

DIGITAL DIVIDE: A GLANCE AT THE PROBLEM IN MOLDOVA

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“The future belongs not so much to those peoples who have achieved today a high standard of well-being, as to those ones which can induce new ideas in the field of high technologies and in their relations with the Nature. The erudition is necessary for this purpose, and not of separate people, but of the nation as a whole. And this circumstance imposes the special responsibility on a governing body of the state and on the intelligentsia.”

N.N.Moiseev. “Universum. Information. Society.” Moscow, 2001.

EXECUTIVE SUMMARY: In this chapter we want to state shortly the basic components, manifestations of the problem of “digital divide”, as well as the ways of its solution in specific country with its specific regional, social, historical and political features. As such a country Moldova is taken. The problem is interesting to consider on the example of such a country, because it is manifested especially sharp in the countries of such type - which are awaking up to development and limited in means.

1. DIGITAL DIVIDE PROBLEM

The end of the twentieth century - the beginning of the twenty first one were marked by rapid development of ICT which has led to the avalanche growth of the digital information. However, any progressive phenomenon, as a rule, is accompanied also by negative "by-effects". In this case, alongside with overcoming of existing time, spatial and social borders at using the information, the society has received also a new problem, so-called “digital divide”. There are a lot of definitions of this term which as a matter of fact are reduced to the following:

The term "digital divide" describes the fact that the world can be divided into people who do and people who don't have access to - and the capability to use - modern information and communication technology. (*Source:www.whatis.com*)

The attention of researchers of the problem is usually focused on the first of the mentioned above components of the problem - an inequality in access to technical equipment. Even the definition given in the United Nations review, fixes this position: digital divide is the fact that poor people in the industrialized world and almost all in the developing world are excluded from modern (information and communication) technologies [1].

However, this definition is too elementary to characterize the problem which, actually, is much deeper and extensive. For today we may consider as the basic aspects of “digital divide” the following ones: property, age, educational, territorial, gender and cultural.

Besides, all these aspects are differently manifested in various countries, irrespective of level of development of ICT infrastructure in them and level of their well-being. From practical experience it becomes obvious that the idea “the more computers, the less digital divide” is narrow.

Providing access to technology is critical, but it must be about more than just physical access. Computers and connections are insufficient if the technology is not used effectively because it is not affordable; people do not understand how to put it to use, or they are discouraged from using it; or the local economy cannot sustain its use [2].

Many areas of human activity where the ICT are applied, many reasons of “digital divide” appearance assumes many directions to operate and many various forces to involve for its overcoming. In what proportion, when and what should be preferred – it depends on features of specific country. But the problem should be solved in a complex, taking into account and coordinating the actions directed on elimination of the separate reasons and overcoming of any separate barriers.

In this complex the following is necessary:

- physical access (infrastructure, computers, availability in the net of necessary information in the language required);
- comprehension of necessity and desire of using the ICT advantages;
- sufficient degree of democratization of society;
- the certain level of literacy and opportunity of training;
- legislative base (electronic signatures, the electronic document, the right of access to information and protection of the confidential information);
- participation of commercial structures;
- sufficient financing;
- the state support (political will).

There are many initiatives in the world directed to the reduction of digital divide.

However, it is necessary to understand that solutions which work in developed countries cannot simply be transplanted to developing country environments: solutions must be based on an understanding of local needs and conditions [2]. The UN Millennium Declaration mentions the digital divide issue as one of the symbols of deepening developmental inequality in the world and indeed, finding a comprehensive solution to it belongs to world-making efforts [1].

A lot of analyses and researches were carried out to compare the e-state of the art in the world. Their results allow the assessment of disparities existing in access to and use of information and communications technology between different countries (the “international digital divide”) and different groups within countries (the “domestic digital divide”).

In digital divide studies, Internet usage numbers are most often cited to describe the divide. Nua's data (2001-2002 years) on how many people have used the Internet show a clear division. In 2001 in the world as a whole it was totaled 407.1 million of Internet Users, by 2002 the online Users became 605.60 million. Thus, the leading regions were Europe (190.91 mln), Asia/Pacific (187.24 mln) и Canada & USA (182.67 mln). Comparison with the similar data on Latin America (33.35 mln), Africa (6.31 mln) and Middle East (5.12 mln) impresses.

Some of impressive statistics taken from one of bridges.org reviews (2001) [2] follows:

- In the entire continent of Africa, there are a mere 14 million phone lines – fewer than in either Manhattan or Tokyo.
- Wealthy nations comprise some 16 per cent of the world's population, but command 90 per cent of Internet host computers.
- Of all the Internet users worldwide, 60 per cent reside in North America, where a mere five per cent of the world's population reside (Nkrumah).
- One in two Americans is online, compared with only one in 250 Africans.

2. GLANCE AT THE PROBLEM IN MOLDOVA

For more precise understanding of manifestations of the digital divide problem (in particular, the “domestic” one) and ways of its overcoming it is useful to consider it on an example of specific country. Most sharply this problem is manifested and more difficultly is tackled in the poor countries with prevailing agricultural population. An example of such country is Moldova - the small agrarian country (with the area of 33,8 thousand km²), located in the Southeast part of Europe, with capital - Kishinev. Moldova - former republic of Soviet Union and now concerns to the group of the underdeveloped countries. The population of the country in 2003 made 4,2289 mln. inhabitants. Thus, the urban population made 45,3%, rural - 54,7%. The gross domestic product per capita has grown from 443\$ in 2002 up to 538\$ in 2003.

When estimating the cited data, it is necessary to take into account the situation in the country. So, for example, the part of the population illegally works outside the country, and its number is beyond all calculation. In result, not all statistical data are present, and those which we have - are not always absolutely authentic. Nevertheless, they help to track the tendency and ratio of the parameters we are interested in.

The above mentioned figures show, that urban population prevails over the rural one. This factor, along with the others, constitutes one of the serious obstacles on the way of implementation of ideas of Information Society (IS). These figures indicate the negative specificity of the country, at the same time emphasizing the sharp necessity to pass to the modern technologies and the difficulty of these technologies implementation as well.

As a result of the current natural, social, historical, economic and political conditions in the country it is possible to note the pronounced digital divide, both international, and domestic. So in Moldova the amount of Internet users per 100 person has increased from 0,3 in 1997 up to 8,0 in 2003. However, this parameter remains low in comparison with its average value in Europe - 25 users per 100 inhabitants, that shows international digital divide.

In Fig. 1 the data for 2001, describing the nonuniformity of access to Internet, are presented. It is one of the sharpest problems for Moldova. This urgency has been taken into account by development of the plan of actions on overcoming the problem, i.e. first of all to direct efforts and means for creation of the minimal conditions for inhabitants of rural areas. The state should give to citizens at least a minimal, but a guaranteed set of services which will allow them not to remain behind a board of a modern IS.

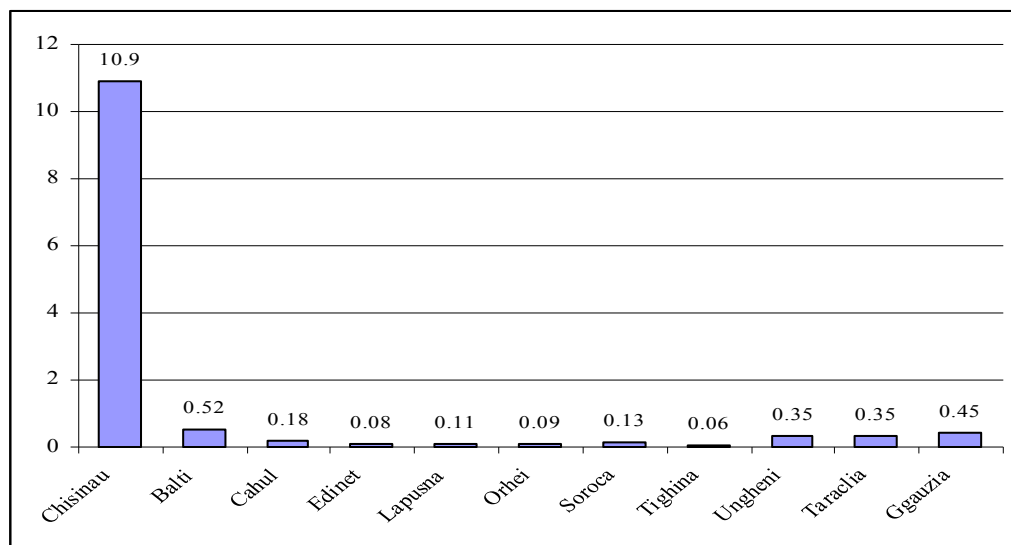


Fig. 1. Nonuniformity of access to Internet in settlements of Moldova.

Dynamics of development of *ICT infrastructure* is confirmed by the following figures: length of the lines of fibre-optical cable in relation to the general length of the long-distance lines of cable telecommunication in 1998 made 23,7 %, in 2000 - 23,9 %, and in 2002 - already 43,3 %. Corresponding figures for the length of channels of digital systems of transfer in relation to the general length of channels of long-distance telephone communication are the following: 38,5 %, 69,1 %, 99,6 %. If in 1998 the amount of subscribers of mobile telephony made 8500 person, and the amount of Internet Networks was only 32, in 2002 these figures already made accordingly 338300 of person and 415 of Internet Networks.

These data confirm, that there exists a national satisfactory structure of communication highways, which may serve as a foundation for implementation of the actions directed to the IS creation. At the same time, the amount of the domestic telephone sets in the public network or with an output on it per 100 habitants on the average in the country in 2002 was 17,3. But, if in the city this amount was equal to 27,5, in a countryside - 10,1. These figures confirm the manifestation of the digital divide problem in this area as well.

Following parameters evidence *the high educational level*: percent of the educated adult population (elder than 15 years) in the country makes 99,0%. What about youth of ages 15-24 years old, this percent reaches 99,8%. There are 44 students learning real sciences and also studying at mathematical and technical faculties per 100 students studying in high schools of Moldova.

Almost 70% of population has secondary education, and the amount of students at real sciences, mathematical and technical faculties is large enough. So, regardless of pauperization of population, there persists the consciousness of the knowledge necessity.

The described situation in the country is confirmed by the figures from the UN Report (2003). From the point of view of electronic government implementation Moldova occupies the 95th place among 173 estimated countries. From the point of view of presence in Internet Moldova occupies the 146th place. It is lower than any European country, although the indices of human capacity are rather high – 0.9, for all that the maximal one is 0.99.

On the other hand, alongside with the described manifestations of “digital divide”, there are such positive factors in the country promoting development of information society, as presence of *political will* on the part of the state, a quite good corresponding *infrastructure*, and a *high educational level* of the population [3].

Presence of *political will* is shown by chronology of issued decisions of the government and accepted laws. Within last 10 years the activity in this area beared rather declarative character. At last, for the latest 2 years the specific steps and results have appeared.

1) 11/21/2003. The parliament of Republic Moldova has passed the Law “About informatization and the state information resources”.

2) 03/19/2004. The decree of President of Republic Moldova “About creation of an information society in Republic Moldova” has been issued.

3) May 2004. Program SALT which assumes maintenance of physical access to the Internet of all schools of the country has been accepted. During the 1st year 1100 schools from 1644 were connected to Internet. In 2005 it is supposed to connect the others.

4) 07/15/2004. The parliament of Republic Moldova has passed the Law “About the electronic document and the digital signature”.

5) 02/22/2005. Republic Moldova among first of the countries CIS has signed in Brussels a Plan of Actions “European Union – Moldova”, which has the section about IS development.

6) 02/23/2005. The government has accepted the strategy of creation of IS “Electronic Moldova” and the plan of actions on its implementation.

7) In 2005 in the structure of newly elected government the Ministry of Information Development has appeared.

There are a lot of programs on which the specific steps, directed on the increase of living standard and conditions of life of the population and connected with the introduction of ICT into the daily life, are stipulated. The examples of such programs in Moldova are: “Program of economic growth and struggle against poverty”, the program “Moldovan village”, program SALT. Besides, the nongovernmental organizations have their own programs focused on the IS development.

On the basis of cited figures and facts, and also on the basis of the analysis of the level of e-government development and of volume of e-services rendered in Moldova [3,4,5] it is possible to consider, that the preconditions for IS creation in the country exist.

However, taking into account the current situation and the limited financial opportunities the coordination of actions in all programs for more expedient use of investments is necessary. As the first stage for such coordinated actions the opening of Public Internet Access Points (PIAP) in all settlements with participation of the state, nongovernmental organizations and commercial structures is supposed. PIAP could provide:

- the basic parts of IS (such as e-Government, e-Democracy, e-Culture, e-Medicine, e-Commerce, etc) creation locally,

and, what is more important,

- the not discriminated access of all population to the information,
- the involving in participation the e-democracy and
- the using services of e-Government.

What concerning PIAP - the following is proposed.

1) Creation of PIAP is offered on the basis of schools/after hours. To consider the possibility to get the teachers of computer science with additional payment for this time. To expand further PIAP network by opening them in city halls, libraries and other public places.

2) Cascade training (the same method is supposed in the program SALT as well) is offered with engaging the teachers, rural intelligency, and further on – of people having secondary education.

3) Establishment of the standard of the minimal information services, guaranteed to each member of a society irrespective of whether he/she lives in a countryside or not: e-mail, access to database on the legislation, access to local networks on branch of business, weather reports, etc. At that, it is

necessary to provide each PIAP with minimal set of software supporting these services: browsers, editors, spell-checkers, means of DB support.

4) The organization of a network of PIAP servicing.

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