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SOCIAL IMPLICATION OF THE INTERNET DIFFUSION IN RURAL COMMUNITIES OF LITHUANIA

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Abstract: In the post-modern knowledge society, the use of information communication technologies (ICT) constantly expands covering not only urban but rural regions as well. The new social paradigm re-defines a concept of "rurality", restructuring traditional understanding of space and location and creating a new kind of social interaction – virtual social networks.

The aim of the paper is to analyze social implication of the Internet diffusion in rural communities of Lithuania, exploring opportunities and obstacles for using the Internet in rural areas and the impact of ICT on civic life in rural communities. This study presents some theoretical debates on the controversially perceived impact of the Internet on social participation. It also explores the types of change agents involved in the processes of ICT diffusion and key users of the Internet in rural communities, analyzes the main spheres of the Internet use and influence on the access to information and on communication with relevant public authorities. The study presents results of questionnaire based survey and focus group discussions of local rural communities, which were engaged in activities promoting new ICT and/or fostering the establishment of a public access to the Internet in their communities.

Introduction

Information society is one of the major visions that characterize the end of 20th and the beginning of 21st century. This new type of society is described as "a new social and economic paradigm restructuring the traditional dimensions of time and space within which we live, work and interact" (Loader 1998, p. 3). Information communication technologies as itself do not change the social structure; the force for change is provided by the use of ICT in all spheres of everyday life activities. Information and knowledge we get by means of the Internet empower individuals to participate successfully in nowadays society's life.

Many authors (Haythornthwaite & Wellman 2002, Kahin & Keller 1995, Katz & Rice 2002b, Kavanaugh & Patterson 2002) analyzed and still are analyzing the way the new information communication technologies, especially the Internet, influences everyday life of community members.

According to Caroline Haythornhwaite and Barry Wellman (2002), the Internet is no more a separate world, not a special thing; it is routinely incorporated in to our everyday life. After three decades of existence, the Internet "emerged from specialized communities in the world of researchers, techies, hackers, and countercultural communities, to catch fire in business and in society at large" (Castells 2002). We use the Internet for reading online newspapers, playing games, shopping, listening to the music, watching films, banking and other everyday life activities (A Nation Online: Entering the Broadband Age 2004, Statistical Yearbook of Lithuania 2004). But mostly we use the Internet for communication. According to statistical data, in 2004 84% of the Internet users in Lithuania communicated online (Statistical Yearbook of Lithuania 2004, p. 250). Communication online involve many activities: e-mails, synchronous or asynchronous chat forums, newsgroups, MUDs (Quan-Haase, Wellman, Witte and Hampton 2002). Computer mediated communication enables us to create new social contacts that is why it could promote civic ideas and activate civic participation.

But there are others who consider the new ICT as a tool to strengthen social inequality and widen the information gap, when one part of the population (haves of information) uses digital devices, while the other part of the population (non-haves) is in a digital divide (see Kahin & Keller 1995, Loader 1998, Green 2001, Katz & Rice 2002a, Servon 2002).

The key questions framing this article are as such:

- What is the impact of the Internet use on civic participation? Could the Internet be considered as a tool for promoting ideas of civic society, increasing participation in public activities?
- What are the opportunities and the main obstacles to use the Internet in rural areas?
- Do rural residents really want to take the opportunities offered by the Internet? What are motives to use the Internet – public-directed or self-directed?
- What about those who do not use the Internet? Is there a threat of social exclusion for rural residents who do not use the Internet?

In the first section of this article the main theoretical debates about the impact of the Internet on civic life and social activity are presented. The second section of the article discusses patterns of diffusion of the Internet in respect to socio-demographical dichotomies such as urban/rural, rich/poor, young/old, etc. and demographical situation and social context of rural communities in Lithuania, emphasizing the role of local community centres in rural settlements. In the third section of this article there are presented the evidence from a pilot study "*ICT diffusion in rural communities of Lithuania",* examining prospects and obstacles for using the Internet in rural communities of Lithuania. The pilot study is only a starting methodological point at the analysis of this issue, describing the common tendencies and exploring the main questions and areas that should be investigated more deeply in the further studies.

1. Debating the impact of the Internet on social activity and social capital

Putnam in his book *Bowling alone* (2000) argues about decreased community sense in American society. The last several decades have witnessed a striking diminution of regular contacts with fiends and neighbours (Putnam 2000, p. 115). He provides some possible reasons for the diminishing role of social capital in American society, arguing that observing went up and doing down, and "watching a team play is not the same thing as playing on a team" (Putnam 2000, p. 114).
In modern contemporary societies people are less doing, but more watching. According to the survey, people are most likely to spend their leisure time watching TV (Putnam, 2000). Another reason – young generation is not interested in community life and community organizations.

Quan-Haase, Wellman, Witte and Hampton (2002) try to explain the situation arguing that young people could have been engaged in other activities than their parents or grandparents had been. The evidence suggest, that community becomes embedded in social networks and community relationships moved from easily observed public spaces to less-accessible private homes, where people may go socialize online (Quan-Haase, Wellman, Witte & Hampton 2002).

Undoubtedly, ICT bring qualitative changes in to almost all spheres of society life (see Bell 1973, Castells 1996, Lyon 1986, Webster 1995). But the question is how these changes should be evaluated?

According to theoretical debates on the impact of the Internet on social activity, there are several opinions:

- The Internet has positive impact on social activity. It increases the density of social network. The studies show (see Quan-Haase, Wellman, Witte and Hampton 2002) that people are the most likely to use the Internet for communication – e-mails, virtual chats and conferences. That is why the Internet can be helpful to maintain the relations which due to the separation in geographic location otherwise could be lost. Computer-mediated communication can be stimulus not just for maintaining, but also for expanding social networks and creating a new form of community – virtual or cyberspace community which often is based on the same interests (Rheinhold 1998).

- The Internet has negative impact on social activity. It decreases the intensity of social participation. Robert Kraut and his colleagues (1998) found that people who use the Internet heavily tend to be lonely because virtual communication creates weak ties which are the reason for social isolation. Thus the Internet does not increase social network, but vice versus, it creates social isolation and reduces social capital.
- The Internet has no impact on social activity. It depends on the person, not on the Internet itself.

Putnam (2000) is cautious speaking about the impact of the Internet on social capital. He is more negative than positive about this. He believes that "it is much too early to assess the long-run social effects of the Internet empirically" (Putnam 2000, p. 171). He holds a "middle" position saying that "neither the apocalyptic "gloom and doom" prognosticators nor the utopian "brave new virtual community" advocates are probably on target" (Putnam 2000, p. 171).

Putnam (2000) claims that some special characteristics of virtual communities (like absence of nonverbal cues, anonymity, easy-in and easy-out) does not facilitate to creation of social capital, especially in terms of building trust and reciprocity, because "if entry and exit are too easy, commitment, trustworthiness, and reciprocity will not develop" (Putnam 2000, p. 177).

Computer-mediated communication is suitable for social network development, but does not facilitate building of trust and reciprocity:

> … because of the paucity of social cues and social communication, participants in computer-based groups find it harder to reach consensus and feel less solidarity with one another. They develop a sense of "depersonalization" and are less satisfied with the group's accomplishments. Computer-based groups are quicker to reach an intellectual understanding of their shared problems – probably because they are less distracted by "extraneous" social communication – but they are much worse at generating the trust and reciprocity necessary to implement that understanding" (Putnam 2000, 176).

In recent years we can notice wide discussions about positive impact of the Internet on social capital building in virtual communities. This issue was discussed by Quan-Haase, Wellman, Witte and Hampton (2002), Mark Ginsburg and Suzanne Weisband (2002), Ben Daniel, Gord McCalla, Richard Schwier (2002), Sheizaf Rafaeli, Gilad Ravid, Vladimir Soroka (2004) and others.

Sheizaf Rafaeli, Gilad Ravid, Vladimir Soroka (2004) argue that social networks are essential element for virtual social capital:

> We claim that reading and posting in a forum creates a social network where all participants, both active and passive, acquire social capital by getting access to valuable information, learning the social norms of the relevant virtual community and getting to know active participants (Rafaeli, Ravid, Soroka 2004).

They define virtual social capital of community as “a collection of features of the social network created as a result of virtual community activities that lead to development of common social norms and rules that assist cooperation for mutual benefit" (Rafaeli, Ravid, Soroka 2004).

Quan-Haase, Wellman, Witte and Hampton (2002), analyzing how does the Internet affect social capital in terms of social contact, civic engagement, and a sense of community, found that as the Internet is incorporated into routine practices of everyday life, social capital is becoming augmented and more geographically dispersed. They also found that the Internet use supplements existing participation in organizations and politics and the Internet does not draw people to greater civic engagement. On the other hand, Quan-Haase, Wellman, Witte and Hampton (2002, p.318) claim that their data have not supported dystopian fears that the Internet isolates people and reduces civic engagement.

In virtual communities, like in physical ones, different participants have different degrees of social capital. The use of the Internet does not necessarily add social capital, but definitely can do this.

Contemporary scientists have formulated the terms like information poor and information rich (Green 2001). An approach like this emphasizes the circumstances of people with access to minimal or large amounts of information. People who do not have or have limited access to information resources (non-haves of information or information poor) are in the social position lower than information rich. The policies based on the idea of fundamental equity are that all people should have “trouble-free access to information” and this will promote equality (Green 2001, p. 105).

Of course, not everything depends on the access: “Access to technology does not necessarily lead to its use, and information does not necessarily fuel self-empowering activity” (Green 2001, p. 105). As Lelia Green argues:

> … access is a necessary, but by no means sufficient, condition of equitable participation. To talk simply in terms of equity of access ignores the fact that effective interaction in the information society requires high levels of motivation and

sustained effort. Such keenness to interact with the technology of information cannot be assumed. Continuing motivation is perhaps the key determinant of successful participation – more important than access *per se* (Green 2001, p. 104).

Thus motivation to use the Internet is of the same importance as the access to the Internet.

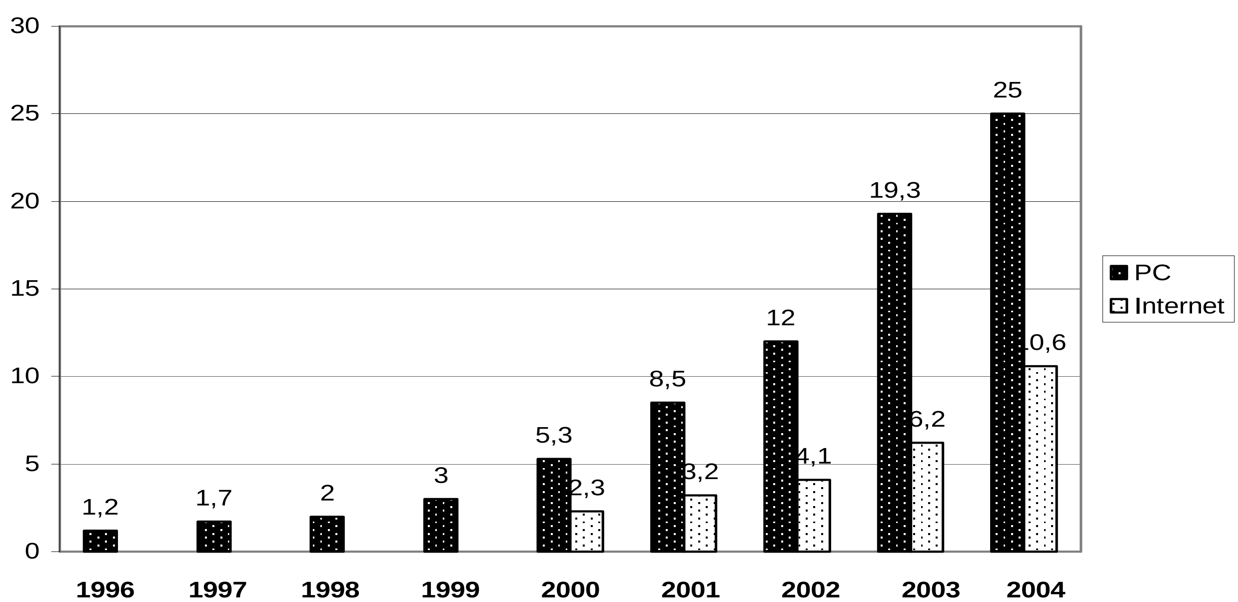
2. ICT Diffusion Patterns in Lithuania: who are the Internet users and non-users in Lithuania?

Information technology is the core element analyzing the new, global, knowledge-based society. In today's world the use of ICT becomes one of the most influential factors that determine both the present performance and the future conditions for the person.

This study suggests that several aspects of ICT diffusion are of a very high importance. Fist of them is an access to the Internet; and the second is availability of e-services provided by public institutions.

The number of households possessing personal computers is increasing every year in Lithuania (see Figure 1). The same situation is with the access to the internet – from 2.3% in 2000 it increased almost 5 times (to 10.6 % in 2004). Nevertheless, a share of households having computer and the Internet access is not high.

In 2004 38% of Lithuanian residents used personal computers and 30% used the Internet (Statistical Yearbook of Lithuania 2004, p.250).



Source: Statistical Yearbook of Lithuania 2004

Figure 1. Households possessing personal computers and having access to the Internet (%)

Discussing the opportunities to communicate with public institutions online and take e-services, statistical data show that most of public institutions have their Internet pages and provide e-services (see Table 1).

Table 1: Web pages and e-services by public administration

Beginning of year, %

	Public institution with internet pages			*Public institution which provide e-services*		
	2003	2004	2005	2003	2004	2005
Total	**53,7**	**56,9**	**59,3**	**33,5**	**37,0**	**50,7**
Presidential administration of the Republic of Lithuania	100	100	100	100	100	100
The Seimas of the Republic of Lithuania and subordinate institutions	100	93,3	100	78,6	60,0	80,0
The Government of the Republic of Lithuania and subordinate institutions	77,8	94,4	95,5	66,7	66,7	86,4
Ministries and subordinate institutions	71,2	83,9	78,8	48,6	52,7	66,3
County administrations	100	100	100	50,0	60,0	80,0
Town and district municipalities	82,4	91,7	100	45,0	53,3	75,0

Source: *statistical report (2005) http://www.std.lt/uploads/1119353144_ITP_valstybes_savivald_instituc_e.doc*

As more and more commercial activity, government services, and health and educational material are offered online, thus access to the Internet has become increasingly important.

Considering the use of the Internet, it is obvious that socio-demographic characteristics determine a gap between different groups of the population. According to the data of a survey *Digital Lithuania 2001*, performed in the framework of a study *Lithuanian Information Society*, carried out by *The Open Society Fund* (Šaulauskas, 2001), the Internet and other information technologies are mainly used by young, educated, well paid and urban consumers. The statistical data of this survey showed that people at the age of 15 – 49, who have acquired higher education or live, or aim at living in Vilnius, Kaunas and other major cities of the country, and have high income are the most involved in the processes of information society development (Šaulauskas, 2001).

According to the statistical data, the lowest awareness of the processes and opportunities of information society development is among the Lithuanians over 60, who have acquired secondary or special secondary education, live in villages, rural centres or towns and have rather low income

(Šaulauskas 2001). In U.S. geographic area (rural/urban) has no impact on the Internet use. 57.2% of rural and 59.2% of urban residents were the Internet users in 2003 (A Nation Online: Entering the Broadband Age 2004). In Lithuania, unfortunately, there is a gap between rural and urban Internet users, while 35.8% of residents in Lithuanian capital Vilnius are the Internet users and just 7.9% of rural residents use the Internet in 2001 (Šaulauskas, 2001).

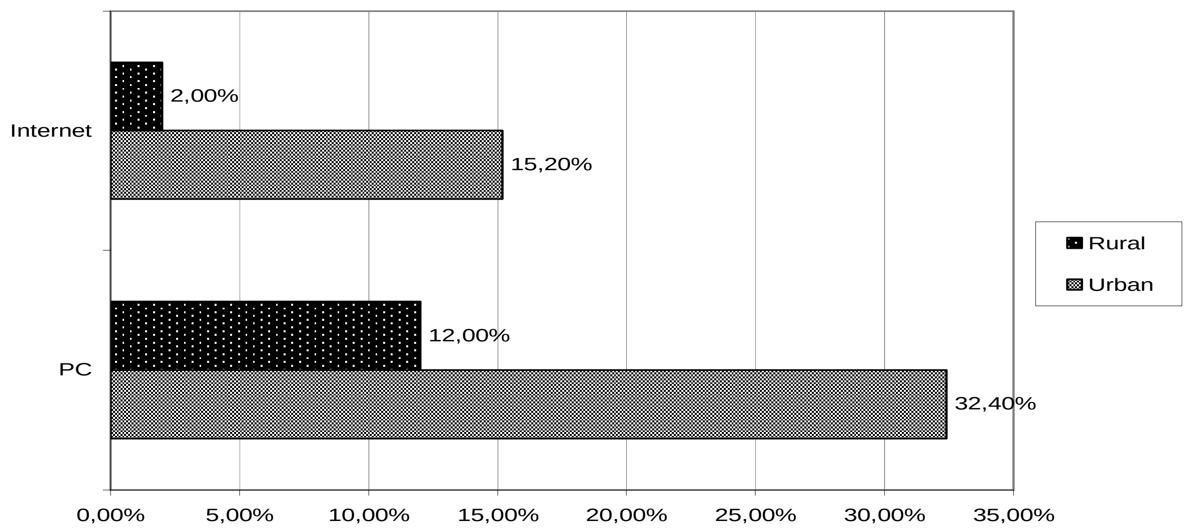
3. ICT Diffusion in rural areas of Lithuania

Rural residents still make a significant part of Lithuanian population. From the total population of 3445857 in the beginning of 2004, 33% (1148457 residents) lived in rural areas (Statistical Yearbook of Lithuania 2004, p. 54). More than 16% of total population of Lithuania is working in the sphere of agriculture (Agriculture and rural development in Lithuania 2005, 166).

In rural areas, like in all Lithuania, there is a tendency of ageing of population (Agriculture and rural development in Lithuania 2005, p. 157). The ageing of population has a negative impact on rural development and on the social context in rural areas, especially on issues related to the use of the Internet and other ICT. On the other hand, retirement due to an old age can be a factor for increased social activity and involvement into volunteering and community activities, as a consequence of increased spare time and diminished opportunities for communication.

In the first quarter of 2004 in rural areas 12% of households had a personal computer and just 2% of them had an access to the Internet. In urban areas the share is respectively 32.4% and 15.2% (Agriculture and rural development in Lithuania 2005, p. 162).

As figure 2 shows, just 2% of rural residents can access the Internet at home. Such situation is clearly indicating that it is very complicated to talk about building virtual social capital. That is why we should look to other opportunities for rural residents to access the Internet – public access, access at schools, libraries, workplaces, community centre.



Source: Agriculture and rural development in Lithuania 2005

Figure 2. The share of households with personal computer and the Internet access, 2004, in %

4. Local community organizations as a driving force for promotion of the Internet in rural communities

In recent years the number of rural community centres highly increased and in 2004 there were about 800 rural community organizations in Lithuania (Agriculture and rural development in Lithuania 2005, p. 182). One of he driving forces of this process is projects related to the implementation and use of information technologies.

According to the information on Community website, there are 59 rural communities representing their activities online. That means 7.4% of all communities have their websites.

From the research "*Rural community organizations*" (Gegužienė, Žiliukaitė 2004, p. 21) several tendencies about the use of the Internet by local community organizations can be traced.

According to the data of this research, 42.5% rural community organizations have opportunities to access the Internet. Unfortunately, the connection is not so good – usually rural residents use the Internet connection of 56 kb/s through modem, but 51.7% of respondents are quite satisfied with this speed (Gegužienė, Žiliukaitė 2004, p. 21). 9.4% of rural communities (30, as total sample was 326), place important information for local residents on community website; and just 0.9% of them send information to Community portal. The most common way to inform local residents about the results or plans of community centre activities is to organize local meetings (Gegužienė, Žiliukaitė 2004, p. 25). In order to inform broader audience about community activities, 7.4% of local communities present the information on their website very often. Rural communities also send the information to the interested bodies by e-mail – 15.1% of them do this often and very often and 14.3% - sometimes (Gegužienė, Žiliukaitė 2004, p. 26). 72.2% of communities indicated that one of the major obstacles in their activities is the lack of knowledge about the use of computer and the Internet. 14.2% of rural communities plan to acquire a PC or the public Internet access in the near future (Gegužienė, Žiliukaitė 2004, p. 13). During focus group discussion in Balninkai and Raudone, participants also highly emphasized the importance of the Internet access to their community life quality improvement.

5. Prospects and obstacles for using the Internet in rural communities of Lithuania

The study "*ICT diffusion in rural communities of Lithuania"* tries to explore the prospects and obstacles for using the Internet for daily life activities in rural communities of Lithuania.
Methods of investigation:
(1) Quantitative: opinion survey. The pilot study represents the opinion of local communities' leaders from different regions of Lithuania, who had participated in the conference *"Active communities. Transparent self-government. Information technologies"* on 12th June, 2003. A survey is based on a sample of 72 respondents.
(2) Qualitative: focus group discussion. The survey implies data from 2 focus group discussions. Participants: members from local communities in townships *Balninkai* and *Raudone.* They expressed their opinion about the willingness to use the Internet in their everyday life activities.

Talking about community's everyday life activities and areas in which the Internet can be used, the respondents of a questionnaire-based survey identified 6 main spheres: (1) the search for information; (2) e-mail communication; (3) learning via the Internet; (4) spending leisure time on the Internet; (5) presenting the information about community activities, and (6) participating in political activities. People were the most likely to emphasise "the access to information". 95% of respondents indicated this area as the main (see Figure 3). 84% of respondents pointed out that the e-mail communication is also important for communities' members. 81% of respondents agree that World Wide Web can be used for the educational purposes. Nevertheless, rural residents are the least likely to use the Internet for participating in political activities.

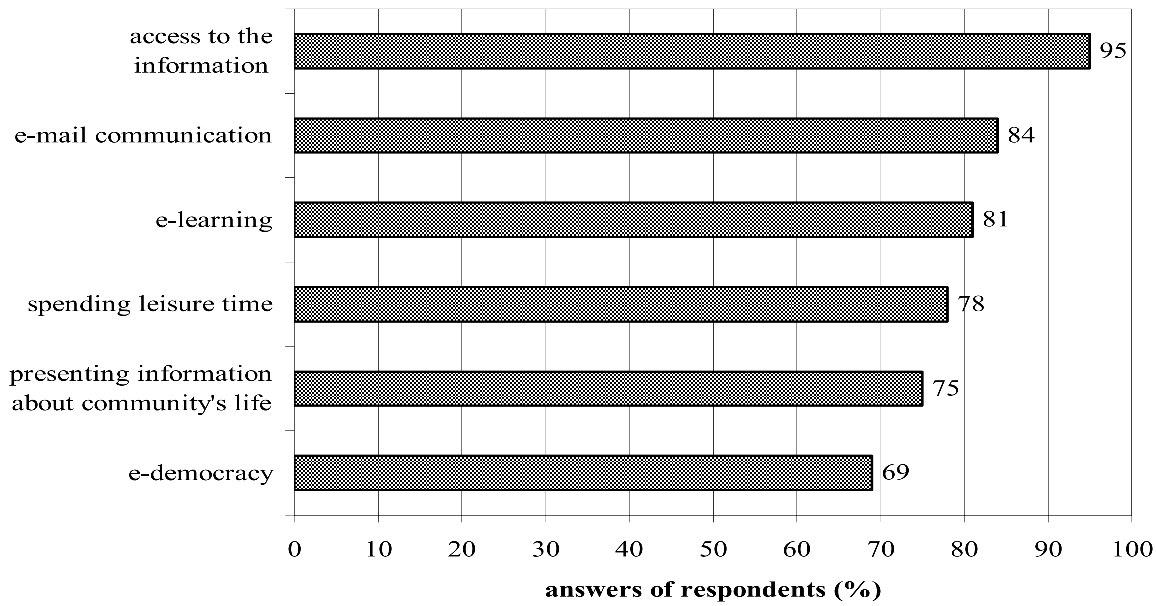


Figure 3. The expected areas of the Internet use

Considering the categories of the Internet users, respondents of the questionnaire-based survey pointed out that, according to their opinion, the leading users of the Internet in the rural regions of Lithuania are: (1) schoolchildren, (2) teachers and librarians, (3) municipality officials and other governmental officers, and (4) members of community centre (see Figure 4).

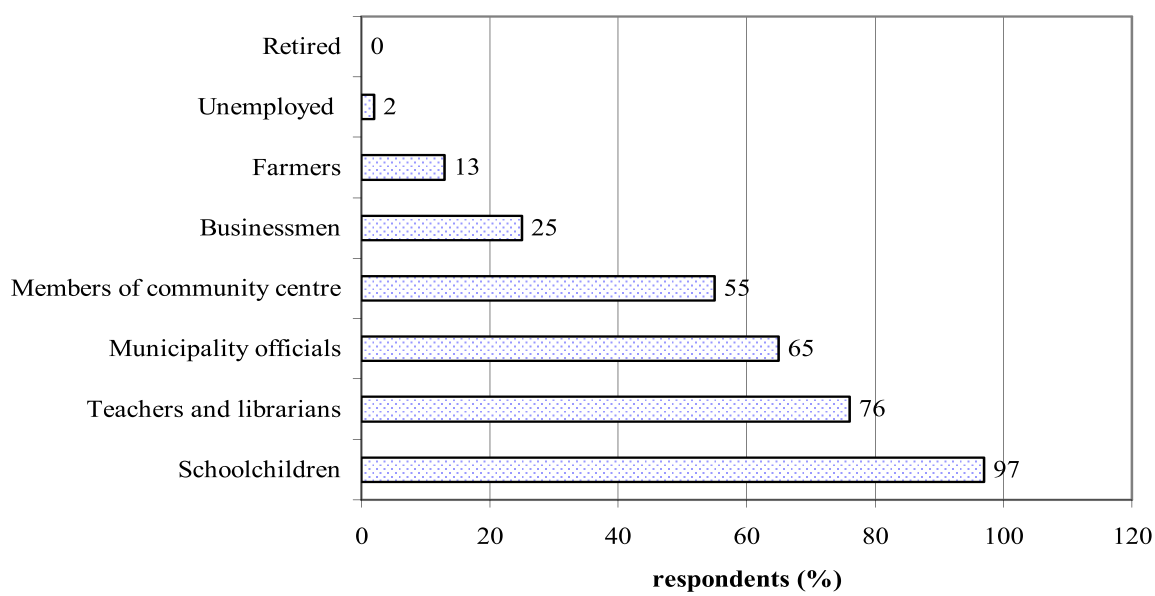


Figure 4. Categories of the Internet users in local communities

Almost all respondents (97%) agree that the Internet is mostly used by schoolchildren. The retired, elderly and unemployed people are among those who use the Internet the least. Nobody of the respondents consider retired people as active users of the Internet. These findings correspond to the data of the survey *Digital Lithuania 2001* (Šaulauskas, 2001).

According to the results of focus group discussions, the work-related reasons are the main for using the Internet. There is a relatively high level of unemployment in rural regions of Lithuania, thus a paid work is highly valued as the main source of household income. In order to be competitive in labour force market, people try to use ICT:

…yes, work-related reasons are the main in the decision to learn how to use computers and the Internet…
…the fear of unemployment is the main reason why adult people learn to use computers and the Internet. Work guaranties income and financial security. On its turn, financial security creates moral comfort.

The shift from centralized economy to market economy in Lithuania influenced changes in a labour market structure: the emergence of new professions and the dissolution of the other ones:

…some profession became unnecessary, while new ones have emerged; so re-qualification is very important: people need new skills in using computers and new knowledge
…everything is different now, new requirements for employees…even for ordinary service worker…

The other group of reasons for using the Internet is related to the individual's everyday activities. Participants of focus group discussions emphasized the need for the Internet in order to save money and time in doing daily activities:

…you should learn to use the Internet if you want to write e-mail instead of calling by phone… calling by phone is expensive, so in such a way you can save your money… or instead of writing an ordinary letter which is time-consuming. On the Internet you can check your account in the bank and find out whether you have received your pension or to read a news in online newspaper…

The diffusion of ICT can change the concept of rurality, empowering such residents with new opportunities of participating in society's life.

According to the data of opinion survey, it is quite complicated to answer the question whether the use of computers and the Internet really empowers rural residents to participate in society's life more effectively. As the data show, 35% of respondents think that there is a threat of social exclusion of some groups in Lithuania, while 30% of them consider that the traditional human relations are the most significant in community's life, the users or non-users of ICT in Lithuanian society have the same opportunities, and 35% of them do not have any opinion about this issue.

Participants of focus group discussion in Balninkai agree that

at one point, the Internet refers to the idea of equality for all individuals in diverse society: all the information to all citizens.

As an ideal, it could empower socially excluded people, allowing them to participate in everyday activities, which previously were inaccessible, e.g. due to the shortage of time and unwillingness to leave their homes. The participants of the focus group discussion in township Raudone explain the reasons why they try to establish a public access to the Internet in their township:

…I can not leave my home for a long period of time, so I can learn via the Internet; …You do not need to travel 50 kilometres (1-2 hours) for the lesson that lasts 1-2 hours; …It is cheaper for me to write an e-mail than to call by phone.

Thus, participants of focus group discussions agree that the Internet opens new opportunity for the individuals from rural regions of Lithuania.

In spite of the advantages and opportunities that rural residents see in the use of ICT, there were indicated the obstacles that ICT diffusion itself meet in rural regions of Lithuania. According to the opinion of the resident from the township Raudone:

the Internet could be an useful tool, but, first of all, we need PCs and connections to the Internet here…

Thus non-equal ICT infrastructure is one of the problems. ICT infrastructure is deployed with widely varying local and regional rates of penetration, depending on factors such as geography, age and income levels. According to the survey Digital Lithuania 2001, (Šaulauskas 2001:79), in 2001 87% of Lithuanian residents, who do not use the Internet, pointed out that the main obstacle is uneven distribution of access to the Internet. People in Balninkai supported this data saying that "it is easy to have an access to the Internet in town, but here, in country it is difficult…"

The diffusion of ICT often relies on a change agent who is the most technically competent (Rogers, 1983, p.19), but in rural communities the quality and number of professionals who maintain the network and provide ICT service is rather low. According to the focus group discussion in township Balninkai, "the spread of ICT in [their] community mostly relies on the leader of the community centre" [author's note: who is not professional in ICT]. Their Web site was also created by a community member, who is not professional in ICT.

The challenging issue in using computer and the Internet is language. Most people in rural settlements of Lithuania are not able to read texts in foreign languages, thus foreign sites are not suitable for most rural residents from Lithuania. Participants of focus group discussion in Balninkai comment on this:

…If you want to work, read, search for information, or learn you should know foreign languages… especially English…

But the main obstacle for using the Internet and buying computers are the costs of ICT. According to the focus group discussion, the price which business and individual consumers pay for the Internet access, personal computer's both hardware and software is extremely high for them.

As residents from rural regions where low-income levels cannot support high-priced ICT items argue, public access is essential in making the Internet available to greater numbers of individuals:

> Internet cafes and community information centres assume great importance in making the Internet available to those who do not have personal access at home or at work.

Conclusions

This study contributes to an analysis of social implication of ICT diffusion in rural regions of Lithuania.

As theoretical debates reflect differences in theoretical and methodological standpoint, it is rather complicated to suggest one common conceptual context for describing the impact of the Internet on social capital building and changes in social networks' structure in the virtual space.

This study allows some conclusions to be drawn about the role of the Internet in rural communities. Rural communities' members are the most likely to use the Internet in order to get information, for e-mail communication, and for educational purposes (e-learning).

The motives of using the Internet are more self-directed than public directed.

This study suggests that rural residents consider the Internet as a useful mean and new opportunity for being involved in everyday life processes. But also they indicate some obstacles that ICT diffusion meets in Lithuania. Non-equal ICT infrastructure at regional level, the low number of professionals who maintain the network and provide ICT service in rural regions of Lithuania, lack of knowledge in foreign languages, and relatively high costs of ICT (the prices for the Internet access or personal commuter's both hardware and software) are the main obstacles for rural residents to use the

Internet. Public access is emphasised as one of the ways in making the Internet available to greater numbers of individuals and firms in rural regions of Lithuania.

This case study also suggests that the methodology of the pilot study should be revised, because it is quite complicated to answer the question about the impact of ICT on social exclusion. Data show that people consider that there is a threat of social exclusion of some groups (ICT non-users) in Lithuania. But they are also positive about the role of the Internet in solving problems of exclusion. The use of the Internet is considered as an effective mean to integrate socially excluded people into society's life, because living in rural region is not the key issue for being excluded.

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