	<i>2001 June</i>	<i>2001 October</i>
Home	1,7	2,6	2,6	4,4	5,1	5,3	7,5
Friends, relatives	n/a	n/a	n/a	n/a	n/a	2,3	n/a
School, university	n/a	n/a	n/a	n/a	n/a	2,1	n/a
Work	6,4	6,1	6,3	7,5	6,7	7,8	7,1
Public places	n/a	n/a	n/a	n/a	n/a	4,5	n/a

Source: Vitosha Research

Respondents aged 18 to 39 make the most active user group. 25 percent of those who have access to PCs fall in the 30-40 age group, while nearly 30 percent are aged 40 to 50<sup>7</sup> (see Appendix 2). Such data evidence a growing presence of information technologies in Bulgarian society, rather than isolated use by a single age group. As a whole, however, the total relative share of computer users is still rather small.

### ***1.2. Access to Internet***

There is a lasting and clear tendency towards increased use of the Internet by those who have access to PCs. In the past few years the number of people declaring they have access to the WWW and have been using it ever more frequently, has increased several-fold (see Figure 5.2).

**FIGURE 5.2. SHARE OF INTERNET USERS OF THOSE WITH ACCESS TO PC'S (%)**

Source: Vitosha Research

Nevertheless, the number of people using the Internet resources as a share of the total population is still rather small. In relative terms, the share of Internet users

<sup>7</sup> The data are drawn from a survey conducted in October 2001.

amounts to barely 10.4% of the population. However, if the present tendency is preserved, this figure will grow substantially over the next few years.

The Internet is typically used in the workplace and some specialized venues. Home Internet users and those accessing the Web at education establishments represent a smaller relative share (see Table 5.2).

A more detailed analysis of the survey data highlights the following **demographic profile of Internet users in Bulgaria**:

- Internet access is available mainly to young people. Half of those having access to a PC and the Internet are aged 18 to 30, and about one-fourth fall in the next age group, 31 to 40.
- The majority of people capable of accessing the Web are concentrated in larger cities and, above all, in the Sofia and Bourgas regions.
- Internet access is very limited in rural areas and small towns. (See Appendix 2)

**TABLE 5.2. ACCESS TO ICTS**

	<i>Access to PC</i>			<i>Access to Internet<sup>8</sup></i>		
	<i>Yes</i>	<i>No</i>	<i>DK/NA</i>	<i>Yes</i>	<i>No</i>	<i>DK/NA</i>
Home	29,0	59,3	11,7	30,2	64,6	5,2
Friends, relatives	16,6	71,0	12,4	19,8	74,0	6,3
School, university	15,2	69,7	15,2	16,7	75,0	8,3
Work	53,1	38,6	8,3	41,7	53,1	5,2
Public places	33,1	53,8	13,1	46,9	49,0	4,2

Source: Vitosha Research, June 2001

### **1.3. Factors affecting the level of ICT access**

Two groups of factors determine the limited ICT access and, particularly Internet access, in Bulgaria. The first group includes objective infrastructure conditions, such as the state of telecoms facilities and equipment directly, or indirectly, related to the provision of Internet access to end users. The second group includes subjective factors, such as personal attitudes and skills of individual users.

**TABLE 5.3. TELEPHONE NETWORK DENSITY**

<b>Telephone lines</b>	
Residential telephone lines installed (number)	2,454,000
Office telephones installed (number)	469,000

Source: Bulgarian Telecommunications Company, January 2002

The problem areas in Bulgaria's telecoms infrastructure have been discussed in detail in the "Network Access" section of this report. Here it is important to note some specific features of Internet use in small settlements and rural areas. According to the findings of a special survey of community centers conducted in year 2000, fewer than 3 percent of all Internet users in Bulgaria are residents of

<sup>8</sup> Only for respondents who have computer access.

small towns. In 22 settlements with population between 12 and 15 thousands people, the survey found only 50-70 Internet users. The Internet market is highly limited in smaller communities and there is practically no choice of alternative service providers. Less than 30 percent of the surveyed towns have more than one ISP. Consequently, these communities pay much higher prices for Internet services than people in larger, urban areas.

The infrastructure, including telecoms infrastructure, in small towns is less developed compared to larger ones. This is true for the telephone network and the general quality of Internet services. Out of 82 towns surveyed only 17 were connected to the digital ring (i.e. Digital Overlay Network) which allows connection speeds of 64 Kbps<sup>9</sup>. These and a number of other factors account for the limited Internet use in these communities and point to a vast “digital divide” in regional terms.

## V.2. Organizations Online

### 2.1. Public institutions and organizations on the Web

The diffusion of ICT in public institutions and public organizations constitutes an important indicator both as regards their general level of development and the readiness of Bulgarian society to adopt the new information and communication technologies.

**TABLE 5.4. SHARE OF BULGARIAN INSTITUTIONS WITH OWN WEB SITES : (% OF TOTAL NUMBER)**

	<i>October 1999</i>	<i>April 2000</i>	<i>September 2000</i>
Elementary and secondary schools	1.9%	2.3%	3.6%
Higher education establishments	88.1%	92.7%	95.1%
Government ministries	81.3%	85.7%	92.9%
Local government bodies	13.1% (38 out of 28 districts and 262 municipalities)	14.5% (42 out of 28 districts and 262 municipalities)	18.3% (53 out of 28 districts and 262 municipalities)
Hospitals/clinics	0.6% (22 out of 300 medical centers and 3,579 polyclinics and consulting rooms)	0.7% (28 out of 300 medical centers and 3,579 polyclinics and consulting rooms)	0.9% (36 out of 276 medical centers and 3,610 polyclinics and consulting rooms)
Museums	4.4%	6.2%	12.2%
Libraries	0.3%	0.3%	0.5%

*Source: Reports by the European Survey of Information Society*

The total volume of web sites of public institutions and organizations is growing steadily. The online presence of education establishments is expanding most rapidly. This tendency is quite evident with regard to elementary and secondary

<sup>9</sup> Source: Possibilities and Constraints in Setting Up Internet Centers at the Cultural Centers, survey conducted by Vitosha Research in May 2000.

schools, as well as museums, which doubled their web-presence by the end of 2000 compared to a year before. Yet libraries, which are an important elements of the country's education and cultural environment, preserve the same level of Internet presence (see Table 5.4).

## 2.2. Online media

The first news portals appeared in Bulgaria around late 1996. These included Bulgaria Online ([www.online.bg](http://www.online.bg)), News.bg ([www.news.bg](http://www.news.bg)), Netinfo ([www.netinfo.bg](http://www.netinfo.bg)) and others which provided relevant news and information on a wide variety of topics of local and international concern from sources including 'conventional' media, radio, TV, news agencies, and others.

This development was followed by online presence of nearly all daily and weekly editions of national newspapers – *Sega*, *Monitor*, *Demokratsia*, *Novinar*, *Standart*, *Kapital*, among others. Popular magazines, radio and TV stations, and the national information agencies are also available online. The only exceptions to this pattern are the largest-circulation dailies, *24 Chassa* and *Trud*, owned by the German media company Westdeutsche Allgemeine Zeitung, which do not yet have electronic editions for purely commercial reasons. One of the group's popular publications, *Dneven Trud*, has recently established a web site but it does not feature any news and serves mostly promotional and commercial purposes.

More recent developments have included the launch of a genuine information portal – Mediapool ([www.mediapool.bg](http://www.mediapool.bg)), an electronic news agency ([www.bgnes.com](http://www.bgnes.com)), as well as specialized portals providing economic, business and financial news, such as Econ.bg ([www.econ.bg](http://www.econ.bg)) and Bulgarian Business Advisor ([www.bba.bg](http://www.bba.bg)).

During the latest parliamentary elections (in June 2001) some web sites introduced direct monitoring of election results, including through multimedia applications.

At present Bulgarian Internet users are able to choose among a wide array of web resources, including nearly all of the national news institutions, as well as a number of local media which offer reviews and analyses online. Many sites include fully searchable archives of news dating back 5-6 years. Some of them register over 3-4,000 visitors daily.

Certain sites of 'conventional' media also maintain open discussion fora, which generate further user interest and serve as a secondary source of information, reflecting popular opinions and attitudes on the hot topics of the day. Good examples in this respect are the sites of *Sega*, *Dnevnik*, and *Standart* dailies.

The increasing number of online users has triggered competition among various information portals. As a result they are expanding their databases and adding new services, search options and links.

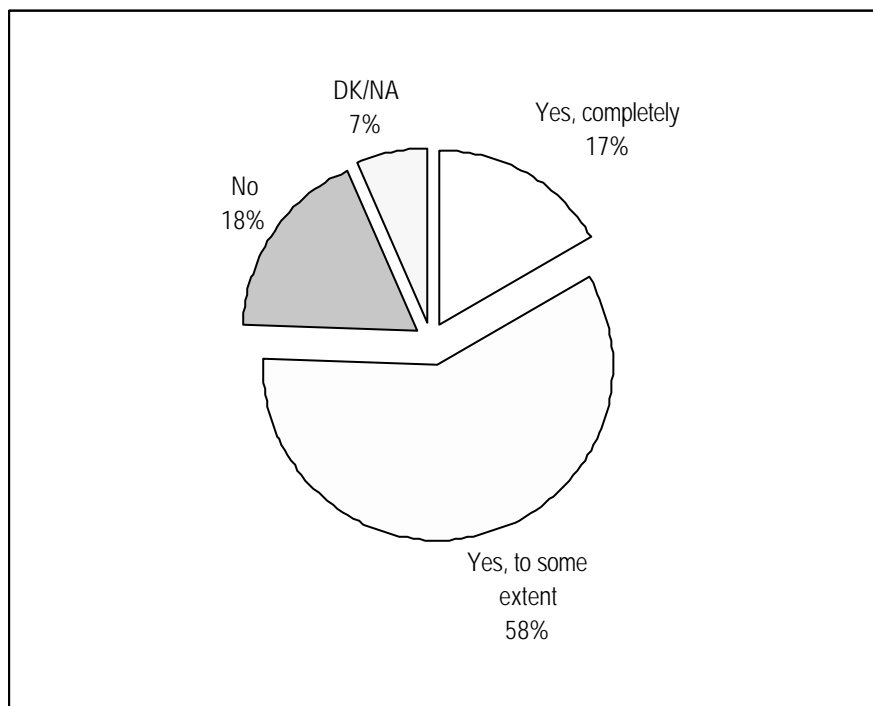
### V.3. Services provided in Internet

#### 3.1. Quality of Internet and IT-related services

The quality of Internet connections is a key factor which determines the level of customer satisfaction and people's motivation for future use of the Internet. Here quality is considered mainly in terms of the speed and reliability of connections to a respective ISP. The present analysis does not intend to describe in detail the various technical aspects of Internet use. Rather, it is concerned with the attitudes of end users to problems related with the speed and reliability of connections used to access the global Internet.

According to data from a national representative survey conducted in June 2000, Internet users tend to assess the service quality in rather negative terms. "Slow and expensive" seems to be the most common definition. Such dissatisfaction has its roots in the objective impediments to Internet penetration and the individual preferences of users. Most users who believe the Internet is a slow and expensive service, would prefer the option of a "higher price for a speedier connection" over a "cheap but poor service." The service quality, rather than its price, seems to be the determinant factor of user attitudes.

**FIGURE 5.3. IS THE QUALITY OF INTERNET SERVICE CONSISTENT WITH ITS PRICE?**



Base N- 90; Source: Vitosha Research, 2001

There is a relatively high level of user satisfaction in terms of how the price relates to certain minimum quality requirements (Table 5.5). Yet the share of those who are rather disappointed with the quality-price correlation is also considerable.

**TABLE 5.5. SERVICE QUALITY/PRICE CONSISTENCY BY PLACE OF ACCESSING THE INTERNET**

<i>Access to Internet</i>	<i>Quality-to-price Ratio</i>			
	<i>Yes, completely</i>	<i>Yes, to some extent</i>	<i>No</i>	<i>DK/NA</i>
Home	18,5	59,3	18,5	3,7
Friends, relatives	22,2	61,1	16,7	0,0
School, university	20,0	66,7	6,7	6,7
Work	17,9	56,4	17,9	7,7
Public places	20,5	52,3	22,7	4,5

*Source: Vitosha Research, June 2001*

The service appears to be of poorest quality for subscribers connecting from public access points. This is generally understandable because in such places users pay directly and on the spot for the Internet service and very often they experience problems of poor traffic due to network overload or disparate technical capacities of various ISPs.

### **3.2. Bulgarian web services / Locally relevant content**

The daily use of the Internet essentially involves visits to Bulgarian portals, search engines, and entertainment sites. The web sites of nongovernmental organizations, online computer distributors, and government institutions are the least popular. On one hand this may be due to the fact that these sites offer very specialized information and services intended for specific user categories. On the other, the low level of popularity could mean that the sites need to revamp their image and incorporate additional features such as search options, online services, etc., in order to enhance their presence in Bulgaria's web-space.

**TABLE 5.6. VISIT FREQUENCY FOR BASIC TYPES OF BULGARIAN WEB PAGES**

	<i>Several times a week</i>	<i>At least once a day</i>	<i>At least once a week</i>	<i>At least once a month</i>	<i>Less often</i>	Never	DK/NA
Portals/Search engines	6.7	15.6	21.1	10.0	14.4	20.0	12.2
Online news	0.0	6.7	21.1	13.3	21.1	26.7	11.1
Online newspapers and magazines	1.1	7.8	12.2	12.2	22.2	32.2	12.2
Government institutions	0.0	3.3	11.1	8.9	26.7	38.9	11.1
Nongovernmental organizations	1.1	2.2	5.6	7.8	20.0	47.8	15.6
Business sites	6.7	6.7	15.6	6.7	23.3	28.9	12.2
Cultural sites	2.2	7.8	14.4	14.4	21.1	26.7	13.3
Universities and schools	3.3	6.7	20.0	10.0	18.9	26.7	14.4
Internet providers, computer companies	1.1	2.2	10.0	13.3	22.2	40.0	11.1
Entertainment sites	4.4	11.1	26.7	16.7	14.4	21.1	5.6

*Source: Vitosha Research, June 2001*

Internet sites with Bulgarian content grow rapidly. According to data from the electronic edition of *The World of Internet* in May 2001, the number of indexed Bulgarian web pages within the .bg domain name was 66,992, while the sub-domains within the .bg domain numbered 1,556 (see Table 5.7)<sup>10</sup>. These indicators appear to be on the rise compared to previous periods monitored.

**TABLE 5.7. BULGARIAN INTERNET PRESENCE**

	<i>Dec. 1998</i>	<i>Dec. 1999</i>	<i>Dec. 2000</i>	<i>Jun. 2001</i>	<i>March 2002</i>
<b><i>Keyword Bulgaria</i></b>					
Google	n.a.	n.a.	1,080,965	2,110,000	3,766,000
Alta Vista	382,600	284,875	498,835	671,744	5,104,693
AllTheWeb	n.a.	345,864	1,150,000	1,954,500	2,299,710
HotBot	219,650	n.a.	n.a.	n.a.	741,900
InfoSeek	205,021	70,736	116,022	n.a.	
Excite	56,792	76,084	n.a.	n.a.	
Yahoo	252	281	322	253	287+45
<b><i>Number of pages</i></b>					
In .bg domain	25.594	48.966	127.104	66.992	n.a.

Source: *Svetat na Internet, Bulgarian Internet Fixing*, <http://I-world.vega.bg/>.

### ***3.3. The language barrier to Internet penetration***

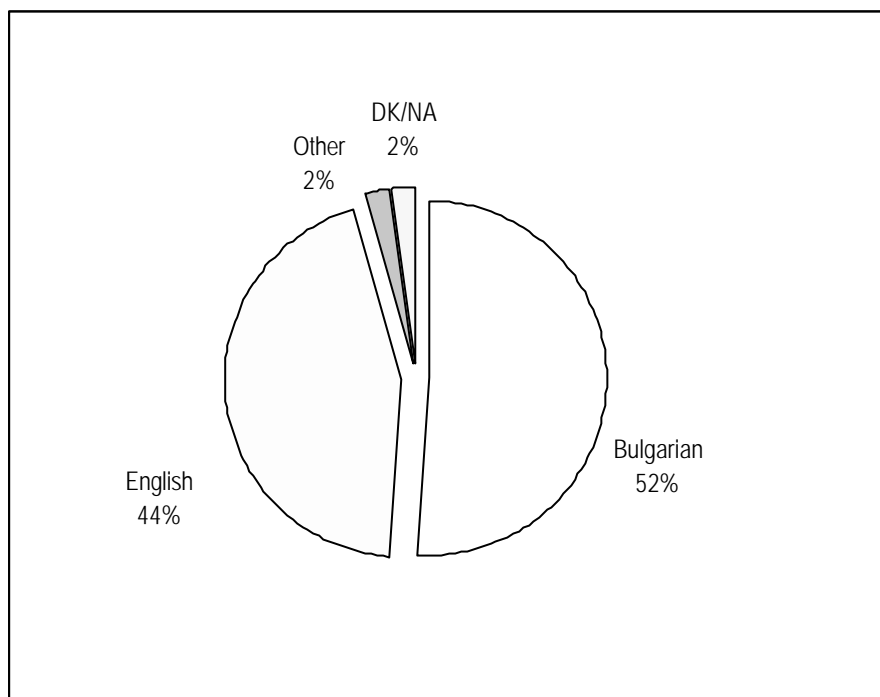
The domination of English in the World Wide Web poses a serious obstacle to the integration of various user groups. Awareness of this issue has prompted some of the largest websites to design mirror versions in different languages. A case in point is the world leader among search engines, Google.com, which created an equivalent of its search engine entirely in Bulgarian. However, this is an isolated case and is rather a successful marketing strategy than the outset of a general tendency. Countries like Bulgaria are in a highly disadvantaged position due to their small markets and more limited penetration of information technologies. But this situation may also present good opportunities to Bulgarian companies and non-commercial organizations to develop locally relevant content and services. It should be noted that local web-developers are reacting adequately to this situation and that users are likewise adjusting rapidly. Most of them prefer web pages in Bulgarian compared to English language sites (see Figure 5.4). Other popular languages such as French, German, and Spanish are not even cited by Bulgarian Internet users.

In terms of age, Bulgarian language sites are mostly preferred by users aged 18-29. In the other age groups the distribution of answers is relatively even. The preference for Bulgarian language content, shared mainly by the young people, is a certain acknowledgement for the nascent Bulgarian web.

<sup>10</sup> *Svetat na Internet, Bulgarian Internet Fixing*, <http://I-world.vega.bg/>.



**FIGURE 5.4. MOST FREQUENTED SITES BY LANGUAGE<sup>11</sup>**



Base N- 90; Source: Vitosha Research, June 2001

#### V.4. Popular use of the Internet

##### 4.1. Frequency of use

Measuring the frequency of use of the various Internet applications on an individual level provides valuable information about the extent to which the Internet is integrated in everyday life. Two of the most common applications have been considered in detail – electronic mail and web surfing.

**Table 5.8. Frequency of e-mail use**

	<i>April 2000</i>	<i>September 2000</i>	<i>October 2001</i>
Several times a day	0,7	1,0	1,0
At least once a day	1,1	1,4	1,7
At least once a week	2,0	1,8	3,0
At least once a month	0,3	0,5	0,7
Less often	1,2	1,3	2,4
<b>Total</b>	<b>5,3</b>	<b>6,0</b>	<b>8,8</b>
<i>Base</i>	<i>1161</i>	<i>1158</i>	<i>958</i>

Source: Vitosha Research

In the past few years the number of people who use e-mail at least once a week has grown substantially.

Data from a representative survey (October 2001) indicate that the majority of people who do not have e-mail addresses are aged over 40. Another alarming tendency emerges in terms of the geographical distribution of Internet users. None

<sup>11</sup> Only for Internet users and those having computer access.

of the rural area residents included in the sample had used the Internet in one way or another. Bulgaria's rural areas and smaller communities are not affected by the rapid growth of Internet use in the country. (See Appendix 2)

A similar distribution is observed regarding the frequency of Internet use (Table 5.9).

**Table 5.9. Frequency of Internet use (%)<sup>12</sup>**

	<i>April 2000</i>	<i>September 2000</i>	<i>October 2001</i>
Several times a day	0,4	0,9	1,4
At least once a day	1,0	1,4	1,8
At least once a week	2,2	1,6	3,8
At least once a month	0,9	0,8	1,1
Less often	1,0	2,1	2,3
<b>Total</b>	<b>5,5</b>	<b>6,8</b>	<b>10,4</b>
<i>Base</i>	<i>1161</i>	<i>1158</i>	<i>958</i>

*Source: Vitosha Research*

As evident from the above data, in Bulgaria the Internet is typically used once a week. Yet a solid core of more frequent Internet users is already emerging. The number and structure of these users remain stable throughout the surveyed periods. This is indicative of an internal homogeneity of the group and formation of certain behavior patterns of Bulgarian Internet users.

A more detailed demographic profile of Internet use in Bulgaria is presented in Appendix 2.

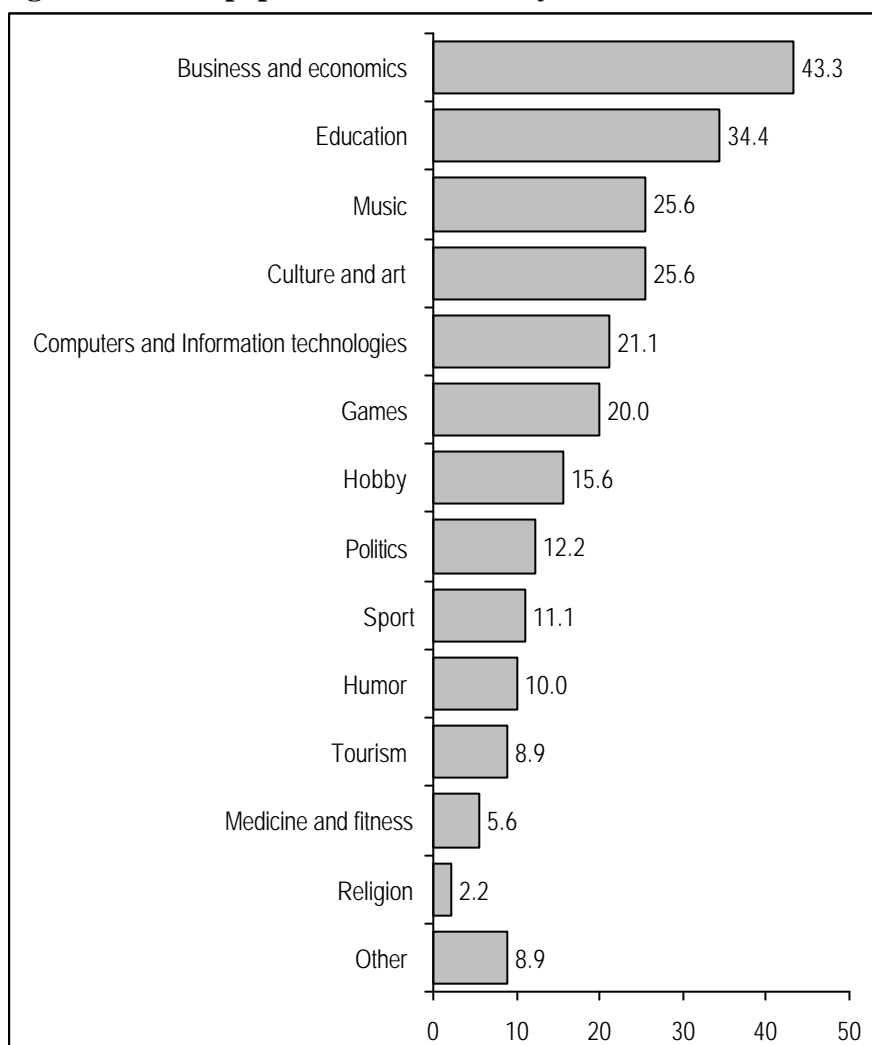
#### ***4.2. Tendencies in the popular use of Internet in Bulgaria***

Currently the Internet is most commonly used for information gathering purposes. The majority of users describe their main reasons for accessing the Internet as "retrieving professional information, or conducting personal research". The Internet is also used for entertainment and for accessing alternative sources of world news. At almost the same rate (41%) the Internet is used for personal communication. More than half of the respondents highly appreciate the possibility to chat over the Internet. Whether due to financial constraints or the popularity of this service, a considerable number of people believe Internet chats allow them to keep touch with friends and family, and people sharing similar interests<sup>13</sup>.

<sup>12</sup> Only for Internet users and those having computer access.

<sup>13</sup> Source: Vitosha Research, June 2001

**Figure 5.5. Most popular Internet activity and interest areas**



Source: Vitosha Research

Cost, availability and local conditions currently limit the use of Internet for electronic banking, electronic commerce, or personal activity planning. Barely 3% of Internet users in Bulgaria shop online, and 10% plan their vacations or travel using the Internet resources.

Set against the global trends in Internet use, Bulgaria seems to lag behind in this category (Figure 5.5).

**In summary**, Bulgarian society is still relatively unprepared to make use of information and communication technologies. Figure 5.6. is a graphic presentation of the quantitative measures of the main e-society indicators: namely users of computers, users of Internet, Internet services, Internet habits, public institutions.

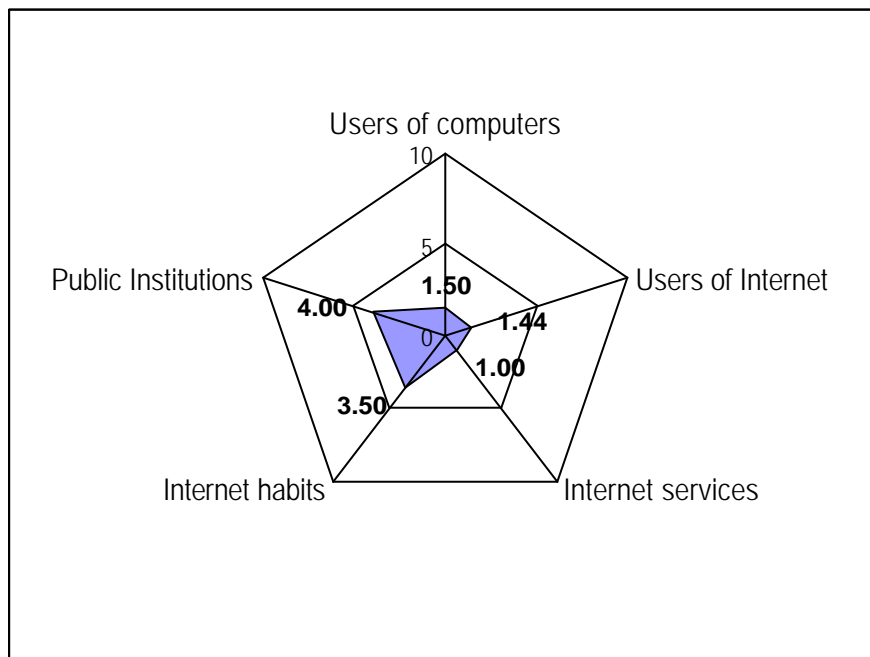
As barriers to access are being addressed, users of computers and Internet services indicators are rather low, respectively 1.5 and 1.00. Despite of that, Internet is becoming more commonly used in Bulgaria as evidenced by the relatively high value of the “Internet habits” indicator (3.50). A fairly stable and homogenous

core-group of Internet users emerges and is gradually expanding. This may indicate the onset of a new social culture defined by high level of interest in, and involvement with ICT.

The supply of online services is still inadequate, as is the general penetration of these technologies in everyday life. A single exception in this category is the diffusion of ICTs in public organizations and mass media where a value of 4.00 is measured. There is still much work to be done in the area of generating locally-relevant content, presenting it in an appropriate manner, and helping people to comprehend how to use the new technologies available to them.

**As a whole**, the e-readiness index of Bulgarian society is rather low – 2.29. It is one of the lowest values among all e-readiness categories being monitored. Despite some awareness of the Internet phenomenon, there is limited understanding of the benefits associate with ICT, and even less direct experience.

**FIGURE 5.6. E-SOCIETY**



**Average value: 2.29**