

# Comparative Analysis of Internet Users as in Factor of Establishment Information Society in Japan Sea Rim Countries

メタデータ	言語: jpn 出版者: 公開日: 2017-10-05 キーワード (Ja): キーワード (En): 作成者: メールアドレス: 所属:
URL	<a href="http://hdl.handle.net/2297/19883">http://hdl.handle.net/2297/19883</a>

## 環日本海の諸国における情報化社会の発展段階と、 インターネットユーザーの比較分析

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(2002 年 8 月 31 日受付, Received August 31, 2002)

(2002 年 10 月 1 日受理, Accepted October 1, 2002)

### Comparative Analysis of Internet Users as in Factor of Establishment Information Society in Japan Sea Rim Countries

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#### Abstract

20 世紀最後の 10 年間で、情報技術は社会の発展に影響を与える重要な要因となった。「情報化社会」という用語はこの研究では現代文明の期間を記述するために用いられる。その期間の特徴は、グローバル規模の情報空間が作られて、人々の間に効率的な情報共有作業を提供し、世界的な情報資源へのアクセスを可能にし、社会生活における情報と知識がますます重要になっているということである。

グローバル規模ネットワーク（インターネット）で起こっているあらゆる発展の最も主要な要因は人間であり、この場合ユーザーであるので、新しい社会形成や構造はユーザーの量的そして質的特徴次第であるとみなす事は理にかなっていると思われる。この研究の目的は米国、日本、ロシア、及び中国のインターネット使用者の共通する特徴を明らかにする事である。これらの国々特に選ぶのは単に偶然ではない。先ず、米国や日本のような経済的及び情動的先進国とロシアや中国のような発展途上国との間の共通性や違いを見つける必要がある。一方、既述の国々はアジア・太平洋地域に属し、その上、ロシア、日本そして中国は日本海を共有する沿岸諸国であり、そのことは本研究の実際的な重要性にもかかわってくることである

比較分析方法を用いて分析し、適切なパラメーターを量と質の両方から評価した統計的なデータに基づいて、情報化社会が形成される状況の中で選択された国々のインターネット使用者の共通の傾向と際立った特色を明らかにしてみようと思う。

#### Introduction

Last decade 20-th centuries info-communication technologies (ICT) of steel one of the major factors

influencing development of a society. Their revolutionary influence concerns the state structures and institutes of a civil society, economic and social spheres, a science and education, culture and a people'

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s way of life. Many advanced and less developed countries have to the full realized those enormous advantages which are born with itself with development and distribution of ICT. There is nobody does not cause doubt that fact, that movement to an information society is a way to the future of a human civilization. "The policies for the advancement of the Information Society must be underpinned by the development of human resources capable of responding to the demands of the information age". It is fixed Okinawa Charter on Global Information Society<sup>3</sup>, which is signed by heads of 7 conducting countries and the President of Russia V. Putin.

In the given research the term "Information society (Johoka Shakai) represents a step in development of the modern civilization, described by increase of a role of the information and knowledge in life of a society, increase of a share informational communications in gross national product, creation of the global information space providing effective information interaction of people, their access to global information resources and satisfaction of their social and personal needs for information products and services"<sup>4</sup>.

By virtue of that economic benefits of introduction of information technologies (IT) in economy already influence the basic economic parameters of the majority of the countries, scientists, economists and politics even more often pay attention to problems connected with occurrence of new relations. The level of development of information technologies, computer engineering, Internet and mobile communication sets thinking of large-scale changes which undoubtedly already occur and influence practically all sides of people's life. The opportunity of reception of the information through Internet gives for the ordinary net

user a lot of conclusive advantages in many fields of activity. Internet has appeared in the end of 60s years in USA<sup>5</sup> and despite of relatively a short history of development of the world wide Web, the total of users on data Access Media International has reached by the end 2001 year 384.6 million people and by the end of 2003 year growth of number of users up to 580 million, that is number of users for 2 years has grown practically on half. However, on the other hand, growth of number of users and development IT has non-uniform character. At unconditional leadership of USA, between the countries exist serious distinctions. It concerns also a level of development of an information infrastructure, number of users etc.

As a major factor of development of this or that process of an event in sphere connected with Internet is the person, and in our case the "user" will notice quite naturally, that the type and structure of a new society depends on quantitative and qualitative characteristics of users. The purpose of the given work is attempt, to reveal the common features and differences of a portrait of the user on an example of USA, Japan, Russia and China. The choice of these countries is not casual. On the one hand, this desire to reveal similarity and to look after distinctions between economically and information-advanced (USA and Japan) and developing (Russia and China) countries. On the other hand, the countries submitted in work concern to Asian – Pacific region, moreover, Russia, Japan and China represent the Japan Sea Rim countries, that also determines a urgency of a considered problem.

On the basis of the statistical data and applying methodology of the comparative analysis, a qualitative and quantitative estimation of researched param-

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<sup>3</sup>Kyushu–Okinawa Summit G8 2000. "Okinawa Charter on Global Information Society".

<sup>4</sup>The concept of the federal target program "Development of information in Russia for the period till 2010 " <sup>5</sup>It is considered, that Internet has appeared from the project of a network with the communications of packets ARPANet (Advanced Research Project Agency Network).

eters, attempt to allocate the common tendencies and features of development the Internet of an audience of the countries of considered region in a context of formation of an information society was made.

## 1. Factors and features occurrence of an information society

“Investments in an electronic infrastructure and in sphere of education are a key to maintenance of the future competitiveness of economy of each country”<sup>6</sup>. Such words from Bill Gates book, the person brought in significant contribution to creation of preconditions of occurrence of a new society begins. It is fair to notice, for the first time ideas connected with occurrence IS have arisen in USA. In the Memorandum Clinton – Gore accepted in Washington February 23, 1993 year and referred to “Technology of economic growth of America”. New direction, which should be created “One of the basic directions admitted – development NII– National Information Infrastructure. After that document in the scientific and popular literature such concepts have appeared as Digital Highway and Superhighway. Practically at the same time in Europe simultaneously with it has appeared concept of IS. In 1994 it was created “the Bureau under projects of an information society” (ISPO–Information Society Project Office), a link carrying function between the Commission of the European community (ECC) and potential participants in realization of separate initiatives on creation of the Global information society (GIS). At present (2001) some thousand coordinated ISPO projects on creation GIS are already offered. Later also was created (ISAC) – Information Society Activity Center. In Brussels in February of 1995, at meeting of the ministers engaged in development GIS in the different countries it was

determined 11 prime global design zones (Project Areas) GIS with the instruction of responsible executors.

- GIBN (Global Interoperability of Broad band Network) global – Canada and Japan ;
- GIP (Global Inventory Project) – Japan and EU ;
- Trans–Cultural Education and Training, Tel and Lingwa – France, Germany ;
- Electronic Libraries, Bibliotheca Universalis – France and Japan ;
- Multimedia Access to World Cultural Heritage – Italy and France ;
- Environment and Natural Resources Management – Canada. ;
- Global Emergency Management Gemini –USA ;
- Global Healthcare Applications – EU ;
- Government On –Line – the Great Britain ;
- Global Market Place for SMEs – EU, Japan, USA ;
- MARIS (Maritime Information Society) – EU, Canada<sup>7</sup>.

Firstly, have dropped out from ISPO not only the small “raw” countries as Vietnam, but also Brazil, India, China and Russia was underlined. However, later in G8’s Okinawa Charter on GIS in July 21 of 2000, that “all people everywhere, without exception should have an opportunity to enjoy advantages of GIS”.

Now we can say that the preconditions and real ways of formation and development of Information society in Japan Sea Rim countries are realized. This process has global character, entry of these countries in GIS is inevitable. Use of the material and spiritual blessings of an information civilization can provide to the population of region worthy life, economic prosperity and necessary conditions for free development of the person. As representatives of examined region,

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<sup>6</sup>Bill Gates., “Business @ with speed of idea”

<sup>7</sup>Golishko A.V., “Information society : about what we could suspect, but did not dare to ask”, M., 03.05.2001

Russia and China should enter to the technologically and economically advanced countries family on rights of high-grade participants of global development of our civilization with preservation of political independence, national originality and cultural traditions, with the advanced civil society and a lawful state. It is possible to expect, that the basic features and attributes of an information society will be generated in the countries under stable sociopolitical conditions and deep economic transformations in the first quarter of XXI century.

### **2.1. The basic preconditions of occurrence of an information society**

Further also it is possible to note that for last ten years in less developed Asia Pacific region (APR) countries were generated such factors of social and economic, scientific and technical and cultural development which can be considered as the precondition of transition to an information society. More detail analysis can show for Russia such preconditions follows below.

1. The information becomes a public resource of development, scales of its use became comparable with traditional (energy, raw material etc.) resources. Already today, for example, the sales volume in Russia only means of computer facilities and computer science (basically PC and periphery) reaches size more than one million pieces per one year and is estimated, approximately, in 1.5 billion dollars. As shows world experience, cost of sales of software, it is usually equal or a little bit more expenses for engineering, and expenses for a personal communication facility, audio and video equipment are usually commensurable with expenses for means of computer facilities. These minimal approached estimations totally make 4.5 billion dollars what will make about 5% of Russian GNP in 1997 year. This size of total

expenses for the information already has the macroeconomic importance and characterizes growth of use of a resource "information".<sup>8</sup>

2. It is possible to say that in Russia was generated and successfully develops the domestic market of telecommunications, information technologies, products and services. The volume of the means circulating in the Russian market, achieves 5-7.5 billion dollars / year.

3. As a whole in the country, despite of economic recession, grows the park of PC, the systems and means of telecommunication go with accelerated rates of development. The amount of corporate information networks grows and continuously increased the number of global open networks subscribers. The number of the Russian Internet users amount comes nearer to one million. Also intensively extends the national communication network with satellite channels using. Installation of telephones of the country is successfully carried out and promptly grows the market of mobile communications.

4. Substantially information developed many branches of economy, bank sphere and sphere of the government.

5. In a public opinion from the political and economic points of view there is problem's urgency understanding of transition to an information society. The wide public resonance of the state information policy concept can be considered as a maintenance policy of the initial stage of transition of Russia to IS.

6. Today Russia is a part of global political and economic community in such degree in what it never was in the past. In direct and Russia is connected figurative sense to other world by the cable and satellite liaison channels, actively used hundreds thousand cellular and simple phones, faxes, computers etc.

7. The state structure responsible for creation and development of IT basis maintenance of processes of

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<sup>8</sup>The concept of information society formation in Russia

transition is generated and functions.

## 2.2. Problems of information society development in the Japan Sea Rim countries.

For the Japan Sea Rim countries as component APR all preconditions and attributes Japan inherent in occurrence IS. and South Korea in this sense to the full are peculiar are unconditional leaders of occurring processes. In Japan in May, 2002 in the governmental committee on IT the Priority plan for e-Japan 2002<sup>9</sup> which in part has reconsidered the similar plan of March of the last year was developed". Under the March plan as emphasize in Committee all 103 actions were executed and "planned maintenance of high-speed access in Internet (such as ADSL and CATV Internet) for 34 million families, and also high-speed access (such as FTTH) for 14 million families, and also the purpose for maintenance 100% access to a network of public educational institutions"<sup>10</sup>. The Present plan reflects substantive provisions" e-Japan strategy"<sup>11</sup>, 317 actions including at present. Strategy defines in this case the following directions in sphere of formation and development IS :

1. Creation of a competitive superfast network infrastructure.
2. Definition of rules and the new environment for electronic commerce.
3. Realization of idea of creation of the electronic government.
4. Strengthening of a personal professional training.

Within the framework of a subject of research, speaking about the Japanese strategy, more all is worthy a direction on a personal professional training as concerns the human factor in a context of the

introduction into an information society. Amplification (strengthening) of a personal professional training includes in the first, measures on strengthening of information literacy ; in the second, a professional training on a management of development IT ; in the third, preparation of the technical and research personnel in area IT ; in the fourth, preparation of experts in area contents creation (CC). As to South Korea due to an active state policy in area IT on the data representatives of company Nielsen // NetRatings, the provider of researches in the field of the Internet, "South Korea experiences digital revolution, as the proof to that the big number of local users of on-line services and web-sites and the internet-market of South Korea – one of the largest in APR"<sup>12</sup> serves.

To determine becoming of new type of public relations in more detail, it is necessary to consider the basic features and attributes of an information society on an example of separately taken country. For example the characteristic features and attributes of an information society in Russian Federation, it is necessary to relate the following :

- formation of uniform IC space of Russia as parts of global information space, full participation of Russia during information and economic integration of regions, the countries and peoples ;
- becoming and in the subsequent domination in economy of the new technological ways basing mass use of perspective information technologies, means of computer facilities and telecommunications ;
- creation and development of the market of the information and knowledge as factors of manufacture in addition to the markets of natural resources, work and the capital, transition of information resources of a society in real resources of social and

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<sup>9</sup>"The e-Japan important plan 2002"

<sup>10</sup>Ibid.

<sup>11</sup>"Advanced e-Japan strategy" January 22, 2001 information communication network social promotion strategy headquarters.

<sup>12</sup>Nielsen-netratings Global Report News [http://www.nielsen-netratings.com/pr/pr\\_020313\\_hk.pdf](http://www.nielsen-netratings.com/pr/pr_020313_hk.pdf)

- economic development, actual satisfaction of society needs in information products and services ;
- increase of a role of an IC infrastructure in system of a social production ;
  - increase of an educational level, scientific and technical and cultural development due to expansion of opportunities of systems of an information exchange at the international, national and regional levels and, accordingly, increase of a role of qualification, professionalism and abilities to creativity as major characteristics of services of work ;
  - creation of effective system of maintenance of rights of citizens and social institutes on free reception, distribution and use of the information as major condition of democratic development.

### **3. The comparative analysis of Internet users in Japan Sea Rim countries.**

Thus, taking into account development IT and preconditions of occurrence IS in examined region it is expedient to analyze Internet users structure on the basis of given to some countries of coast of sea of Japan. In this case as for USA – as the world kind of leader in the field of development IT, and also Japan, Russia and China.

#### **3.1. Users of the Internet as a major factor of becoming of the Information society.**

For last years the new type of social community users<sup>13</sup> of global computer networks was generated. To form such society is caused by various factors economic, social, technical, political and psychological. I the result the population of users has developed and develops as the complex dynamic unity simultane-

ously sensitive to influence of processes, going in a society both actively forming public interests and moods. For us it is obviously important what quantitative and qualitative characteristics are inherent users of the Japan Sea rim countries, as one from the important sites of economic progress APR.

The general number of users the Internet on data NUA Com on the end 2001 is 384.6 million. Depending on region on the Earth, the share of users changes in limits from 1 up to 60% and thus continuously change (see Fig 1 in Attachment). The share of the countries APR makes on the data on 2001 22%<sup>14</sup>. Including Japan the share of region is practically equal 1/3 world quantities of users (see Graph 1). Hence it is possible to tell with the big share of confidence, that processes and changes occurring in the environment the Internet of users APR render direct influence on all Internet public. Thus it is possible to allocate three original world groups of users. It is USA, Europe and APR including Japan.

In the numerical attitude the population on the basic groups on the end of 2001 diffused as follows : USA – 115.5 million users, Europe 122 million, Japan and APR accordingly 36.3 and 83.5 million users. The increase of the general user number (see Graph 2) for the last some years, since 1997 shows a stable gain in from 51 million person per one year as for example for the period of 1997–1998 years, up to 98 million person for the period of 2000–2001 years. And these parameters under forecasts of experts from NUA Com<sup>15</sup> tend to increase up to 100 million per one year (about 475.9 million at the end of 2002 up to 580 million at the end of 2003).

The following important category for the analysis of users on which it is necessary to pay attention is

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<sup>13</sup>Voiskounsky A.E., Hilton T.S.E., 1995. Global networking and remote communities formation. – In : Information Systems and Global Competitiveness, Proc. of the IACIS Annual Conf., Toronto, Canada, pp.282–287.

<sup>14</sup>White Paper on Telecommunications. Tokyo., 2001

<sup>15</sup>NUA Com., [www.nua.com/surveys/index.cgi](http://www.nua.com/surveys/index.cgi)

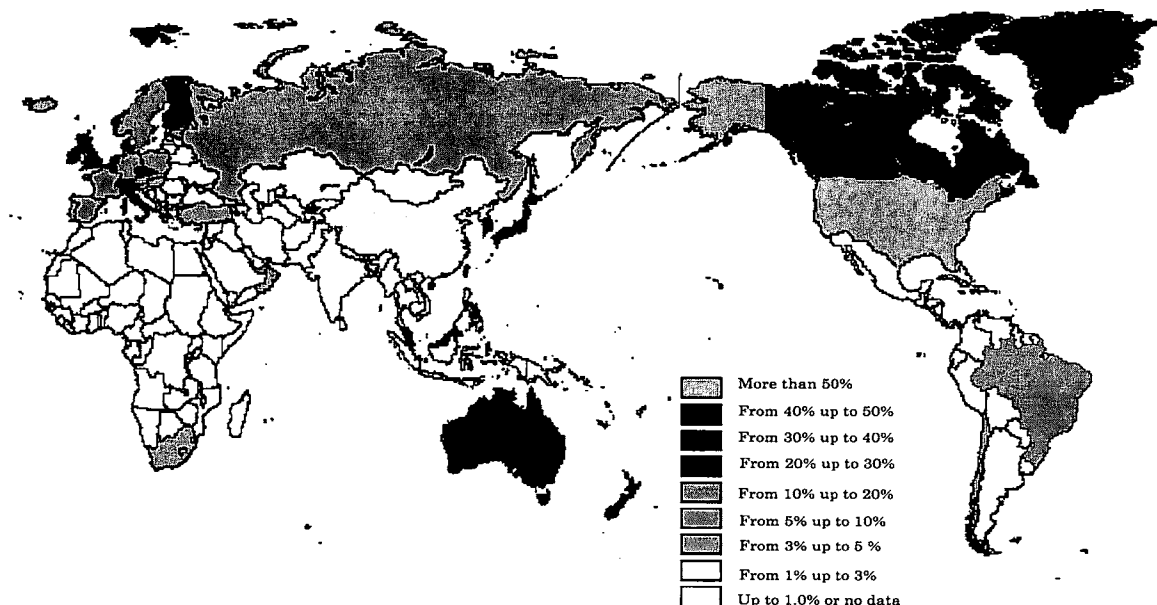
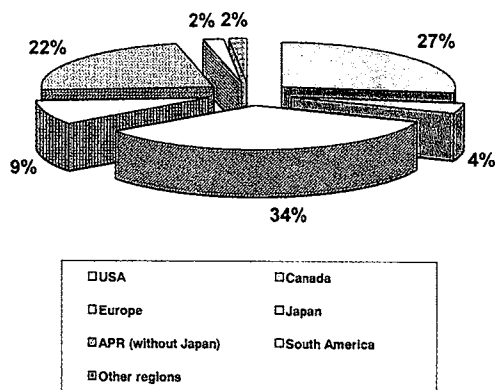


Fig 1. World Internet User Penetration (2001. 03).

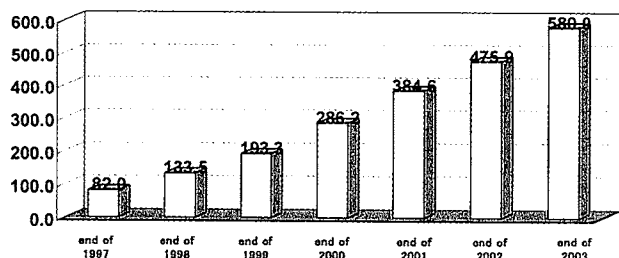
Source: White Paper on Telecommunications 1999-2001", NUA Co., Ltd.

Graph 1. World Internet users by regions in 2001



Source: White Paper on Telecommunications 2001, NUA Co., Lt

Graph 2. World Internet users forecast



Source: White Paper on Telecommunications 2001, NUA Co., Ltd.

Table 1. Users Growth in Regions Forecast

	1998	1999	2000	2001	2002	2003
USA	157.00%	131.40%	120.00%	113.20%	110.80%	109.40%
Canada	179.20%	228.80%	135.40%	121.50%	116.50%	114.10%
Europe	154.70%	150.50%	146.50%	168.30%	133.60%	130.10%
Japan	162.50%	128.00%	166.10%	119.40%	115.70%	114.30%
APR (without Japan)	207.10%	186.20%	226.30%	186.70%	128.10%	125.20%
South America	250.00%	153.30%	182.60%	154.80%	146.20%	136.80%
Other regions	216.70%	123.10%	187.50%	166.70%	160.00%	150.00%
World total	162.80%	144.80%	148.10%	134.40%	123.70%	121.90%

Source: Made on data "Access Media International 2001"

possible to allocate some features (see Table 1).

In South America growth of users has made 250% In 1998 and 153.3% In 1999. The same tendency is traced in group "Other regions". In similar years growth has made 216.7% And 123.1%. Similar sharp decrease of a post only in later can be looked after in Canada in 1999 interest of users growth has made 223.3%. And in the following 2000 has decreased up to 135.4%. Further, in APR group (without Japan) change has made 226.3% in 2000 and 136.7% in 2001. The reason for this has served thinking global financial crisis of 1998, entailed as itself amplification of instability of national economies of considered regions and entailed for itself sharp fluctuations of growth of

rates of growth. Here on a background of the general tendency steady growth for the last some years are



number of users. For Russia for example, the given period (August, 1998) is characteristic sharp growth of a dollar exchange rate on a currency stock exchange (the real rouble exchange rate has fallen on 60%)<sup>16</sup> and followed behind this strong reduction of economic activity. Though branches connected with the information computer engineering have remained in rather stable condition. For the Internet providers it was expressed in rise in price of purchase of traffic and therefore by increase types on services the Internet for users, that certainly has lowered inflow of new users and has found real expression in reduction of growth during 1998–1999 years. Thus it is possible to look after dependence of growth of users volume the Internet from a condition of national economy.

Dynamics of growth of users has also the certain features. For advanced economically the countries rather low and stable rate of a post without strongly pronounced fluctuations with gradual delay of rates of growth is characteristic. Suitable example in this sense are USA (see Graph 3).

As opposed to this, for less developed countries are characteristic sharp, with the big amplitude of fluctuation of rates of growth number of users at their subsequent averaging and approximation to average

in world.

On the basis said before it is possible to draw an intermediate conclusion, that in industrial society the role of the human factor is in many respects base and determining so rationally the person as the labor force is the factor of manufacture on the one hand, and the participant production relations in economy with another. Still the big urgency is got with the human factor at transition to new, postindustrial, digital or information.<sup>17</sup>

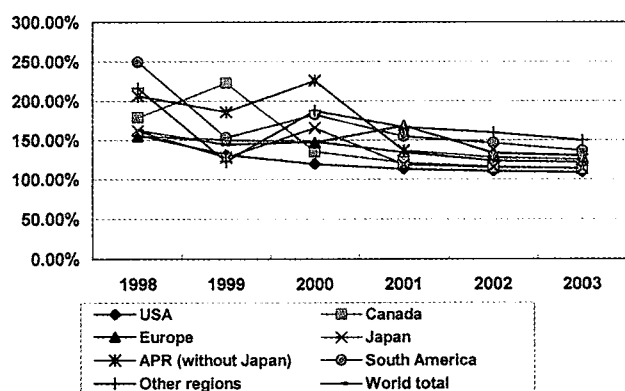
### 3.2. Dynamics of volume of users the Internet in the countries of examined region.

As it was already mentioned above in work as objects of the analysis three countries included in group of the countries of coast of sea of Japan are submitted. It is Japan as one of the advanced countries of region and Russia and China as less developed countries, and having in the big economic and information potential. USA are taken as the leader in market IT so to say the leader on a degree of development inside the country of processes connected with transition to IS.

APR by quantity of users includes 1/3 (31% at the end of 2001), and on a share Japan it is necessary 9% from universal amount and 41% from number APR of users comparing number users (see Graph 4, 5), that USA far outstrip other countries both by amount of users and on a share of users from the general population of the country.

Further follows to pay attention to distinctions in the environment of users being based on their division by gender and age criteria (see Graph 6, 7). First of all, as to sexual division of users, it is possible to note, that for more advanced countries, in our case is USA and Japan, share of women in the environment of users, it is especial in USA exceeds amount male parts

Graph 3. Regions Internet users Growth Forecast

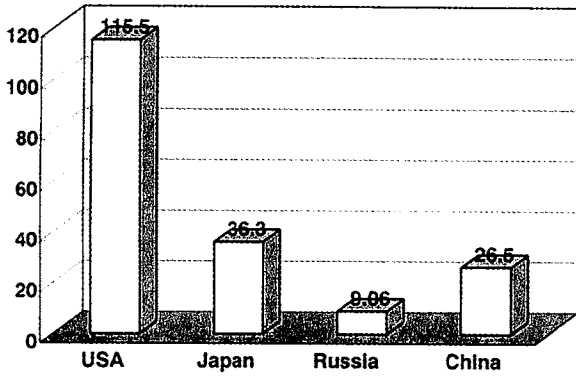


Source: Made on data "Access Media International 2001"

<sup>16</sup>Crisis in Russia in a context of global financial crisis. [www.budgetrf.ru/Publications/Magazines/bea/analysis/1998](http://www.budgetrf.ru/Publications/Magazines/bea/analysis/1998)

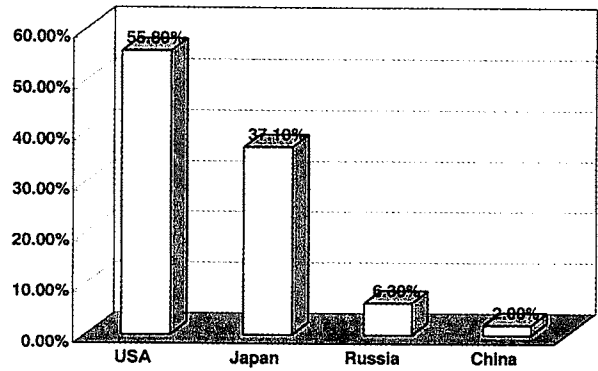
<sup>17</sup>See: Tapscott D. The Digital Economy McGraw-Hill, 1996.

Graph 4. Internet Users Amount in 2001.



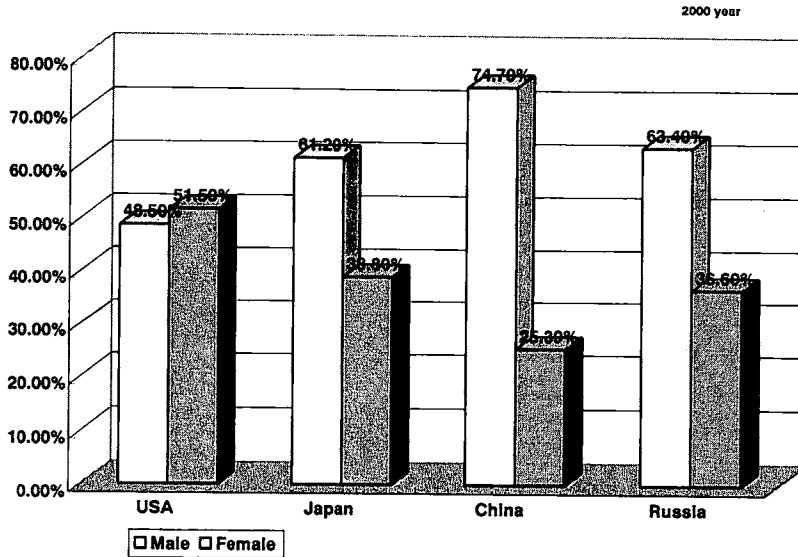
Source: Made on data "Access Media International 2001"

Graph 5. Internet Penetration in 2001



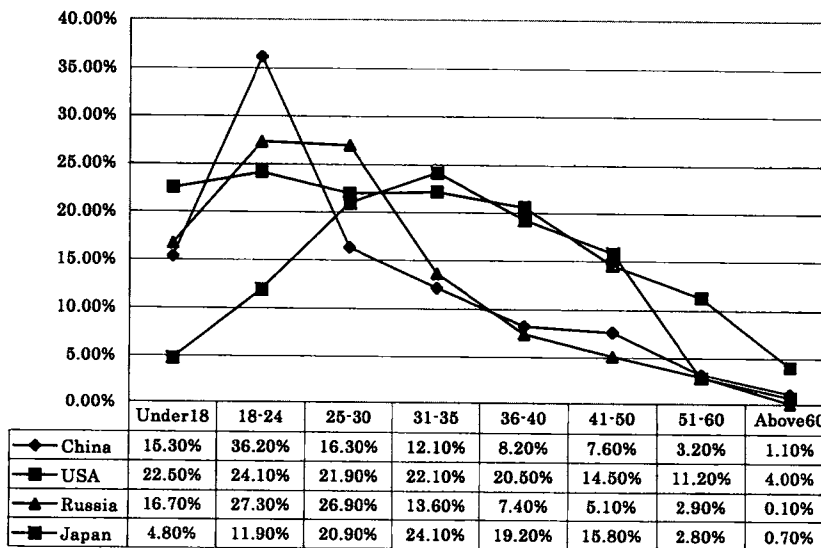
Source: Made on data "Access Media International 2001"

Graph 6. Internet Users Differences by Gender



Source: Made on data "White Paper on Telecommunications 2001", NUA Com

Graph 7. Internet Users Age



Source: Made on data "White Paper on Telecommunications 2001", NUA Com

of users though some years before male had significant advantage. The same tendencies are characteristic and for Japan. With each year the amount of women of users is increased faster than male. For Russia and China typically advantage of a male's part of the population. On the data for 2000 in Russia 63.4% male and 36.6% female, in China there is even more significant difference – 74.7% male and 25.3% female.

Attention to age structure of users the Internet the examined countries (see Graph 7). Now, is convertible. Analyzing age structure of users it is possible to notice the following features. First, in the advanced countries as it see on an example of Japan the basic part of users has age of 25–40 years, and distinctions between a mature part of the population on the one hand and young users till 25 years, and also by an elderly part of users (than 60 years are more senior), on the other hand is gradually reduced. Though on more early stages of development the curve of age structure had similarity that now it is possible to observe in less developed countries. As in Russia, and it is especial in China users share of the category till 30 years obviously prevails, and after 30 years number of users reduce is sharply.

This fact speaks a line of the reasons, such as for example absence properly advanced information infrastructure (low number of computers on rather population, small amount of telephone lines etc.). According to the Ministry of Communications of Russia in 2000 53 thousand settlements on had telephone line and more than 40% and population of the country had no phones. As to USA that access in the Internet covers in more or less equal degree all basic age categories of the population at gradual reduction of a share after 35 years. It stressed high developed an information infrastructure and stimulating policy of the government, directed expansion of access among all age groups of users.

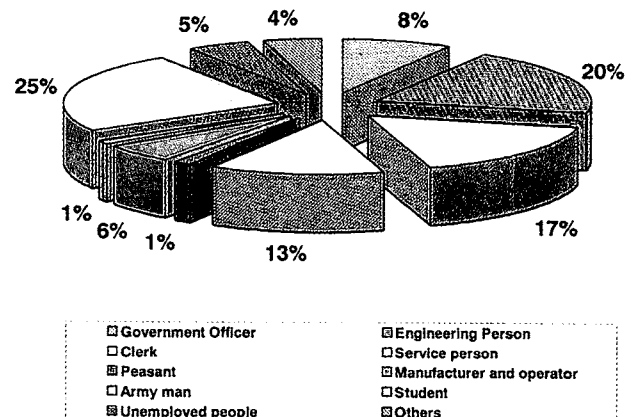
### 3.3. Basic qualitative characteristics of users.

In the given work as qualitative characteristics of users it is understood: a marital status users, structure of users on education, and a place of access in the Internet. If quantity indicators give us representation about a loss of development of economy and an information infrastructure in the examined country qualitative characteristics illustrate in the certain degree of preference of an audience and enable to predict short prospects of development of the market the Internet of services and electronic commerce. By virtue of limitation of frameworks of the given research we shall result qualitative characteristics of users in China. By a trade the structure of users shows a primary share of civil servants and the engineering personnel among users (see Graph 8).

The Analysis of users on education) (see Graph 9) shows, what the basic categories of users are college students 27%, graduates of higher educational institutions 30% and 31% users having a master degree

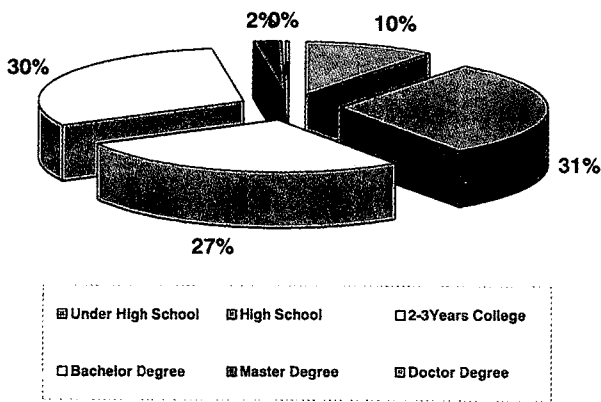
In a place of access in the Internet (see Graph 10), conducting points of access traditionally occupy access from office and from a house – accordingly 45.7% and 61.3%.

Graph 8. Users Difference by profession in China



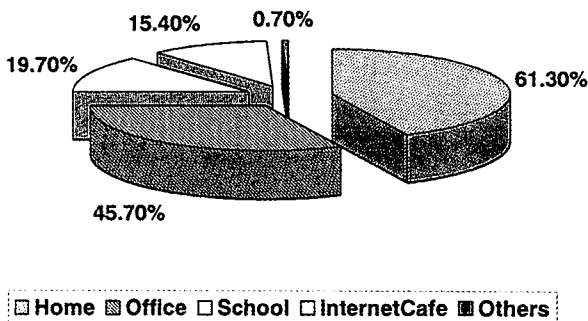
Source: Semiannual Survey Report on the Development of China's Internet (January. 2002).

**Graph 9. Users Difference by Education in China**



Source: Semiannual Survey Report on the Development of China's Internet (January, 2002).

**Graph 10. Access Location in China**



Source: Semiannual Survey Report on the Development of China's Internet (January, 2002).

#### 4. Problems of users and prospects of development at transition to an information society in region.

Before all countries there is a problem of definition of effective ways and necessary conditions for transition in a condition of an information society, the analysis and updating of the complex sociopolitical processes connected to new technologies. It is extremely important and responsible problem for a society which is not capable socially and politically to vary simultaneously with information technological revolution occurring nowadays, can appears not capable effectively to use new technologies and gradually

turns to a backward society in economic, technological, political and cultural relations. In connection with it one of primary goals facing to a society is form new public relations and by way of it creation within the framework of transition to IS new generation of people, information and it is computer competent, in other words within the framework of development the Internet of new type of the user. From that what way will be chosen in many respects the success of changes occurring now in a society depends. For last 30 years it is possible to allocate six models of the technological development creating base for transition to the information organization most precisely shown which were realized worldwide.<sup>18</sup> In a basis of allocation of these models the mechanism of connection of discoveries with technology, technologies – with manufacture, manufactures – with a society in all complexity of its social characteristics lays. We shall allocate distinctive features of each of these models and we shall determine opportunities of use of the saved up experience of technological development of other countries in movement of Russia from an industrial level to information.

The first model conditionally can be named “the innovational environment” which example is Silicon Valley in California (USA). Such environment has an opportunity to be generated and further to be a source of innovational and technological development only at presence of four obligatory elements: a science submitted by the large research and experimental centres; the large private capital; it is modern the equipped versatile enterprises; the big number of highly skilled engineers and workers. “he innovational environment”, combining these four factors, creates process of technological development. Distinctive feature of this model of technological development is creation of a network of interrelations with a high degree of decentralization, and, all four factors should

<sup>18</sup>Vladimir Borisov. Typology of the basic models of innovational development

be concentrated on small territory on the area. So, in Silicon Valley having extent hardly more 30 km, it is concentrated 8 thousand the enterprises belonging to 2 thousand of the Companies, specializing in the field of information technologies. At these enterprises work 220 thousand highly skilled engineers and workers, and the scientific innovational base is created for Silicon Valleys in Standford university, universities to Berkeley and San Francisco.

The second model of technological development is based that initiation of innovations, before technological and industrial realization any large transnational Company having the necessary capital is engaged in their finishing, having by a complex of the enterprises with a modern level of productions on which the qualified experts work. This Company should have the own research centres or finance such development in the large university centres. Thus, TNC generates in itself all four elements necessary for technological progress of “the innovational environment”, only the uncentred network interrelations here is replaced with dictatorship of interests TNC.

The third model is “the state protectionism”. It is characterized by that the government of any country supports technological innovations through national private concerns in conditions of the closed national market for the foreign companies. According to this model, the governments of Japan and Republic Korea by means of lines of measures encouraged the national companies, all over again inside the country, and then helped them to leave with the production made with the help of the newest technologies, on the world market. These countries at the certain stage copied the American and European technologies and emphasized manufacture of cheaper and best production on quality. Further, in process of accumulation by the national companies of experience of innovational development and technological priorities, there was a transition from copying – to own manufacture of high technologies.

The fourth model differs from “the state protectionism” that technological progress is carried out in constant and direct interaction with the world market when national economic borders remain open. According to this model the government of France supported the national companies in open international competitive struggle in the information market. However, to the majority of the French firms very difficultly is independent to support technological development at a world level to provide its competitiveness, despite of the serious help on the part of the state structures.

The fifth model which can be determined as “military”, is based in quality goal desiding technological development on aspiration to achieve the military superiority. This model has the big potentialities as is very strong stimulus for maintenance of changes of the state development in technological area due to which the certain priorities of this or that country in the general world disposition are established and supported. But the military model has two serious problems. The first – moral for immorally to use achievements of a science, the newest technologies in creation of instruments of murder ; the second problem – technical : all military technologies are confidential and keep closed from other spheres that widely prevents them to be distributed to all society as a whole. It deprives military technologies of necessary “additional charging”. Information technologies demand freedom of information interchange, active movement of the capital, attraction new means for at a stage of development they are extremely expensive. Therefore, in long-term prospect the military model kills itself as the technology contained in a secret gradually becomes outdated. Elements of military model underlie the American experience of technological development. But, as against attempt of its application in the former USSR in “a pure kind”, in USA the military model worked simultaneously with the market model, the open market constantly stimulated military technologies. Americans to the beginning of

80th years came to a conclusion about necessity reduce large “defensive” research and development programmes and increase of own means of the private industry in financing innovational projects.

The sixth model is model of the European Community. It is based on cooperation between the various governments and the private companies of the various countries. As though, born for national frameworks “the innovational environment”. As an example of this model program “EVRICOM” based on development of large programs in the field of technologies by the companies a minimum of two countries on the general means of Commonwealth can serve. The international commission of experts accepting the decision on financing, does not think within the framework of national interests, and aspires to support dynamism of development of all system, all European economy. It is possible to allocate some more ways of technological development, which are shown within the framework of the basic models and have no wide independent practical application. “Diffusion of innovations” concerns to such ways, for example. Here the main thing is introduction of already available high technologies in industrial and administrative structures. Experience of Germany and Italy speaks about the big advantages of this way, but also about its lacks. His strength, that technologies very quickly find in the industry the application and become useful. Lack consists that all process of introduction depends on characteristics of already existing technologies made by other countries, these technologies are necessary for adapting for conditions of concrete manufacture.

## 5. Conclusion

On the basis of the done analysis is possible to make the following conclusions.

1. The end of XX century is connected to global process of transformation of the world community from industrial to the information organization of

all system of public relations. Transformed under influence new, or high, technologies the society is accepted for naming “information”. In a basis of functioning of such society the information infrastructure basing creation of the complex industry of manufacture, processing, storage and use of the information lays by means of progressive electronic engineering.

2. In developing the countries of coast of sea of Japan there is an advanced layer internet users networks the Internet and in the future in frameworks of the APR country of coast of sea of Japan will play a significant role in transformation process in IS.
3. The analysis of users has shown, that despite of all originality internet developing structures and the type of users has audiences many common features hence develops under the same laws and principles.
4. On the contemporary a stage of transition to IS the role of governments and public organizations on creation of generation of new type of users will grow steadily and there will be a necessity to coordinate processes occurring in the given environment.

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