

SUMMARY

The last decades is marked by an intensive development of computer and information technologies. This process is accompanied by, in fact, global informatization of society – from using personal computers and various domestic electronic devices to automatization of companies' management. The computer technologies development has as its result the formation of structures, which now cover practically the whole world – global computer networks. Today the Internet is to some extent a global information space that may be qualified as an integral «pseudo-space», an information projection of the real space, which pools all now existing networks of telecommunication and information character.

The book «The Russian Cyberspace: its Development and Structure» deals with territorial and structural features on the Internet development in Russia and was written on the basis of the author's studies of the Russian Internet realized in 1999–2002. The problems of formation of the Internet communication infrastructure in Russia, academic and commercial networks' development, creation of various e-business directions and of using the Internet technologies in various spheres of public life are analyzed in details. Besides of the Runet studies, some theoretical bases of new scientific trends, which investigate territorial aspects of computer networks development – the geography of the Internet and the cybergeography – are also given. The book is recommended to all specialists in entirely different fields, interested in the Internet studies – geographers, sociologists, economists, and politologists.

Studying territorial aspects of the Internet development worldwide and in Russia in particular is quite a new trend of geography. Till today the theory and methodology of such studies are not worked out in details and the research works in this field could be characterized as one-sided ones, when the approach to the Internet as only to a particular phenomenon of communication and telecommunication branch is still predominant. In the course of the Internet development and its penetration into various spheres of public life we should analyze this phenomenon on a larger scale – as a part of the development of all information technologies, which is already one of the most important factors of the modern society development and its territorial organization. The book is one of the first works to study the whole Internet geography, especially of its Russian part.

The Internet geography specific feature is that the object under investigation (i.e. the Internet proper and the Internet service sector being created around it) is still in the stage of formation and as a result its characteristic feature is that its dyna-

mics of development is quite active as like as transformations in its structure and in its influence on the society. That is why the geography of Internet is studying not only problems of territorial organization and differentiation of Internet development in various territorial communities but, first of all, the problems linked with the development of the Internet technologies and their diffusion as innovation in the geographic space.

Russia, when studying the level of its Internet development, demonstrates a great degree of territorial differentiation (polarization). If in Moscow and, to some extent, in St. Petersburg, the level of the Internet development is on the whole comparable with many countries of Western Europe, in rural areas, in fact, there are no possibilities to the Internet access. For example, if in Moscow the level of the Internet coverage is about 20%, in small towns it is less than 1%. Two capital cities – Moscow and St. Petersburg – are the ones, which first adopt innovations from the West, and only after their approbation there take place the innovations' diffusion to other Russian regions.

The process of Internet development and diffusion in the geographical space is predetermined now by, first of all, the population distribution and towns' dimensions. Other factors of the Internet service sector's development as a branch of industry demonstrate their influence indirectly and are not so obvious. Their role becomes more and more evident as far as the Internet spreads over the country.

On the whole, the level of the Internet development as a computer network and of the Internet service sector being formed on its basis both are determined by combination and interrelation of three complex factors («bases»): innovation and investment potentials of the concrete territory and its level of communications and telecommunications development. On some historic stages of the Internet development in the country one of these three factors becomes the leading one, but in spite of this the other two conserve their importance too. Today the leading factor of the Internet development in Russia is the investment potential of the concrete territory and the innovation and telecommunication bases are complementary ones, which can limit or favor the development of the Internet service sector in this place or somewhere else. To some extent the frontier position of the concrete territory and its active foreign relations are favorable for the Internet development (in Russia the best examples of such territories are: Primorski Krai, Kaliningrad Oblast and Karelia, their level of the Internet development is a bit higher than in other regions with the analogous level of the investment potential).

The Internet diffusion in Russia is going on like the one of any other innovation, i.e. by gradual «involving» in the process the towns of different dimensions. If in the cities with population over a million the Internet became an everyday occurrence yet in 1997–1998 (in Moscow and St. Petersburg even earlier), it penetrates only now to towns with population of 50–100 thousands and to smaller ones. The fact is that the towns of different dimensions are on absolutely different levels of the Internet development. In Moscow and in St. Petersburg one can see an e-commerce «boom», the process of e-business diversification and creation in some suburbs of the so-called home (campus) networks. These networks in micro districts offer high-speed broadband Internet access to physical persons. The initial stage of the

Internet development takes place at present in other, smaller cities with population of 500.000–1.000.000 peoples, but in those with population of 200.000–300.000 is to be seen only the formation of first valuable regional portals and increase in number of Internet users at the expense of local companies' offices. In towns with population of 50.000–100.000 now takes place the formation of local Internet service providing markets and creation of some local websites. As a rule in small towns the Internet is available only because the regional electro-communication enterprises, which form a part of the company «Sviazinvest» give necessary Internet services on the territory of the whole region where they work.

Increasing number of Internet users and Internet resources in the last two years has as a result a gradual formation of valuable regional Internet service markets and complication of regional Internet services sector's structure. If in the 90s the Russian Internet as a telecommunication system looked like a multi-ray «star» with its main center in Moscow (and another one, but smaller — in St. Petersburg), from where the communication canals radiated to other Russian cities, some years later on the ends of those «rays» were formed some interregional centers in other Russian biggest cities (first of all in the cities with population over a million — Novosibirsk, Samara, Ekaterinburg). At present in any region goes on the formation of its own Internet development center and in some regions also takes place creation of separate local centers.

Various academic networks are of special importance in the Russian Internet development, because to a greater degree the Universities and scientific research centers were those, which formed the initial infrastructure and market of the Internet services in the some country's biggest cities. In some other smaller towns the Internet appear only because of local scientific research institutes specialized in the field of physics, especially in nuclear physics. But, in spite of their leading position in the level of the Internet development at the beginning of the process, the role of scientific institutions in it now is on the whole, insignificant. At present the Internet development in scientific centers is almost absolutely stopped on its third stage (introduction of high-speed connection services). The case is that Russian academic structures have very few links with business and are almost not commercialized. That is why for the time being the innovation potential was used in its full measure for the Internet development only in the biggest Russian cities.

The process of the Internet development in Russia is strictly depended on defectiveness of communication and telecommunication networks of the country including not only interregional ones but also local, urban networks. The shortage of modern interregional communication (fiber-optic) lines was, until the end of the 90s, one of the most important obstacles for the Internet providing development outside two metropolitan Russias areas. Besides, if in Western countries the telecommunication networks development outstripped the demand for their services, in Russia the problem of lines' overloading has not still been solved though it gradually becomes a less important. At present one of the most important factors, which limit the Internet development in the country is the defectiveness of interurban communication and telecommunication networks. This is seen well enough in the lack of the communication basis, which could permit the high-speed broadband Internet access

for individuals. This situation demonstrates very well the necessity of investments for the Internet development, because now in the country there are no companies, which could invest the development of telecommunication networks on a large scale. That is why are so popular the home (campus) networks, non typical for the Western countries.

But the most important factor, which put on brakes for the Internet development in Russia, is the undeveloped market of the Internet users and, as a whole, low level of the population income, first of all outside big cities. It is quite similar to the development process of another innovative branch in Russia — with the cellular communication. But some small existing peculiarities are specific for the Internet services. If the cellular communication development was orientated from the beginning to businessmen (i.e. to persons whose level of income is higher than the average) and later younger users joined them, the Internet service development is orientated from its first steps both to young users and to businessmen as well as to academic users.

Right from the start the Internet development depends on the existing telecommunication and socio-economic systems, but later the Internet service branch itself begins to influence on their evolution. In this situation the Internet in concrete territories guides not only processes of globalization but also many changes of local character.

Like the majority of innovations, the Internet cannot influence equally on the whole territory where it is used because of lacking of various necessary resources (investments, qualified staff, etc.) and local geographic variations and so it helps to the polarization of the concrete space. It has as a result strengthening of interregional and even inner-regional differences: big centers with its scientific research and financial institutions, universities, develop more rapidly — as a rule such centers are big cities; smaller cities (with population of 200.000 — 300.000) develop more slowly and as for rural areas — they have almost no chances to take part in the process. This fact demonstrates well enough the contradiction of the Internet influence on the territorial organization of the concrete society. On the one hand when becoming accessible, the Internet puts users from different regions in equal conditions, abolishes distances and borders. On the other hand the lacking of necessary means for network development is the cause of space differentiation from the point of view of access to information and so it becomes an additional factor of the population's segregation. It should be taken into account that in the near future the Internet will have a great influence on people's mode of life, speed and character of their decisions' taking and in such situation the social inequality will become greater. There are some strata of the society, which never or only in distant future would have access to the Internet.

The development of the information technologies including the Internet in Russia actually provokes further deepening in living standards and living conditions between big cities and small-populated areas. Big cities and regional centers (first of all capitals — Moscow and St. Petersburg) with their financial resources and active population are very much intensively involved in modern processes of globalization and informatization, and that is the cause of increasing social inequality (including digital divide) in the country.

In Russia Moscow has the highest (in fact — the average European) level of the Internet development, but in some kilometers out of its circular road one can see a village where the people know nothing about the Internet. For the population of such settlements, because of their social position and age the ideas of creating electronic systems, for example, e-government are absolutely fantastic, nothing more. They would never have a possibility to use them.

Digital divide is one of the results of globalization process like the Internet proper. But if we say the latter is the result of scientific and technical progress, which helps to information exchange and simplifies communication activities, we, at the same time, forget about such another result as the digital divide. Like all processes of globalization the Internet development not only has its advantages, but also creates new problems and sometimes does not help to overcome existing differences between developed and undeveloped countries or social strata, but, on the contrary, increases them.

Of course, such situation is quite typical for any scientific and technical revolutions: on the first stage we see growing social differentiation but later begins the reverse motion of this process. The specific feature of the digital divide, if comparing it with previous revolutions is that now social differentiation has not only the traditional social (money) character, but also is based on possibility of access to information and telecommunications. For non-developed countries both types of differentiation are characteristic - access to information and social inequality.

The problem of digital divide is often confused with the other aspect of the Internet technologies diffusion. Any innovation development not only involves in its utilization as many people as possible but sometimes it requires serious transformation of human behavior. The Internet technologies development has a problem: the people often are not ready to use them, especially the commercial Internet services. The reasons for it are: temporary distrust to technological innovations or the point of view that it is not necessary to use the innovation because people have not used it before but could do without it very well. This psychological barrier appears at the beginning of any process of innovations' diffusion. Besides, in any society there always are some strata, which are against any innovations, for example — religious organizations. The opinion of Russian Orthodox Church about the Internet is quite the same as it was about the TV set 50 years ago, in the epoch of the television's expansion.

In this sense the Internet, like any other innovation, is not something unique, but it is unique because of its global scale influence and great speed of the process of its diffusion in the whole world.

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