

Digital Divide in Estonia and How to Bridge It

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*Executive Summary*²

Estonia is generally renowned as a successful transition country and even more as a rapidly developing information society. Indeed, a look at the figures indicating what progress has been made in various aspects of information society (such as the numbers of telephone lines and users of mobile phones, intensity of e-banking, etc.) gives good reason for contentment.

However, the most popular among these indicators measuring progress show, first and foremost, advances in technology, failing to disclose whether there is a potential for sustainable growth. Developed countries, on the contrary, pay more and more attention to the social aspects of development and primarily to the topic of digital divide³, as it is only by way of bridging this gap that the achievement of information society for everyone is believed to be possible.

In Estonia, which has undergone rapid changes in all fields, the issue of digital divide has not enjoyed much attention, although several empirical surveys indicate that the problem

does exist in the country: namely, since the year 2000, the previous five years' impressively steep increase in the numbers of Internet users has not shown signs of further steep growth (see Figure 1). This leads one to conclude that the growth in the number of Internet users is stabilising in a similar way to that of computer users. This in turn means that there exist certain groups of population who do not use the Internet at all.

On the other hand, it is obvious that information technology can help raise productivity, and as such is fundamental to economic growth and high quality of life. Already now it is evident that in present-day Estonia users of the Internet are gaining in terms of both money (e.g. e-banking) and time (e.g. online advertising). On top of that, in case of some services, the Internet is actually the only channel that can provide the necessary information (e.g. the typescripts of parliamentary debates). Hence, to guarantee stable development of information society in Estonia, it will be paramount to tackle the problem of digital divide more than has been done until now.



¹ The authors are grateful to Alar Ehandi and Kristjan Rebane for their apt comments and remarks throughout the project. Likewise, many thanks to all those who participated in the seminar on 15 July 2002. The authors bear full responsibility for the possible inaccuracies and mistakes.

² The paper is based on the book *Digital Divide In Estonia and How to Bridge It* (Editors: Mari Kalkun and Tarmo Kalvet) published by AS Emor and PRAXIS Center for Policy Studies, Tallinn 2002. The book is available in English, Russian and Estonian from www.praxis.ee. The research was carried out at the order, with funding from and in direct partnership with the Look@World Foundation, the Open Estonia Foundation, and the State Chancellery. The study was co-financed by the infoDev Program of the International Bank for Reconstruction and Development, and Open Society Institute — Budapest.

³ The term "digital divide" refers to the gap between individuals, households, businesses and geographical areas at different socio-economic levels with regard to both their opportunities to access information and communication technologies and their use of the Internet. The digital divide reflects various differences between and within countries (Understanding the Digital Divide, OECD, 2001). The present survey aimed to analyse the divide within a country.



1. Background and Methodology

1.1. Background

Proceeding from the above-mentioned ideas and the intention to focus more on the social dimension of information society in the autumn of 2001, the Look@World Foundation, the Open Estonia Foundation and the State Chancellery invited public tenders for conducting a survey on the subject „Social aspects of information technology in Estonia“.

The joint tender of AS Emor and the PRAXIS Center for Policy Studies won the competition. At a later stage of implementing the project, the International Bank for Reconstruction and Development (IBRD) for the Information for Development Programme (infoDev) joined the study as a co-funder providing a grant to the PRAXIS Center for Policy Studies for ICT Infrastructure and E-Readiness Assessment. Also, translation and web-publishing was supported by Open Society Institute — Budapest.

Proceeding from the clients' interests, the study sought to answer the following questions:

- Which are the broader social factors that hinder the inclusion of users of new means of communication in information society?

- Is it possible to identify specific groups of population whose computer and Internet penetration is significantly lower?
- If so, what are the needs of the light users and non-users of the Internet, what are their attitudes, prejudices and expectations with respect to the novel communication technologies and services?
- What relevant and effective arguments and channels can be found to involve non-users in developing information society?

The study was conducted in cooperation between Emor and PRAXIS.

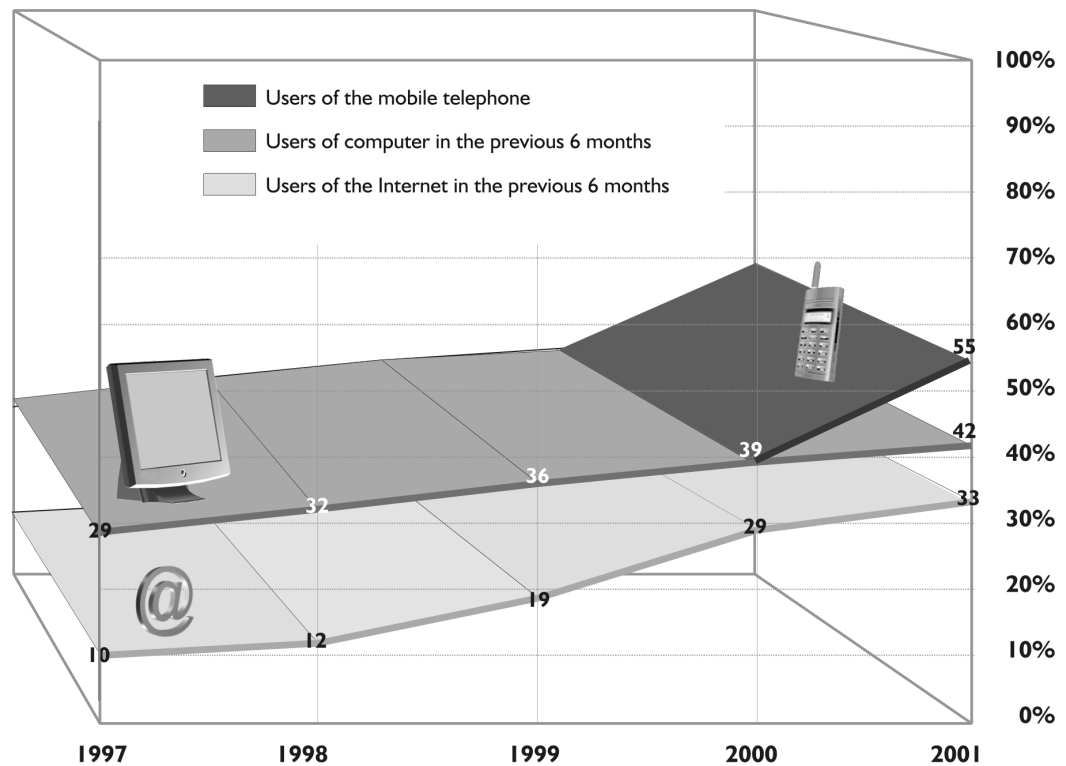
1.2. Methodology

The survey was jointly conducted by Emor and PRAXIS between January and July 2002 and consisted of several stages.

Firstly, by means of the e-track particular segments of the population and their development dynamics over the recent years⁴ were determined; subsequently their use of the Internet was subjected to closer scrutiny. On the basis of the e-track results, the population groups of non-users and light users of computers and the Internet in Estonia were identified and divided into several segments.

The defined segments were then studied qualitatively in the form of focus group interviews.

Figure 1. Computer, Internet and cell phone users (% of people in the 15–74 age bracket)⁵



Source: E-track 2002, Emor.

⁴ Since January 2000, Emor has been conducting e-track studies in the framework of an omnibus survey, focusing mainly on computer and Internet use by Estonian inhabitants in the 15-74 age bracket. The present survey is based on the data collected in 2001 (about 6,000 respondents).

⁵ As of August 2002 the rate of Internet use is 39% in the 15-74 age bracket (E-track, June–August 2002, Emor).

The goal of these interviews was to gain a thorough overview of the respondents' attitudes towards and beliefs about information technology and use of the Internet.

Thirdly, a **value orientations survey report** was prepared on the basis of the focus group interviews and the RISC study⁶ of the value orientations of Estonian inhabitants. Answers were sought to the following questions: Can we distinguish between segments with different value orientations among non-users of the Internet? If so, what are the peculiarities of these segments? What are their barriers to Internet use? What could potentially motivate them to use the Internet?

Between 15 June and 2 July 2002, the PRAXIS working team conducted **interviews with experts**. The latter were asked to evaluate Estonia's overall IT developments so far, the role of digital divide in society and its causes, and make suggestions for potential involvement of the risk groups.

In addition, an **expert forum** was jointly held by PRAXIS and Emor on 15 July 2002 involving information technology specialists, economists and social scientists.

The results of the survey were published in full in the book *Digital Divide in Estonia and How to Bridge It* (Editors: Mari Kalkun and Tarmo Kalvet), Tallinn 2002, available in English, Russian and Estonian⁷.

2. There are "Blue Collars" and "Passive People" among non-users of the Internet

The report of the value orientations survey conducted by Emor indicates that non-users of the Internet account for 58% of the Estonian population in the 15–74 age bracket, i.e. an estimated 607,000 people in February 2002.

There are two distinct categories in the group of non-users: "Passive People" and "Blue Collars"⁸:

- **"Passive People"** (28% of non-users of the Internet) are characterized by the following:
 - about 60% of the people in this group are 50 or older;
 - have relatively little interest in matters outside their daily life;
 - their relation to the Internet or computers is very weak, they neither see any

benefits in the Internet nor have any need to use it;

- they prefer to use the traditional media (even if the Internet were cheaper and more convenient), as apart from their general display of a lack of interest they are constrained by the language barrier and are unable to handle the user interfaces of computers; they are also relatively less incapable of learning and memorising new things, and unwilling to change their habits.
- **"Blue Collars individuals"** (27% of non-users of the Internet) are characterised by the following:
 - mainly unskilled and skilled workers who do not need computers in their job;
 - about half of the people in this group see no benefits in the Internet and are not willing to change their daily routines as the Internet is unattractive to them;
 - a personal monetary gain would make the Internet attractive to them;
 - there are social and psychological barriers (dread of new technologies, no recognition of the need for lifelong learning, a fear to reveal to other people one's lack of skills), skills barriers (lack of computer and foreign language skills) and economic barriers (income per family member is at the Estonian average level).

There are an estimated 176,000 retired persons in Estonia who belong to the group of "Passive People", while "Blue Collars" include 151,000 workers (unskilled and skilled), and 42,000 medium-level specialists and client servicing personnel.

So far these groups have not perceived a connection between their lives and the Internet, which is why the number one task would be to motivate them. Moreover, in order to reach them, a different approach needs to be tried.

Contrary to that, members of the "experimenters" and "other non-user groups"⁹ already have motivation to use the Internet.

It can be claimed with reasonable certainty that the socio-demographic characteristics of the Estonian population segments who do not use information technology are fairly similar to those of other countries.

Every second non-user acknowledges one or many benefits of computers or the Internet,

The book is downloadable from the Internet at www.praxis.ee.

There are 607,000 Internet non-users (58% of the population).

Risk groups do not associate the advantages of Internet use with their lives.

⁶ The study that Emor has been carrying out since 1992 is based on the RISC (Research Institute of Social Change) methodology. The present study was performed in February 2002 and involved 1,000 Estonian inhabitants.

⁷ The book is downloadable from the Internet at www.praxis.ee.

⁸ These titles are conditional generalising terms. The names are derived from the value orientations study, taking into account the mentality and socio-demographic background of the people forming the groups.

⁹ The group is titled "experimenters" because the people forming it are characterised by a desire to try everything that is new. "Other non-user groups" is a more heterogeneous group with regard to the mentality of its members, which is why its title does not refer to any particular way of thinking.

65% of non-users do not have any motivation to use the Internet.

while half of the non-users cannot point out any benefits of the Internet (Figure 2). As regards their personal Internet use, two-thirds of non-users (65%) cannot specify any areas that could be of any use to them.

The findings of the conducted surveys suggest that one-third of the non-users of the Internet are motivated to use the Internet and will probably get access to it thanks to the ongoing projects. This is very likely because, on the one hand, they have a more open attitude towards acquiring new skills, and on the other, they possess the ability to overcome any barriers to Internet use that may arise.

Regrettably, two-thirds of the non-users (393,000 people) fail to associate the advantages of Internet use with their lives. Such an attitude, however, appears to be extremely inhibiting to both economic growth and the labour market. Thus, bridging the digital divide would serve the interests of society as a whole.

3. Main barriers to non-use of the Internet

The following is a description of various barriers that prevent non-users from reaching the Internet.

3.1. Barrier I: Motivational issues

The motivational barrier to Internet use has several reasons of a varying nature. One of them is

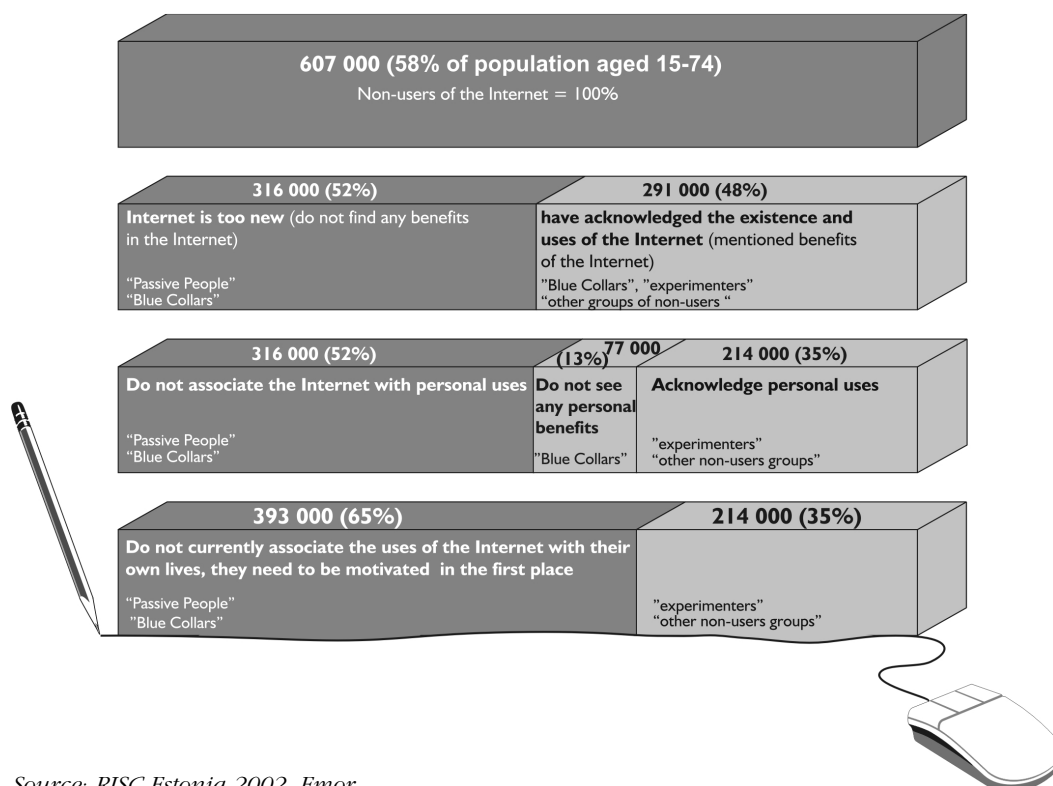
the development of the Internet as an economic phenomenon. Namely, contrary to extremely high expectations, the „Internet economy“ has proved successful only in a few branches of the national economy (mainly in banking and the information-related branches). These fields are largely orientated towards developing services for the more innovation-minded groups of society, whereas the development of those services which are directly aimed at other groups has gained momentum only in the past few years. Comparing the reality to the initial, overly optimistic attitude, one can see that people have taken a much more rational position on the possibilities and benefits offered by the Internet and tend to relate the matter more with their personal needs than the current fashion trends.

3.1.1. “Computers are not for me”

The main barrier in Estonian society is the fact that people do not associate the benefits of the Internet with their personal needs, believing that “computers are not for me”.

One of the reasons underlying this belief may be the Internet access structure typical of Estonia — as the living standard is relatively low, comparatively few people have computers at home and owing to the Tiger Leap Programme, school children are above-average users of the Internet. Also, together with the adoption of Western styles of work, various institutions quite abruptly switched to computers.

Figure 2. Lack of motivation is the key factor in 2/3 of non-users of the Internet



Source: RISC Estonia 2002, Emor.

Owing to these tendencies, the prevailing view is that computers are useful to and needed by either children for doing their school assignments or adults on their job.

At the most general level, though, the advantages of the Internet are rather well recognised (“larger amounts of information” is the most frequently mentioned advantage of the Internet). Often the non-users have not even thought about why they do not use the Internet (Figure 3).

3.1.2. Distrust of e-services

This barrier consists in the fact that no time gain is perceived, especially in performing public services. There is a strongly held belief that no results can be achieved when affairs are managed from a distance and instantaneously. Public sector services are perceived in a very personalised way (the process is not distinguished from the person offering the service; one particular civil servant is seen as a gate-keeper; every civil servant is believed to require different documents). It is generally believed that in order to reach the desired outcome, civil servants need to be met in person (often repeatedly).

Additionally, the belief prevails that the existing means of communication (the telephone, mobile phone, mass media) can meet all the basic needs that the Internet can be helpful for: communicating, information search, and management of affairs.

In the management of personal affairs, the only perceived Internet partner is the e-bank.

Interestingly enough, security is not a problem. Of all non-users, 1% gave security concerns as the reason for not using the Internet.

Therefore, there are grounds for assuming that if alternatives comparable to e-services are available, and if the use of an e-product/service does not prove revolutionarily attractive (the price of the technology enabling the use of e-services is high, but the added value of an e-product/service is low), then even properly targeted content services may fail to sufficiently motivate people to become Internet users.

3.1.3. Lack of information content

It followed from the survey that mere making a few services available on the Internet will not, as a rule, help increase the number of Internet users.

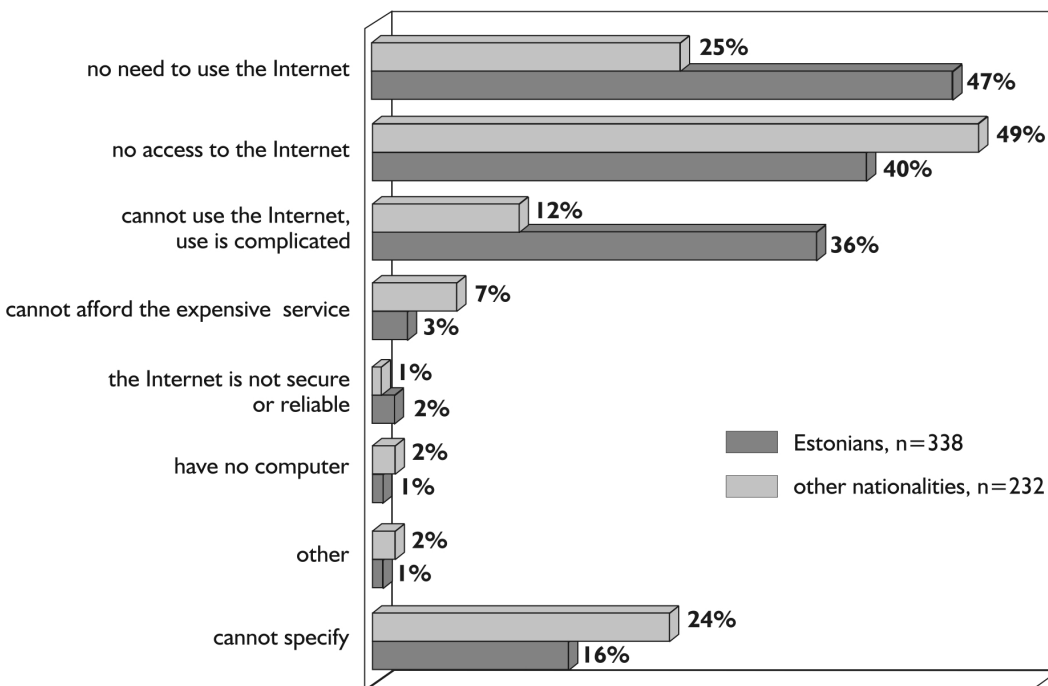
The area that is very likely to attract masses of new users if offered via the Internet is health care. This is so because, on the one hand, various health care services (provided by both doctors, dentists and pharmacists) are the ones that people need most frequently, and on the other, they have to go through several troublesome procedures before they can get these services.

A specific barrier in Estonian society is the small number of Russian-language web sites and Internet services concentrating on Estonian issues.

Non-users distrust public sector e-services.

Health care service is most interesting to non-users.

Figure 3. Reasons for not using the Internet (% of non-users, n=570)



Source: RISC Estonia 2002, Emor.

The survey by Emor shows that among the positive features of the Internet mentioned, those related to information dominate — on average 40% of non-users of the Internet find that the Internet is good as it provides access to larger amounts of information, “the information one needs can be found conveniently without leaving home” (23%) and one “can study and discover anything of interest” (19%). Non-users, on the other hand, keep to their habitual communication channels — television, radio, newspapers, other people and the telephone (for doing various errands) and the Internet never comes to their mind spontaneously.

3.2. *Barrier II: Lack of Skills*

Of all non-users of the Internet, 26% put their non-use down to either their poor computer skills or the complexity of use. At the same time, we have to keep in mind that it is much easier to say that the Internet is unnecessary or inaccessible than to admit one’s lack of skills. The fact that poor skills were infrequently given as the reason for non-use of the Internet (lack of access was the most frequent reason, followed by lack of need and lack of skills) may also indicate how people in Estonia reason — in the first place, they expect to have a computer with the Internet connection, then the need to use it must arise, and only then the willingness to learn may appear.

The results of the survey lead us to conclude that the opportunities for learning and the teaching methods used so far have not been acceptable to either “Blue Collars” or “Passive People”. Overcoming the skills barrier is especially crucial in the case of “Blue Collars”. Namely, many “Blue Collars” have children, and when they buy a computer, their children may become its only users, whereas the “Blue Collars” themselves will never learn how to use the Internet independently.

3.2.1. *Complicated logic of use*

The Internet appears to be complicated for both non-users and light users because the computer and the Internet are hard to master, in view of the language and memory problems involved and the poor opportunities for practising, which in turn breeds the dread that either the expensive hardware or its user may get damaged in one way or other (for instance, money can be inadvertently transferred to a wrong account).

In more concrete terms the following problems were pointed out:

- language concerns (English for Estonians; Estonian in the case of content services and also English for non-Estonians). The cell phone, by comparison, has this advantage that it uses Estonian.

- memory concerns (especially in the case of retired people, but also “Blue Collars”), related to poor practising opportunities (What is learnt requires revision and further learning, but if there is no computer, this cannot be done. Even if one has a computer at home, a “mentor” is needed who would give instructions about what to do and how to do it). By comparison, the cell phone has this advantage that the owner is constantly carrying it around and can finger it whenever he/she chooses.
- dread of damaging the expensive (someone else’s) hardware. Again the cell phone has an advantage — it is much cheaper. It is also smaller in size and therefore less frightening.
- fear of damaging oneself (e.g. transferring money to a wrong account).

3.2.2. *Social fears*

Both “Blue Collars” and “Passive People” have strong social fears of learning in a group or using the Internet in a public place: they are apprehensive about falling behind with their learning and are reluctant to reveal their lack of skills (to appear to be the dumbest; to inhibit the group’s progress by their poor performance).

3.2.3. *Non-approval of the principle of lifelong learning*

In addition to skills barriers and psychological barriers, there are attitudes and value orientations that do not support acquisition of Internet skills: for example, non-approval of the principle of lifelong learning, seeing one’s life in strictly set frames, a stronger than average need for a hierarchy and order, lower than average initiative and creativity — facing an obstacle, such people would rather give up than look for new opportunities and try again.

3.3. *Barrier III: Access issues*

Because of Estonia’s limited economic resources and the prevailing ideology of liberal market economy, the government’s information society policy has so far paid little attention to the economic and political means at the disposal of the state that might help improve Internet penetration by lowering the access barrier. The main strategy that has been employed for the purpose of bringing people to the Internet has been the development of a public Internet access points (PIAPs) network as a result of cooperation between the private and public sectors. To-date a nationwide network of PIAPs has been created in local governments and public libraries.

At the same time, the main place where the people of Estonia use the Internet is their

Non-users are characterized by non-approval of the principle of lifelong learning.

For lowering access barrier, creation of public Internet access points is not enough.

workplace (53% of all Internet users in the 15–74 age bracket), followed by home (40%), school (29%), acquaintances' workplace or home (23%), and public Internet access points (15%) (E-track. March–May 2002, Emor).

Today's non-users of the Internet admit that they would like to use the facility at home. A large majority of non-users do not expect to be needing the Internet in their work in the foreseeable future (retired people no longer go out to work, and the jobs of "Blue Collars" do not require computer skills). Consequently, when tackling the questions of Internet access, these above views should not be overlooked.

3.3.1. Public Internet access points

There are two main reasons why a PIAP is considered to be unattractive:

- "PIAP is for younger and more skilled persons" (unwillingness to reveal one's lack of skills);
- going to a PIAP requires a substantial effort (reserving a computer, inconvenient opening hours for working people).

However, the most important, though hidden reason seems to be the unwillingness to change one's habitual routine (home–work–supermarket–home for "Blue Collars"; home–post office–supermarket–home for "Passive People"). Since neither "Blue Collars" nor "Passive People" wish to change their daily routines, the existing PIAPs cannot be expected to help attract a majority of them to the Internet.

4. Policy Recommendations

In view of the barriers, PRAXIS has developed recommendations for a strategy of popularising information and communication technology in order to encourage computer and Internet use among the Estonian population. The recommendations were worked out on the basis of the sociological research conducted by Emor in Estonia, the interviews of PRAXIS with persons involved in the respective area, an analysis of the discussions at the forum of experts, and the experience of other countries¹⁰.

Although many of the recommendations¹¹ are mainly directed to the Government of Estonia, their implementation can only be possible in cooperation with the private sector. It follows from the analysis on which the recommendations are based that the private sector may also use them as argumentation in demanding that the public sector should

develop and apply appropriate measures, funded to an appropriate degree from the state budget.

The main groups investigated were "Passive People" and "Blue Collars", as the people belonging to the groups of "experimenters" and "other non-users" will anyway find their way to the Internet within the framework of the on-going projects.

4.1. Recommendations concerning "Blue Collars"

The conducted research shows that both in view of effectiveness and guaranteeing more extensive economic development it is reasonable to focus on the "Blue Collars" group, for whom the problem of motivation is central at the moment ("computers are not for me", "it's necessary for children or those who need it on the job").

In line with what was said above is also the fact that non-users of the Internet see information search as its primary function. At the same time, the non-user groups already have their strongly rooted information channels (television, radio, newspapers). As mentioned earlier on, they see the e-bank as their only Internet partner, whereas in case of public services, they strongly associate the services with the persons offering them. Thus, in order to guarantee rational use of the Internet by the present non-users, especially by "Blue Collars" it is necessary to make them believe that the Internet is precisely the channel they need for doing daily errands. This in turn would presuppose internal reorganisation of the public sector's work, in order not to disappoint the users and to avoid further consolidation of the opinion that it is impossible "to manage things from a distance and instantaneously".

Considering the share of the non-Estonian speaking population in the group, making the existing public and private sector information content and services available in Russian would be highly effective if accompanied by a relevant advertising campaign.

Overcoming the skills barrier is also of great importance in the case of "Blue Collars", because even if they have a computer at home, their children may be its only users. The best place for training is the workplace; the unemployed being one of the groups of non-users, direct pressure by the state to involve these people in training would be effective (for example, a more extensive

"Blue Collars" group should be the main target.

Internet needs to be transformed into a channel for daily errands.

¹⁰ Many of the recommendations provided here have already been discussed in Estonia (mainly at the brainstorming sessions held by the Look@World Foundation in Parnu in 2001 and in Haapsalu in 2002), and the authors have used the respective materials.

¹¹ Although the recommendations proposed here follow from the sociological research conducted by Emor, they only reflect the positions of the authors.

A broader understanding of the “Internet for everyone” needs to be created among “Passive People”.

Internet training programme as part of conversion training).

As PIAPs in their present form do not satisfy “Blue Collars” (unwillingness to reveal their lack of skills in a public place, inconvenient opening hours, the need for prior reservation), an effective solution would be the creation of specialised PIAPs (SPIAPs) in places easily accessible to “Blue Collars”, who would then be surrounded by people like them. An accompanying information campaign (also involving the existing PIAPs) would help engage the Russian speaking population as every other non-Estonian (49%) gave lack of access as the reason why they do not use the Internet (Figure 3).

Among “Blue Collars” the Internet could be popularised by a campaign for connecting the existing home computers with the Internet and increasing home computer penetration (using both motivational and price mechanisms). In the fourth calendar quarter of 2001, 156,000 Estonian inhabitants in the 15–74 bracket, who at that time did not have a computer at home, disclosed an intention to buy one in the following year. But 40% of home computers have no Internet connection.

4.2. Recommendations Concerning “Passive People”

In order to bring “Passive People” closer to the Internet, a broader understanding of the “Internet for everyone” notion has to be promoted, the motivational barrier being the main barrier to “Passive People” who believe that “computers are not for me”. To remove this barrier, we suggest that media productions such as TV serials etc. enjoying great popularity among “Passive People” be exploited.

Only after the broad social barriers have been removed, more specific services will

become more attractive to the current non-users. The area of activity that may attract new users if made available on the Internet is health care (beginning with consulting a doctor and ending with the receipt of medicines from a pharmacy), and hence, the availability of a complex service on the Internet may attract new users. Chances are that in time, a special Internet portal tailored in close collaboration of various sectors exclusively for “Passive People” will become popular.

Apart from an appropriate advertising campaign, SPIAPs have to be created for this group at their points of gathering (hobby clubs) and, if possible, also in post offices (which might be quite effective if post offices agreed to introduce special services and provided hands-on training).

Like in many foreign countries, in Estonia as well great attention has been paid to ICT training in recent years. The Look@World Foundation is providing free short-term Internet training courses to 100,000 non-users. This project will undoubtedly play a great role in overcoming the lack of interest (by introducing attractive services, stressing the direct benefits offered by the service). However, the problem that is likely to arise with the elderly population is that the newly emerged interest may wane if one sees barriers rapidly appear, particularly if the language problems inhibit coping with the user interfaces of computers and one’s relatively poorer ability to memorise hampers learning the necessary operations. A psychological obstacle may be the unwillingness “to reveal one’s lack of skills”. Therefore the effectiveness of training programmes will have to be evaluated (to make sure that the trainees have become convinced Internet users) and improvements made where necessary.

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