

Statistical Survey Report on the Internet Development in China

(January 2009)



China Internet Network Information Center

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Report Summary

- By December 31, 2008, the size of netizens in China had reached 298 million, and Internet penetration had reached 22.6%, surpassing the average level in the world; the size of netizens had increased by 88 million from 2007, with the annual growth rate being 41.9%. The size of netizens in China still maintains the momentum of rapid growth.
- The size of broadband netizens reached 270 million, accounting for 90.6% of total netizens.
- The size of netizens accessing the Internet by mobile phones reached 117.6 million, increasing by 133% from 2007.
- The size of rural netizens grew rapidly, reaching 84.6 million, increasing by 60.8% from 2007, far exceeding the growth rate of urban netizens (35.6%).
- Among the eastern, central and western regions in China, the size of netizens grew the fastest in western provinces, with the growth rate reaching 52%, far exceeding that in the central region (40.6%) and that in the eastern region (39.3%).
- The fundamental resources of Internet in China grow rapidly, but the growth is not balanced. The growth rate of IPv4 addresses has lagged behind the growth rate of netizens for two consecutive years. If the growth rate of IPv4 addresses continues to lag behind the growth rate of Chinese netizens, it will become a bottleneck factor constraining the development of the Internet in China.
- The growth rate of CN domain names and websites under CN domain names surpasses the growth rate of total domain names and total websites, and CN domain names and websites under CN domain names have become important forces for driving the growth of Internet resources in China.
- Network news in China developed rapidly in 2008. The use rate of network news increased by nearly 5 percentage points from the previous year and network news users reached 234 million. The Internet has become a non-negligible front for the publicity of public opinions.
- As an important application of user-generate-contents, blog has maintained the momentum of rapid growth since its incipience. By the end of 2008, the number of blog authors in China had reached 162 million.
- Network games rank the sixth among all applications. The ranking of network games among applications by students of middle schools and primary schools is the third, which makes network games an important Internet application for this group of users.

- The top three network applications among college students are: network music, instant messaging and network news. Compared with overall ranking, network news falls by one place among the applications by college students, while network video rises by one place, ranking the fourth among all applications.
- According to the network applications of netizens and with respect to their network application quantity and the time they spend on the Internet, netizens can be classified into three series and seven groups:
 - Ø Heavy user series: they far exceed the average level of the entire netizens whether in terms of network application quantity used or in terms of their time spent on the Internet.
 - 2 Network dependent group: this group accounts for nearly 11% of the total netizens. Their group characteristic value in all applications is higher than the overall average level. They use the most network applications and the time they spend on the Internet every week is the longest. They are the most faithful users of the Internet.
 - 2 Network business group: this group accounts for 6.7% of the total netizens, and is the smallest group of netizens. This group is close to the network dependent group, but the time they spend on the Internet and their network application quantity are far lower than those of the network dependent group, and a major difference in applications is that this group almost does not visit forums. Meanwhile, their applications of E-commerce, online stock speculation and travel reservation are obviously stronger than basic applications such as search engines, instant messaging and emails.
 - 2 Online social-networking group: this group accounts for 12.3% of the total netizens. The proportion of their applications with socializing characteristic is obviously higher than that of other groups. Their penetration of community network applications such as instant messaging, blogs, forums/BBS and friend-making websites is obviously on the high side.
 - Ø Moderate user series: the network application quantity and time spent on the Internet by moderate users are close to overall level. Judged from the network applications used, they may be the transition group from light users to heavy users.
 - 2 Basic application group: this group accounts for 21.5% of the total netizens, and is the largest group. The proportion of basic Internet applications such as search engines, emails and instant messaging by this group is far higher than the overall level, while their use rate of other applications is obviously on the low side.
 - Ø Light user series: their network application quantity and time spent on the Internet are far

lower than the average level, and they are also users with the least experiences of surfing the Internet.

- 2 Self presentation group: this group accounts for 12.6% of the total netizens. 100% of the users in this group have blogs and their use rate of other applications is obviously lower than the overall level. This group uses 5.3 applications and spends 12.27 hours online every week on average.
 - 2 Non-mainstream network gamer group: 100% of the netizens of this group play network games. They account for nearly 18% of the total netizens. Except games, the indexes of other applications by this group are lower than the overall level.
 - 2 Network dabblers: this group accounts for 18.2% of the total netizens, and is the group whose size is only next to the basic application group. This group does not stand out in group characteristics in various applications. They spend the least time online and use the smallest number of network applications. Meanwhile, they are the group with the least experiences of surfing the Internet, but they are the oldest group, aging 32 on average. This group demonstrates the expansion of the Internet to advanced age group.
- The research of netizens' life style finds: heavy users have higher degree of acceptance of the value of the Internet as an assistant to life, and they have higher degree of trust in the Internet and acceptance of Internet security; another non-negligible point is: heavy users have higher degree of acceptance of the social isolation that may result from the Internet.

Chapter One Introduction

I. Survey Background

Such information as about the size and demographic structure of the Chinese netizens, the fundamental Internet resources, the Internet access and application conditions, etc. is of extreme importance for the government and businesses to master the development in the Internet and to make decisions accordingly. So, in 1997, the competent state authority made a study and decided to have China Internet Network Information Center execute a statistical survey task jointly with other Internet institutions. To regularize and institutionalize the survey task, the China Internet Network Information Center would publish a Statistical Survey Report on the Internet Development in China in every January and July since 1998. These reports gained high recognition in all walks of life and were cited extensively at home and abroad. The Survey Report herein is the 23rd one.

The Ministry of Industry and Information Technology and other relevant governmental administrations of China have granted energetic support to the execution of the task, and various Internet organizations, survey-supporting websites and media have also provided support to and went in cooperation with the survey by the China Internet Network Information Center, which secured the smooth execution of the survey on the Internet in China. Their support and efforts are hereby sincerely appreciated.

II. Glossary

◇ Netizen

It refers to any Chinese citizen aged 6 and above who have used the Internet in the past half a year.

◇ Broadband Netizen

It refers to any netizen who have accessed the Internet via broadband in the past half a year. Broadband includes: xDSL, CABLE MODEM, optical fiber access, power line communication and Ethernet etc.

◇ Mobile Netizen

It refers to any netizen who has accessed the Internet via, but not limited to, mobile phone in the past half a year.

◇ Rural Netizen

It refers to any netizen mainly living in a rural area in the past half a year.

◇ Urban Netizen

It refers to any netizen mainly living in an urban area in the past half a year.

◇ IP Address

It is used to identify an internet-accessible computer, a server, or any other device on the Internet. It is a fundamental resource of the Internet, without which (existing in any form) one can not get the access to the Internet.

◇ Domain Name

The domain names in the Report refer to domain names in ASCII. It is a string that consists of numbers, letters and hyphen (-) and is separated with dots (.), and that is a hierarchical Internet address identifier corresponding to an IP Address. The common domain names are classified into two categories: (1) ccTLDs (such as “.cn” for China) and (2) gTLDs (such as “.com”, “.net”, “.org”, etc.).

◇ Website

It refers to any website that uses a domain name or “www. + domain name” as the identifier of its IP Address, including the sites using the Chinese ccTLD “.cn” and the gTLDs, whose registrant is located within the territory of China. For instance, the domain name “cnnic.cn” only has one website, “cnnic.cn” or www.cnnic.cn. Other names such as “whois.cnnic.cn”,

“mail.cnnic.cn” are treated only as different channels of this website.

◇ Static Web Page

It refers to any web page without “?” or input parameters in its URL, which includes: *.htm, *.html, *.shtml, *.txt, *.xml, etc.

◇ Dynamic Web Page

It refers to any web page with “?” or input parameters in its URL, which includes the web pages processed at the Servers, such as ASP, PHP, PERL, CGI, etc.

◇ Updating Period of Web Page

It refers to the time difference between the last updating dates of web page and the searching date of the web page.

◇ Coverage of Survey

The statistics of Hong Kong, Macao and Taiwan are not included in the Report, unless otherwise specified.

◇ Closing Date of the Survey

The closing date for the survey is December 31, 2008.

III. Methodologies

(I) Telephone Survey

3.1 Contents of survey

Whether an interviewee has access to the Internet, and the background information of the interviewee: gender, age, education, urban or rural resident, income etc.;

Netizen's surfing behavior, surfing depth and surfing experience etc.

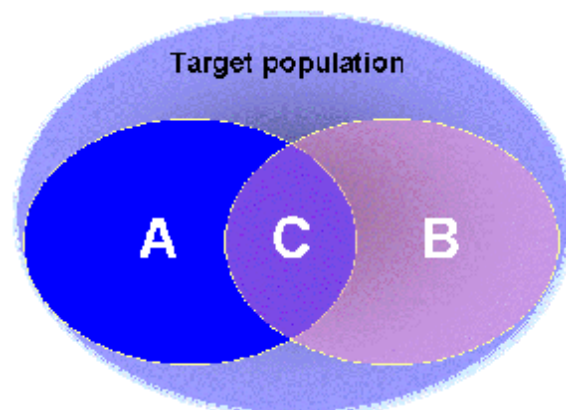
3.2 Size of Samples

There are altogether 66,000 survey samples, including 33,000 samples for fixed line telephone users and mobile phone users etc, covering 31 provinces, autonomous regions and municipalities in Mainland China.

3.3 Survey Style

Computer-aided telephone interview (CATI).

3.4 Division of target population



The target population is divided as follows:

Group A: residents with permanent residence phones [including: residents covered by permanent residence phones + personal handy phone users + users covered by student dormitory phones + users covered by other dormitory phones]; a is used to represent samples from Group A;

Group B: population covered by mobile phones; b is used to represent samples from Group B;

Group C: population covered by both mobile phones and permanent residence phones [the population covered by permanent residence phones and the population covered by mobile phones overlap, and the overlapped part is Group C]; $C = A \cap B$ and c is used to represent samples from

Group C.

3.5 Difference between the survey population and target population——population that cannot be covered by telephones

CNNIC studied this group at the end of 2005 and found that this group was very small among netizens. So there is a hypothesis for this survey research, that is:

With respect to this research, the netizens among population that cannot be covered by telephones is negligible.

(II) Online Survey

The online survey focuses on the typical applications of the Internet. CNNIC conducted the online survey from December 9 to 31, 2008, with a questionnaire posted on CNNIC website and its link provided in the governmental media websites, large national ICP/ISP websites and provincial inforports for the voluntary netizens to complete the questionnaires. And the invalid questionnaires were screened out from those received copies by some technical means. Thanks to the strong support of websites and active participation of netizens, there were 81,488 copies of questionnaire were received, of which 72,152 were valid upon validity check.

(III) Automatic Online Searching and Statistics Reporting

The automatic online searching is mainly to take such technical statistics as domain name, website, their geographic distribution and other measures. Statistics reported mainly includes total IP addresses, international outlet bandwidth, etc.

1. Total of IP Addresses

The IP address statistics by province came from the IP address databases of Asia Pacific Network Information Centre (APNIC) and China Internet Network Information Center (CNNIC). The data statistics adopts the provincial summarization of registered IP address amount with ascertained address located by province from the above two databases. As it is dynamic address allocation, the statistical data is for reference only. Furthermore, the Ministry of Industry and Information Technology, the national competent authorities of IP address, requires China's IP address allocation units (such as China Telecom) to report the IP address amount they owned

semiannually. In order to ensure the accuracy of IP data, CNNIC will compare the APNIC data with the above reported data before it determines the ultimate amount of IP addresses.

2. Totals of China's Domain Names and Websites

The totals of China's websites and domain names can be obtained by adding up the following two parts of data.

The first part of data is the amounts of domain names and websites under .CN, which CNNIC has obtained by means of automatic online searching. The second part of data is the amounts of the gTLDs and websites in China, the provision of which are facilitated by gTLD registrars in China. These data include the amounts of gTLDs and websites that have been launched under gTLDs; the amounts of gTLDs and websites calculated according to domain categories (".COM", ".NET" and ".ORG"); the amounts of gTLDs and websites by province where registrars are located.

3. Amount of Web Pages

Automatic Online Searching is used to search from the homepage (WWW+ domain name) of the sampled websites and capture all web page features and contexts of the website through links on web pages. The web pages and bytes of all China's websites captured in web page searching are added up respectively to obtain the total of China's web pages and bytes, excluding the duplicate web pages with the same content.

4. Total International Bandwidth of China

With the reporting system of telecommunication companies, the Ministry of Industry and Information Technology can get regularly the data on total international bandwidth that China's operators hold. The data reported are included in *the Statistical Survey Report on Internet Development in China*.

Chapter Two Size and Demographic Structure of Netizens

I. Size of Netizens

(I) Overall Size of Netizens

By the end of 2008, the total of netizens in China had increased to 298 million, with an annual growth rate of 41.9%. The Internet penetration rate reached 22.6%, slightly higher than the average level in the world (21.9%¹). Since the size of netizens in China surpassed that of the United States in June 2008 and ranked the first in the world, the Internet penetration rate in China has realized another leap forward, catching up with and surpassing the average level in the world.

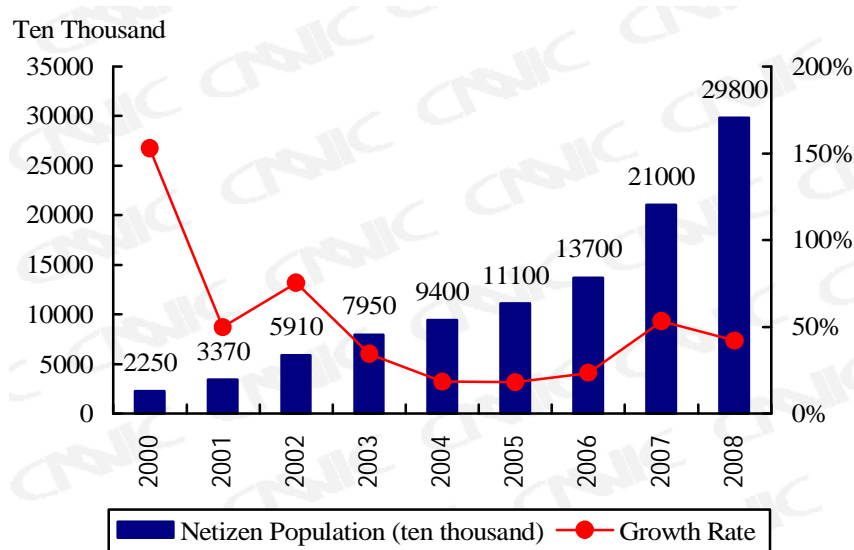


Figure 1 Size of Netizens and Growth Rate in China from 2000 to 2008

The rapid growth of the size of netizens in China is closely related to the following factors:

Firstly, the rapid economic development in China is the basis for the rapid growth of the size of Internet users. After three decades' reform and opening-up and under the background of an average annual GDP growth rate of 9.8%, China has accumulated considerable strength. With

¹ Data source: <http://www.Internetworldstats.com>; The Internet penetration of other countries and regions in comparison is data at the end of June 2008.

income increase of all the people, people will have more and more input in information demanding. Meanwhile, good economic environment has created conditions for the innovation and development of the Internet industry, and promoted M & A and the updating of commercial mode within the industry, finally making more people become netizens and better serving the netizen groups.

Secondly, in order to guarantee the healthy development of information technology in China, the state has developed and released a series of policies such as 2006-2020 National Informatization Development Strategy and “Eleventh Five-Year Plan” for Informatization of National Economy and Social Development. Informatization is becoming an important means for promoting scientific development. The rural informatization construction has become an important part of it and is also gradually becoming an important content of agricultural and rural infrastructure construction. In order to make information technology and service to benefit millions of farmers, and fulfill the goal of basically realizing “every village has access to telephone and every township has access to the Internet” by 2010, the competent government authorities and telecom carriers are actively promoting the project of bringing telephones to natural villages and broadband to administrative villages. The process of urbanization has created conditions for more people to have contact with the Internet. Here, urbanization includes two aspects: firstly, urbanization of villages; secondly, clustering of cities. The development of the former has directly resulted in the updating of hardware facilities for production and living, and the latter has further promoted the narrowing the urban-rural gap.

Thirdly, communication and network technology develops toward the direction of broadband, mobility and integration, and data communication is gradually taking the place of voice communication to become the mainstream in the field of communication. With the progress of industrial technology and intensification of competition among network operators, the software and hardware environment for network access is being optimized. The price for network access and users’ terminal products keeps dropping so that users’ threshold for Internet access keeps falling.

Fourthly, the Internet has high stickiness and high transmissibility. According to CNNIC’s survey, once a user comes into contact with the Internet, the loss rate is very low; on the other hand, applications on the Internet such as online games, instant messaging, blog, forum and friend making have very strong interactive functions, which can promote the transmission of the related applications. Such transmission not only includes transmission to netizens, but also includes transmission to non-netizens, while the transmission to non-netizens will promote the expansion of the size of netizens.

Fifthly, the expansion of the size of netizens can promote the lift of network value, while the lift of network value can also further strengthen its expansion force. According to the Metcalfe's Law, the value of network is in direct proportion to the square of the size of network. With the rapid growth of the size of netizens, the value of network keeps expanding. The contents created by organizations and individuals with a view to the value of the Internet, in return, further strengthen the expansion force and attraction of the network.

Though the size of netizens and penetration rate in China keeps developing rapidly, as the population base in China is big, the penetration rate of the Internet only ranks the 87th in various countries and regions in the world.

The following figure is the comparison of Internet penetration rates of China and some countries.

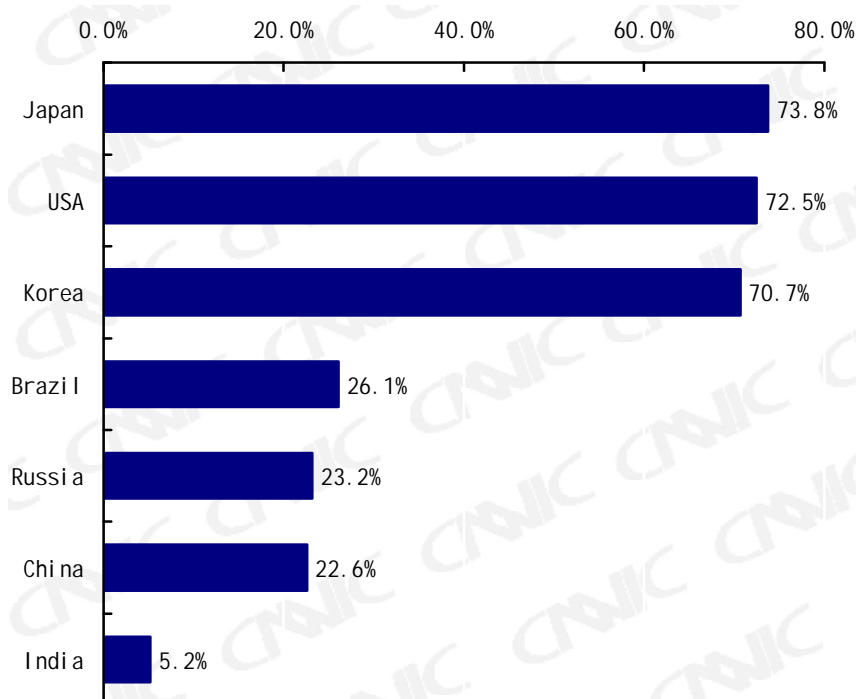


Figure 2 Internet Penetration Rates of Some Countries

(II) Size of Broadband Netizens

The survey shows that in the second half of 2008, 90.6% of the Chinese netizens accessed the Internet via broadband, that is, 270 million Chinese netizens used broadband to access the Internet, rising by over 100 million from 2007.

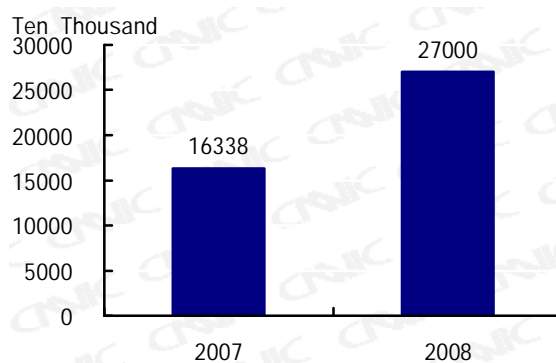


Figure 3 Comparison of Size of Broadband Netizens in China 2007-2008

According to the statistics of the Ministry of Industry and Information Technology, by the third quarter of 2008, the Internet long-distance circuits in China had reached 8,935,811 2M, increasing by nearly one time from the end of 2007 (94%), and the length of optical cable line in China increased by 618 thousand km from the end of 2007, reaching 6.395 million km. The number of Internet broadband imports had reached 103.721 million, including 86.727 million xDSL ports, increasing by 2% from the end of 2007. In 2008, the communication capacity of telecom network in China improved rapidly, driving the development of broadband Internet in China. The rapid penetration of broadband has promoted the development of various network applications, but the speed for Internet access via broadband in China still lags behind other countries advanced in the Internet.

(III) Size of Netizens Accessing the Internet via Mobile Phones

By 2008, the number of netizens accessing the Internet via mobile phones had reached 117.6 million, increasing by over one time from 2007.

The main reasons for the rapid increase of netizens accessing the Internet via mobile phones are as follows:

Firstly, carriers attach importance to Internet usage via mobile phones. As the core of the industrial chain, carriers strengthen management of mobile Internet on one hand, and gradually reduce the fees for users to access the Internet via mobile phones on the other hand.

Secondly, Easy-own brand users who account for the largest proportion in mobile phone users have become the largest group accessing the Internet via mobile phones. Users accessing the Internet via mobile phones have reached a high quantity basis, and the influence among users is obvious, which drives more users to use mobile phones to access the Internet.

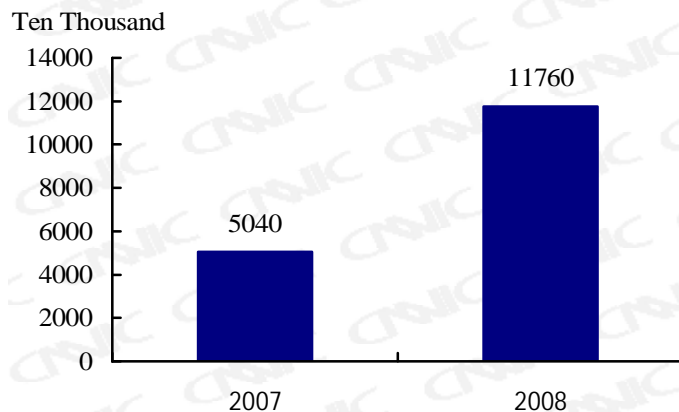


Figure 4 Comparison of Size of Netizens Accessing the Internet via Mobile Phones 2007-2008

Thirdly, mobile phones without license tags (usually called “Shan Zhai phones”) develop rapidly in 2008, whose support for mobile Internet access and low prices provide hardware basis for users to access the Internet via mobile phones.

In 2009, with the advent of the 3G age, Internet usage via mobile phones will see more rapid development.

(IV) Size of Rural Netizens

By the end of 2008, the size of rural netizens in China had reached 84.6 million, increasing by 31.9 million from 2007, with the growth rate surpassing 60%.

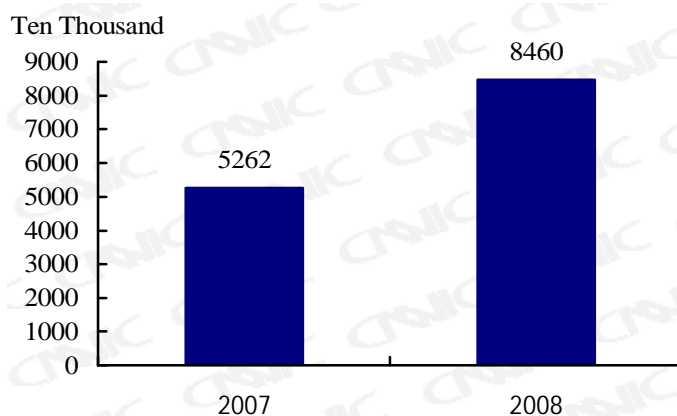


Figure 5 Comparison of Size of Rural Netizens in China 2007-2008

The rapid development of rural Internet has benefited from the following factors:

Firstly, the in-depth promotion of the rural Party member cadre modern long-distance education project has resulted in the construction of a large number of long-distance education terminal receiving stations, which have played an objective promoting role for the development of the

Internet;

Secondly, the solid development of the construction of rural information service stations provides terminal equipment and places for farmers' access to the Internet;

Thirdly, to cooperate with the promotion of long-distance education project and the construction of rural information service stations, telecom carriers have applied fee preferential policies for these areas, which objectively can promote Internet use in these areas.

(V) Size of Netizens by Province

Table 1 Comparison of Size of Netizens and Internet Penetration Rate by Province 2007-2008

	End of 2007		End of 2008		Growth rate
	Number of netizens (ten thousand)	Penetration rate	Number of netizens (ten thousand)	Penetration rate	
Total netizens	21000	15.9%	29800	22.6%	41.9%
Beijing	737	46.6%	980	60.0%	32.9%
Tianjin	287	26.7%	485	43.5%	69.1%
Hebei	762	11.1%	1334	19.2%	75.0%
Shanxi	536	15.9%	819	24.1%	52.8%
Inner Mongolia	322	13.4%	385	16.0%	19.7%
Liaoning	783	18.3%	1138	26.5%	45.3%
Jilin	434	15.9%	520	19.0%	19.8%
Heilongjiang	476	12.5%	620	16.2%	30.2%
Shanghai	830	45.8%	1110	59.7%	33.7%
Jiangsu	1757	23.3%	2084	27.3%	18.6%
Zhejiang	1509	30.3%	2108	41.7%	39.7%
Anhui	587	9.6%	723	11.8%	23.1%
Fujian	866	24.3%	1379	38.5%	59.3%
Jiangxi	511	11.8%	610	14.0%	19.5%
Shandong	1256	13.5%	1983	21.2%	57.9%
Henan	956	10.2%	1283	13.7%	34.2%
Hubei	706	12.4%	1050	18.4%	48.7%
Hunan	690	10.9%	999	15.7%	44.7%
Guangdong	3344	35.9%	4554	48.2%	36.2%
Guangxi	560	11.9%	734	15.4%	31.1%
Hainan	144	17.2%	216	25.6%	49.9%
Chongqing	356	12.7%	598	21.2%	67.9%
Sichuan	809	9.9%	1103	13.6%	36.4%

Guizhou	224	6.0%	433	11.5%	93.4%
Yunnan	303	6.8%	548	12.1%	81.0%
Tibet	36	12.7%	47	16.4%	29.5%
Shaanxi	517	13.9%	790	21.1%	52.8%
Gansu	219	8.4%	327	12.5%	49.5%
Qinghai	60	11.0%	130	23.6%	117.4%
Ningxia	61	10.1%	102	16.6%	66.4%
Xin jiang	363	17.7%	625	27.1%	72.1%

Among all provinces, the increase of number of netizens in western regions is the fastest. Among the 8 provinces whose growth rate is over 60%, 6 are in the western regions, and the 3 provinces with the most rapid growth rate are all from the west.

II. Demographic Structure of Netizens

(I) Gender

According to *China Statistical Yearbook 2008*: at the end of 2007, the male female gender ratio of Chinese residents was 51.5: 48.5. Compared with 2007, the gender structure of Chinese netizens has been further optimized, and netizens' gender structure is close to the gender structure of the total population.

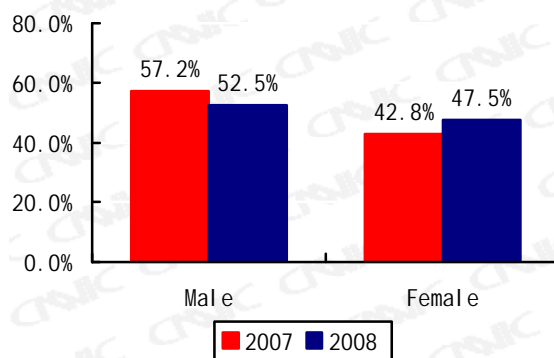


Figure 6 Comparison of Netizens' Gender Structure 2007-2008

Though netizens' overall gender structure is close, the difference of netizens' gender structure in the urban areas and the rural areas is still big. Among urban netizens, there is almost no difference in gender structure, while among rural netizens, males still outnumber females by about 15 percentage points.

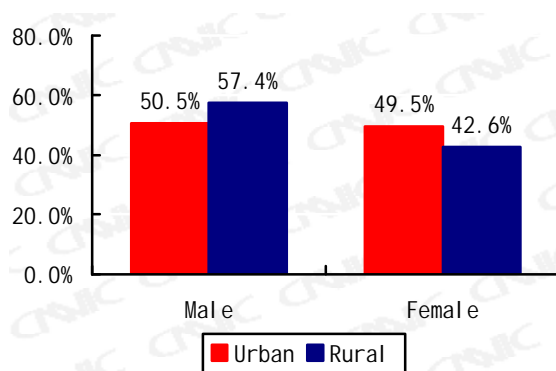


Figure 7 Comparison of Gender Structure of Urban and Rural Netizens

(II) Age

Compared with 2007, the proportion of netizens aged 10-19 increased, and such netizens became the largest user group of the Internet in China. The growth the size of this group mainly resulted from two causes: firstly, the Ministry of Education started to construct the “EISS” project from year 2000, and planned to take 5-10 years to enable 90% of the independent middle schools and primary schools throughout the country to have access to the Internet and teachers and students to share online education resources. At present, this project is close to the end; secondly, the entertainment characteristic of the Internet has increased its penetration among youngsters, and services such as network games, network video and network music have promoted the popularization of the Internet among people of this age group.

The proportion of netizens aged 40 and above in 2008 was slightly higher than that of 2007. In recent years, the proportion of netizens of advanced ages has kept rising and the growth rate has surpassed that of overall netizens, which shows the optimizing tendency of the demographic structure of Chinese netizens in terms of age.

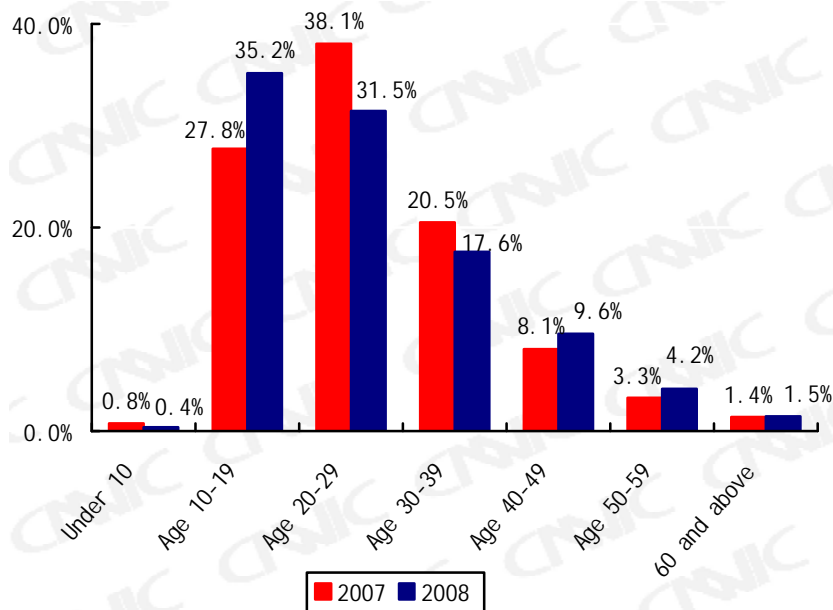


Figure 8 Comparison of Netizens' Age Structure 2007-2008

(III) Education

Compared with 2007, the proportion of population whose education is junior college degree and above among netizens further dropped, and the proportion of netizens with senior middle school and junior middle school degrees continued to rise. The Internet has increasingly been popularized among population of low education level.

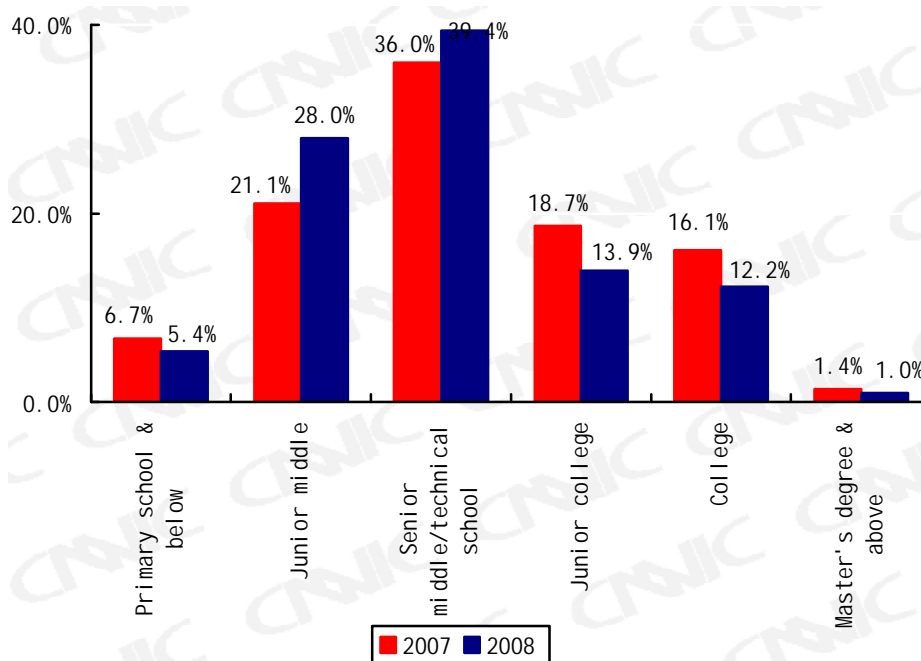


Figure 9 Comparison of Netizens' Education Structure 2007-2008

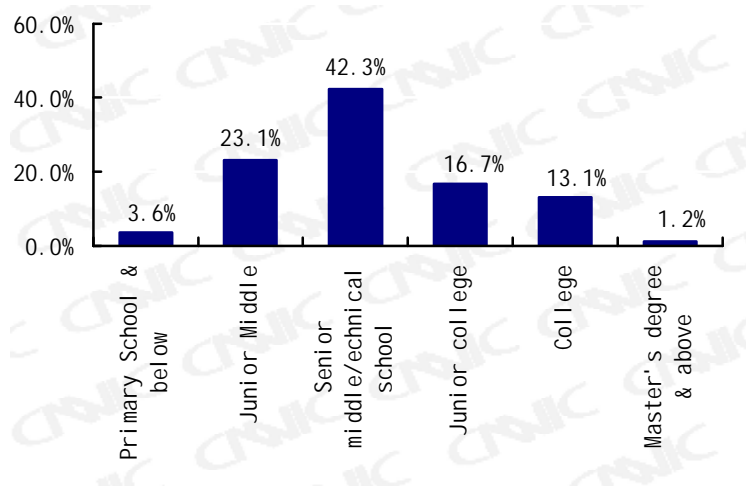


Figure 10 Education Structure of Non-Student Netizens

Among non-student netizens, the proportion of netizens with a junior middle school degree and below was obviously lower than the total netizens, while the proportion of netizens with a senior middle school degree and above was higher than the total netizens. In this group, the penetration speed of the Internet in the population with low education level was obviously lower than that of the student population.

(IV) Profession

The largest composing group of netizens is students. The existence of a large number of students, on one hand, greatly activates Internet applications in China, on the other hand, reduces the commercial value of the Internet in China.

Besides students, civilian staff such as workers in Party and government organs and institutions, corporate managers, employees and professionals account for a large proportion, while farmers and workers in the industries and service industries that account for the largest proportion in China still account for a low proportion of netizens; compared with 2007, unemployed people among netizens dropped from 11.9% to 5.5%.

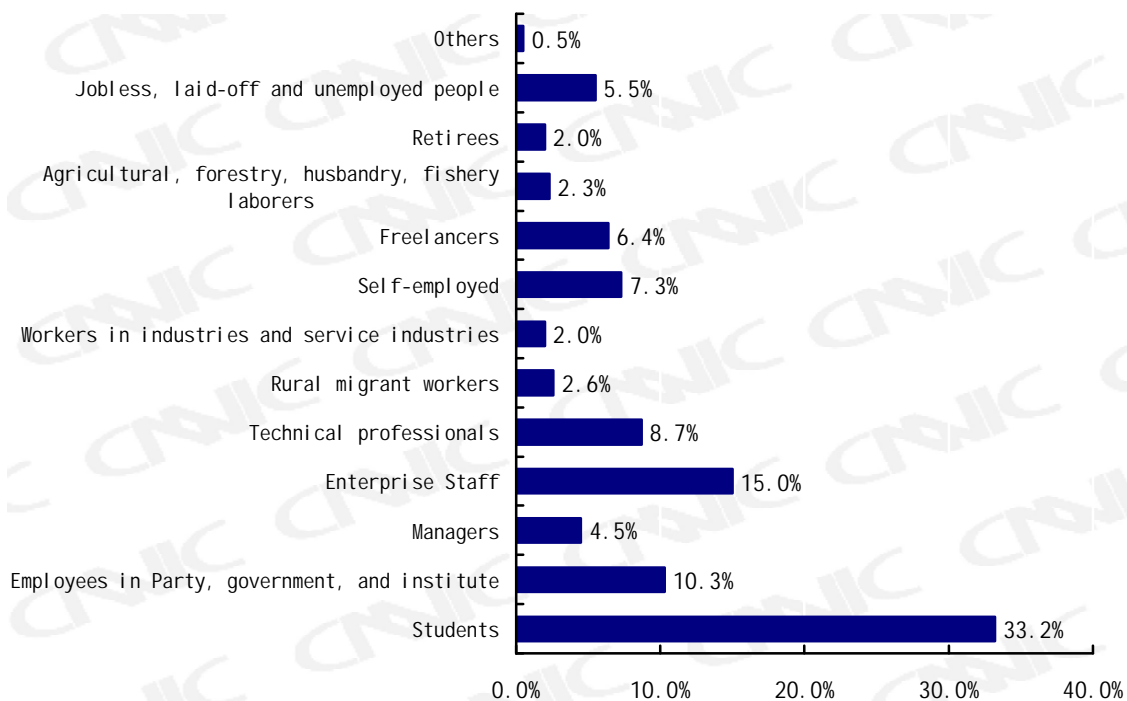


Figure 11 Netizens' Professional Structure

(V) Income Structure

Compared with 2007, the proportion of people without income among netizens dropped from 4.4% to 1.5%, with an obvious extent of decreasing, corresponding to the drop of the proportion of unemployed netizens. There was little change in other income sections.

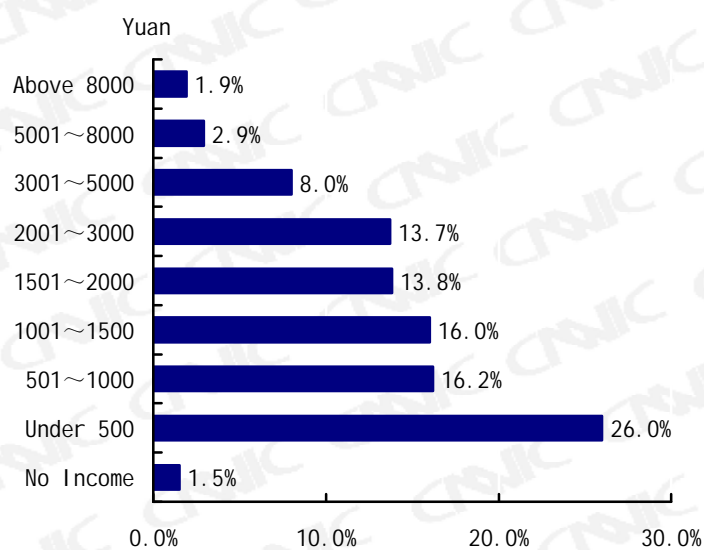


Figure 12 Netizens' Income Structure

(VI) Urban and Rural Structure

The size of rural netizens reached 84.6 million. The proportion of rural population among netizens keeps rising and the Internet has been continuously penetrating the rural areas.

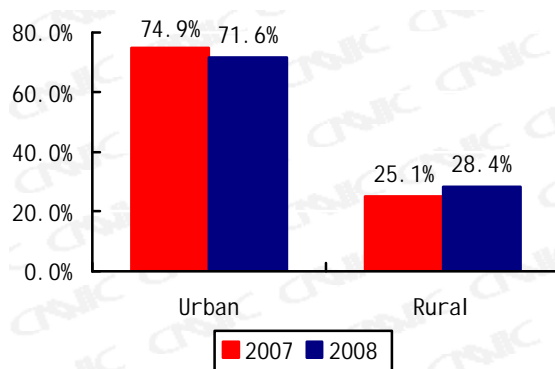


Figure 13 Comparison of Urban-Rural Structure of Netizens 2007-2008

Chapter III Fundamental Resources of the Internet

I. Overview of Fundamental Resources

The Internet fundamental resources in China maintained high growth in 2008. In addition to IPv4, the growth rate of other resources equaled or surpassed that of netizens.

The growth rate of IPv4 has lagged behind that of Chinese netizens for two consecutive years, and the number of IPv4 addresses per capita has continued to drop. IPv4 addresses are indispensable fundamental resources for accessing the Internet. In the next few years, if the growth rate cannot catch up or transit to IPv6, it will very likely to be a bottleneck constraining the development of the Internet in China.

Table 2 Internet Fundamental Resources in China 2007-2008

	2007	2008	Volume of growth	Growth rate
IPv4 (Nrs)	135,274,752	181,273,344	45,998,592	34.0%
Domain names (Nrs)	11,931,277	16,826,198	4,894,921	41.0%
Including CN domain names (Nrs)	9,001,993	13,572,326	4,570,333	50.8%
Websites (Nrs)	1,503,800	2,878,000	1,374,200	91.4%
Including websites under .CN (Nrs)	1,006,000	2,216,400	1,210,400	120.3%
International bandwidth (Mbps)	368,927	640,286.67	271,359.67	73.6%

II. IP Addresses

IP addresses are divided into two categories: IPv4 and IPv6. IPv4 is mainstream application. However, with the IPv4 addresses running out, transition to IPv6 has become the trend.

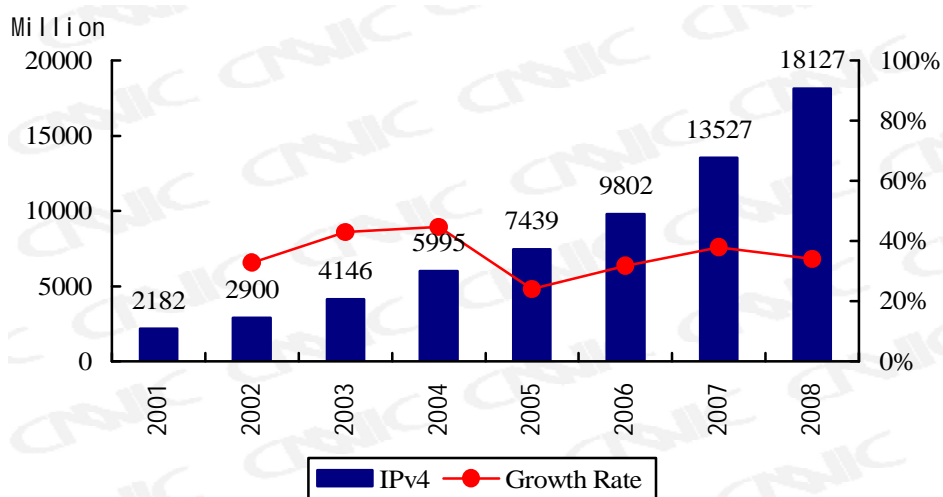


Figure 14 IPv4 Address Resources in China from 2001 to 2008

Though IPv4 resources are still short in general, as the Internet in China develops rapidly, with the efforts of various IP address allocation units, the IPv4 addresses in China still maintains a rapid growth. In 2008, IPv4 addresses allocated reached 181,273,344, increasing by 34% from previous year. Nevertheless, IPv4 addresses still cannot catch up with the growth rate of netizens in China. Taking the occupation of IP addresses by other Internet equipment such as servers and routers into account, the situation of IPv4 addresses shortage is very serious in China.

Note: for the detailed allocation of IPv4 and IPv6 in various units and provinces of China, see Appendix 3.

III. Domain Names

By the end of 2008, the total number of domain names in China reached 16,826,198, increasing by 41% from 2007, still maintaining the momentum of rapid growth.

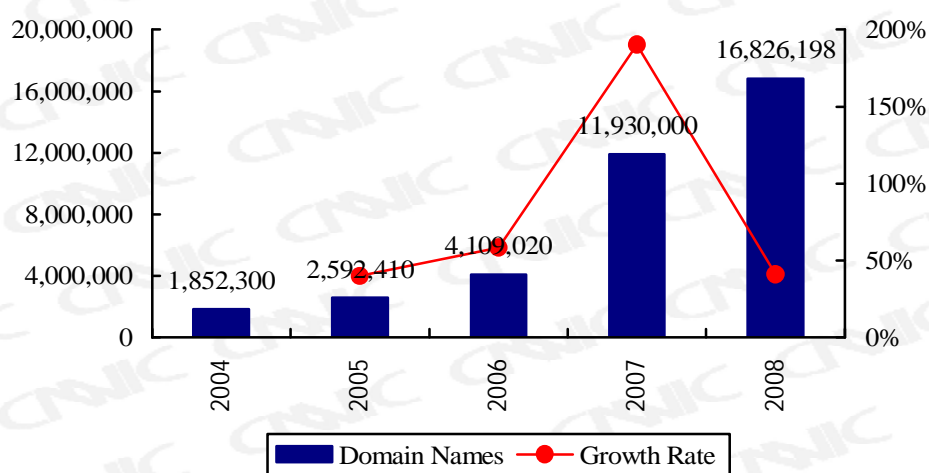


Figure 15 Domain Names in China from 2004 to 2008

The growth of domain names in China mainly benefits from the growth of .CN domain names. In 2001, China's .CN just took about 16% shares. Through years of development, by 2006, the market share of .CN had reached 43.9%. In 2007, CNNIC, the registry of .CN initiated the "experiencing .CN domain name with 1 Yuan" campaign. As a result, .CN surpassed .COM, occupying the leading position in the Chinese domain name market. By the end of 2008, the market share of .CN reached 80.7% (see the following table).

Table 3 Number of Domain Names in China

	Quantity	Proportion
cn	13,572,326	80.66%
com	2,739,130	16.28%
net	419,220	2.49%
org	93,913	0.56%
Others	1,609	0.01%
Total	16,826,198	100.0%

The following table is the breakdown of CN domain names.

Table 4 Breakdown of .CN Domain Names

	Quantity	Proportion
.cn	8,878,139	65.41%
.com.cn	3,629,375	26.74%
.net.cn	505,333	3.72%
.org.cn	218,703	1.61%
.adm.cn	278,336	2.05%
.gov.cn	45,555	0.34%
.ac.cn	13,438	0.10%
.mil.cn	6	0.00%

edu.cn	3,441	0.03%
Total	13,572,326	100.0%

Among CN domain names, the proportion of second level domains was the highest, followed by .COM.CN. Compared with the same period last year, .CN second level domain names increased by about two percent, while .COM.CN slightly dropped.

IV. Websites

By the end of 2008, the number of websites in China, that is, the websites whose domain name registrants were within the territory of China (including access from within the territory and access from outside the territory) had reached 2.878 million, increasing by 91.4% from 2007. 2008 was the year that saw the most rapid growth since 2000. After the domain name registrations hike in China in 2007, the driving role of the increased domain names in websites started to be seen.

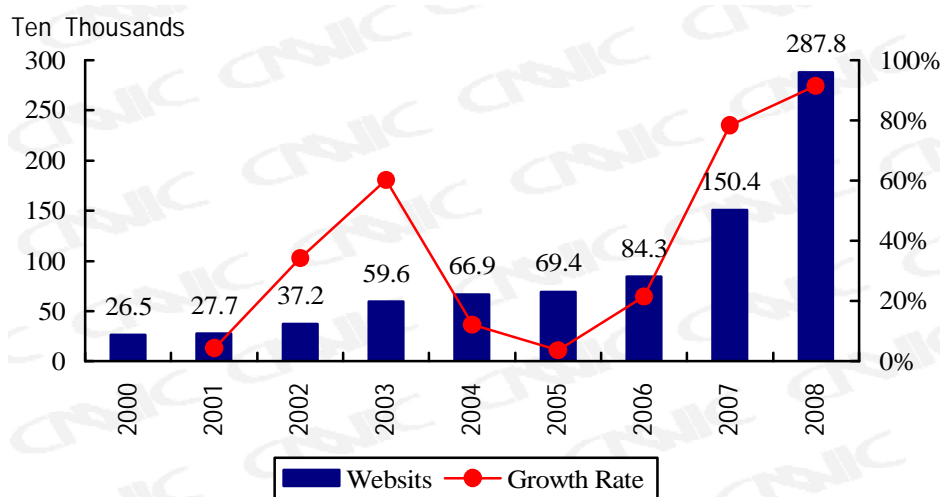


Figure 16 Number of Websites in China from 2000 to 2008

Note: the number of websites under .EDU.CN is not included.

The following table shows the number of websites under various kinds of domain names. The number of websites under .CN occupies the absolute leading position, increasing by 10 percentage points from 2007, while the websites under COM reduced by 9.2 percentage points from 2007.

Table 5 Number of Websites under Various Domain Names in China

	Number of websites	Proportion
cn	2,216,437	77.0%
com	552,898	19.2%
net	87,713	3.0%

org	21,005	0.7%
Total	2,878,053	100.0%

Note: the number of websites under .EDU.CN is not included.

V. Web Pages

Web pages are the direct vehicles of Internet content resources, and the quantity of websites, to some extent, reflects the richness of Internet contents. Since 2002, the quantity of web pages in China has maintained high growth.

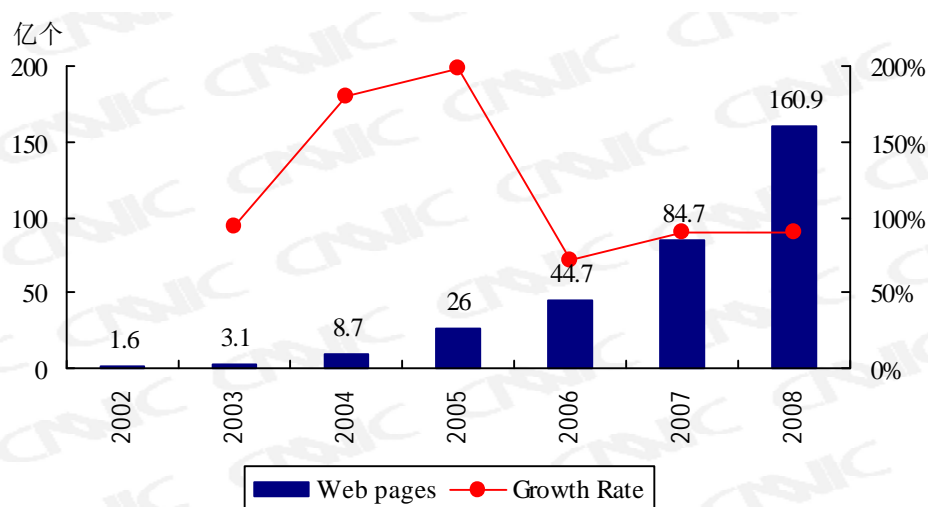


Figure 17 Quantity of Web Pages in China from 2002 to 2008

By the end of 2008, the total number of web pages in China had surpassed 16 billion, increasing by 90% from 2007. The growth speed of web pages is basically consistent with the growth speed of websites.

Table 6 Number of Web Pages in China

Total number of web pages	Nrs	16,086,370,233
Static web pages	Nrs	7,891,388,272
	Proportion in total web pages	49.06%
Dynamic web pages	Nrs	8,194,981,961
	Proportion in total web pages	50.94%
Proportion of static/dynamic web pages		0.96:1
Length of web pages (total byte)	KB	460,217,386,099

number)		
The number of web pages of each website on average	Nrs	5,588
Byte of each web page on average	KB	28.6

VI. International Outlet Bandwidth

In 2008, China's international outlet bandwidth reached 640,286.67 Mbps, increasing by 73.6% from 2007, surpassing the growth rate of netizens. The speed for accessing overseas websites by Chinese netizens has been improved and their use experience further optimized.

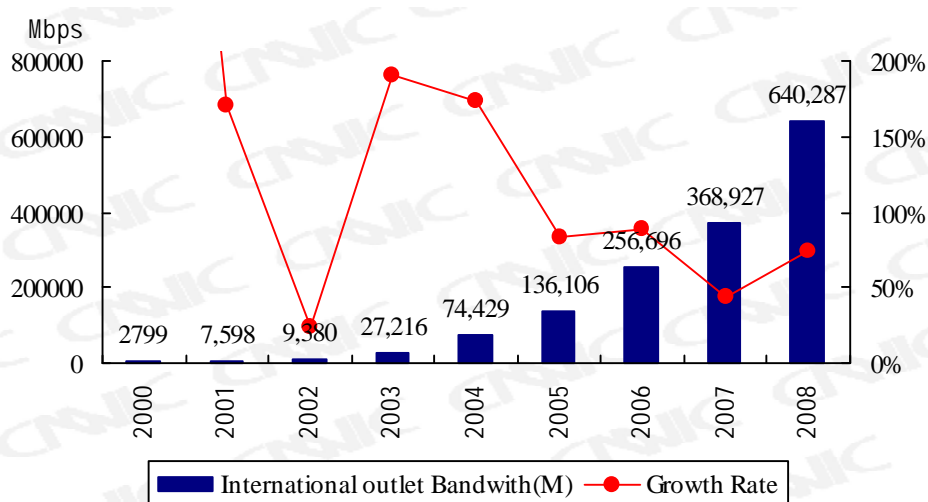


Figure 18 China's International Outlet Bandwidth from 2001 to 2008

Table 7 Numbers of International Outlet Bandwidth of Major Backbone Networks

Name of Backbone Network	Number of international outlet bandwidth (Mbps)
Former CHINANET	337,564.17
Former CHINA169	243,956.5
CSTNET	10,010
CERNET	9,932
CMNET	29,860
UNINET	4,319
CRNET	4,643
CIETNET	2
Total	640,286.67

Chapter Four Internet Access

I. Time of Internet Access

The time netizens spent on the Internet by netizens is closely related to their length of surfing the Internet: the longer their surfing, the more time they spend on the Internet.

The time of internet access is the objective reflection of the basis and the extent of various network applications. Generally speaking, the more time a netizen spends on the Internet, the richer the network applications used, and the more mature the netizen's network behavior is. On the other hand, the richer netizens' network applications are, the higher maturity their network behavior is, and the more time they will spend on the Internet. We will further analyze this point in network applications.

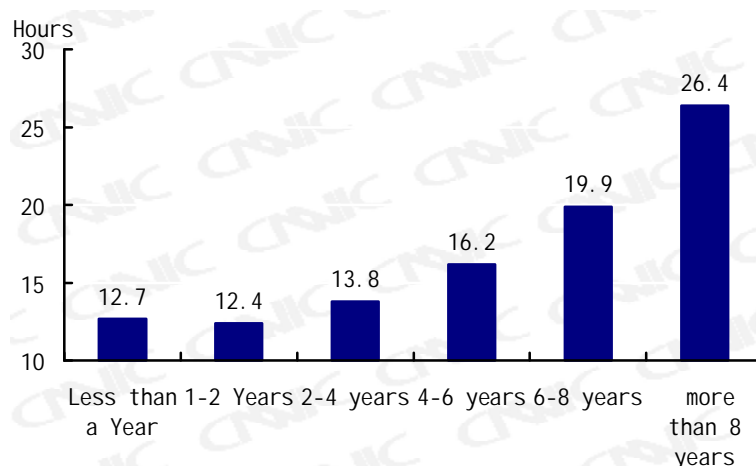


Figure 19 Time on Internet per Week of Netizens

The time on Internet per week of Netizens on average was slightly longer in 2008. However, considering the fact that the time on Internet by new netizens, the increase was limited. Considering the size of overall netizens, the total time spent by netizens increased substantially from 2007. From this, we can see that the “attention economy” value of the Internet, as an advertising platform, is still greatly growing.

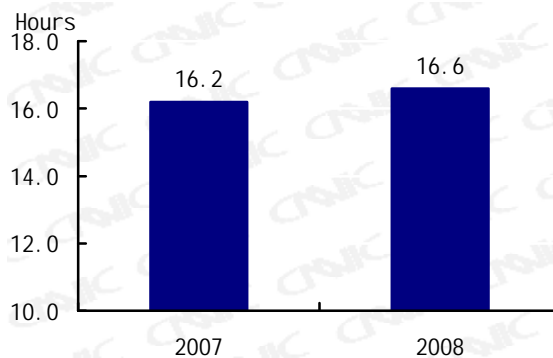


Figure 20 Average time on Internet per Week of Netizens 2007-2008

The Internet has increasingly become a media that netizens repeatedly visit in their daily life, which means that the value of the Internet, as a mainstream advertising media, is more and more obvious. As Internet advertising is characterized by accurate targeting, high audience value and traceable effect, it may have unique advantages in solving the problem of “wasted half advertising fees”.

II. Place of Internet Access

Home and Internet cafés are two primary places for Internet surfing. However, for netizens of different occupations, there are very obvious differences among their places of Internet access.

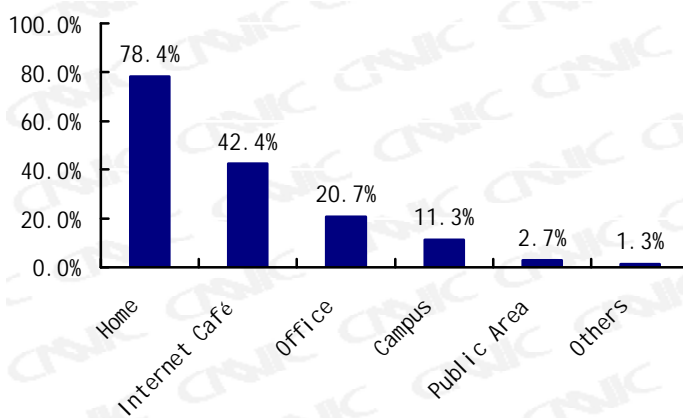


Figure 21 Places of Internet Access

III. Surfing Equipment

Desktops are the main equipment for Internet Access. Mobile phones, as terminals for Internet

access, are rapidly rising. With the development of 3G application in China, it can be estimated that accessing the Internet via mobile phones will be more popularized in 2009 and in the years to come.

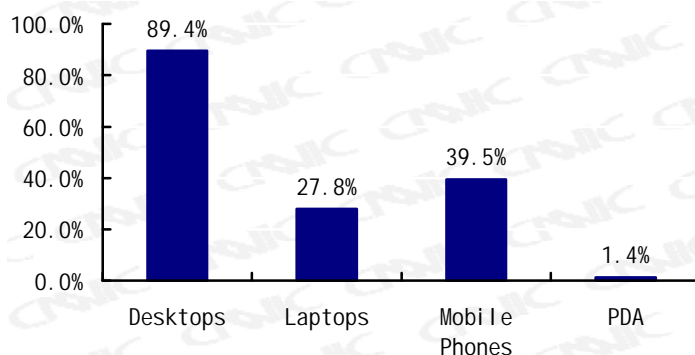


Figure 22 Surfing Equipment

Different professionals tend to use different surfing equipments. Corresponding analysis and crosstab show that, managers tend to use notebook computers to access the Internet, office employees access the Internet mainly through desktops, while students have obvious tendency of accessing the Internet via mobile phones.

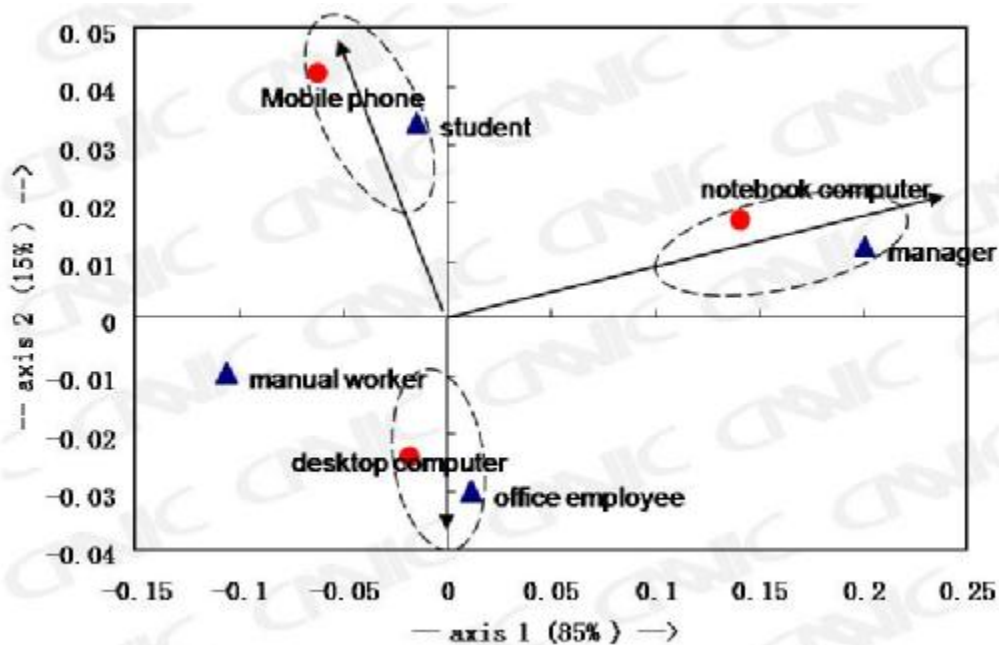


Figure 23 Analysis of profession and Surfing Equipment

Mobile phones provide a convenient means for students' wireless access of the Internet. On one hand, the customer brands, such as "M-ZONE" and "UP New Forces", are most applied among students, directly add fees for Internet in the payment package; on the other hand, the applications

that students pay wide attention to, like instant messaging, image and ringing tone downloading and mobile phone reading, can be conveniently realized in Internet surfing via mobile phones. These have played a very active role in attracting students to use Internet via mobile phones.

Table 8 Comparison of Surfing Equipment of Netizens of Different groups

	Desktop	Laptop	Mobile Pphone	PDA
Student	89.3%	28.6%	43.5%	1.6%
Management	90.0%	43.0%	35.9%	2.6%
Office employees	90.5%	28.1%	37.5%	1.4%
Manual worker	87.2%	20.6%	40.8%	0.7%
Retiree	85.1%	16.0%	9.3%	1.3%
Unemployed	88.1%	21.1%	38.3%	0.3%

What should be noted is that, manual workers accessing the Internet over mobile phones takes up relatively high proportion, which is closely related to the popularization of mobile phones. On the other hand, a computer is not a daily necessity for manual workers because of its high price, occasional needs of surfing the Internet can be satisfied through mobile phones, while the needs that cannot be replaced by mobile phones can be met in Internet cafés. Thirdly, the needs of this group for surfing the Internet are simple, and chatting, poker playing and online games are their primary applications, which can all be realized on mobile phones.

IV. Access Method

Netizens accessing the Internet via broadband has already accounted for over 90% of the total netizens, and broadband Internet access has become the absolute mainstream.

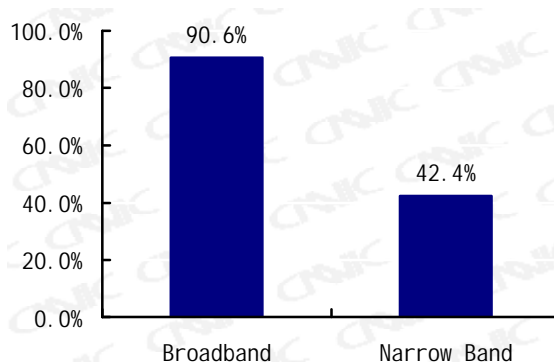


Figure 24 Penetration Rates of Broadband and Narrowband among Netizens

42.4% of the netizens have used narrowband access. Please note, narrowband access is not equal to

dialing access as in the beginning of the Internet, but more often, wireless access of mobile Internet. The following figure shows the surfing equipments accessing narrowband.

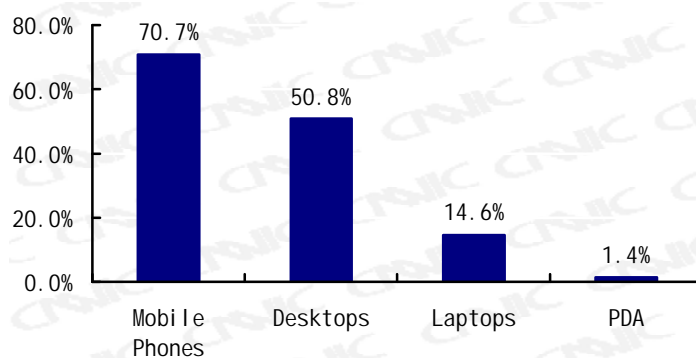


Figure 25 Surfing Equipment on Narrowband Access

Because of the fact of overlapping use of broadband and narrowband, narrowband only users account for 9.4% of the total netizens. And 33% of the netizens use both broadband and narrowband.

Chapter Five Netizens' Network Application

I. Major Network Applications UseBehaviors

We roughly classify various applications of the Internet as follows: network media, Internet information search, network communication, network community, network entertainment, E-commerce and network finance etc.

On the whole, the netizen occupation rates of some mainstream network applications such as search engines, instant messaging, network music and network video have fallen to some extent, which is mainly related to the rapid growth rate of the size of netizens: newly added netizens often start to enter the network world from a certain application or a few applications and seldom use other applications. As the initial application of newly added netizens are not very concentrated, if the proliferation of old netizens to other applications cannot catch up with the growth rate of netizens, the use rate of network applications will decrease.

(I) Network Media

The use rate of network media in 2008 increased by nearly 5 percentage points from 2007, reaching 78.5%, and the user group increased by 79 million, reaching 234 million.

Table 9 Comparative data of Network News Users 2007-2008

	End of 2007		End of 2008		Change	
	Use rate	Size of netizens (ten thousand)	Use rate	Size of netizens (ten thousand)	Volume of increase (ten thousand)	Growth ate
Network news	73.6%	15,500	78.5%	23,400	7,900	51.0%

Interaction is one of the most important characteristics of network news, which has transformed the relationship between traditional media and audience to bilateral or multilateral interaction. On the other hand, network news has realized multimedia integration operation in form, with more prominent expressiveness and appeal.

The report of major events, such as the Olympics, has enabled network media to stand on a par with mainstream media.

(II) Information Search

Search engines are the basic application for netizens to get their needed information from the Internet. At present, the use rate of search engines is 68.0%, ranking the fourth among all Internet applications. In the whole year of 2008, users of search engines increased by 51 million, with an annual growth rate of 33.6%. As the overall size of netizens grew rapidly, the proportion of netizens of medium and low education level was big and the use rate of search engines by this part of netizens was low, the overall use rate of search engines fell as a result.

Table 10 Comparison of Uses Applying Information Search 2007-2008

	End of 2007		End of 2008		Change	
	Use rate	Size of netizens (ten thousand)	Use rate	Size of netizens (ten thousand)	Volume of increase (ten thousand)	Increase rate
Search engine	72.4%	15,200	68.0%	20,300	5,100	33.6%
Network job seeking	10.4%	2,200	18.6%	5,500	3,300	150.0%

Obvious urban-rural, age, education and income differences exist in the use of search engines: the use rate of search engines by urban netizens is obviously higher than that of rural netizens; the use rate of search engines by netizens aged 20-40 is obviously higher than that of other groups; the higher the education level, the higher the use rate of search engines is; the higher the income is, the higher the use rate of search engines is. The characteristic of the people applying search engines determines the high value that search engines have in the field of the Internet.

(III) Network Communication

1. Email

The use rate of emails in 2008 was 56.8%, remaining stable compared with 2007. Research has found out: the higher the education level netizens have, the higher rate of emails they have; the use rate of emails by office clerks, managers and college students is obviously higher than that of other groups. With the further penetration rate of the Internet, netizens' education structure will continue to incline towards groups of low education level. With the further penetration of the Internet towards office areas, more and more professional groups will use emails. Considering the above two factors in combination, the use group of emails in the future will continue to grow, which will be especially obvious among professional groups. However, as people with low

education level keep flowing into the large contingent of Internet users, the use rate of emails will tend to become lower in the future.

Table 11 Breakdown of Network Communication Application Users 2007-2008

	End of 2007		End of 2008		Change	
	Use rate	Size of netizens (ten thousand)	Use rate	Size of netizens (ten thousand)	Volume of increase (ten thousand)	Increase rate
Email	56.5%	11,900	56.8%	16,900	5,000	42.0%
Instant messaging	81.4%	17,100	75.3%	22,400	5,300	31.0%

2. Instant messaging

The functions of instant messaging are becoming increasingly richer. On the one hand, it is becoming a connection point of socialized network; on the other hand, its platform nature also makes it gradually become important entrance for various network applications such as email, blog, network game and search.

At the end of 2008, the use rate of instant messaging was 75.3%, the size of user group increased by 53 million, but the use rate fell by 6.1%. Seen from age analysis, the proportion of users of instant messaging by people aged 40 and above was slightly higher than that of 2007. The main increased users are elderly netizens aged 40 and above, while the use rate of users of instant messaging aged below 40 all fell.

(IV) Network Community

1. Friend-making websites

The amount of friend-making websites in 2008 grew substantially from 2007, and the present use rate reached 19.3%. Through cooperation with traditional media such as TV, dating websites have improved their influence on users. Netizens' recognition of professional dating websites has also been improved, and the size of users continues to grow. Campus and workplace network friend-making forms developed very rapidly in 2008. Such friend-making websites, depending on the existing user size basis, attracted more new users. Rich application varieties (for example, web page games) and use measures (for example, friend-making via mobile phones) played a larger promotion role in the growth of users of friend-making websites.

Table 12 Comparison of Users of Network Communities 2007-2008

	End of 2007		End of 2008		Change	
	Use rate	Size of netizens (ten thousand)	Use rate	Size of netizens (ten thousand)	Volume of increase (ten thousand)	Increase rate
Having blogs	-	-	54.3%	16,200	-	-
Updating blogs	23.5%	4,900	35.2%	10,500	5,600	114.3%
Forum/BBS	-	-	30.7%	9,100	-	-
Friend-making websites	-	-	19.3%	5,800	-	-

2. Blog

In 2008, the size of blog users continued to develop rapidly. By the end of December 2008, among 298 million netizens, the proportion of netizens having blogs had reached 54.3%, and the size of users 162 million. While the size of users grew, the activity of Chinese blogs improved. The proportion of blogs updated within half a year improved by 11.7% from the end of 2007. The growth of the amount of blogs effected the concentration of users. Blog channels became a standard part in various types of websites. The addition of SNS element played a promoting role in the growth of blog users. The influence of blogs was further strengthened.

(V) Network Entertainment

1. Network games

In 2008, the size of network game users continued to maintain the momentum of growth, and the proportion of users increased from 59.3% in 2007 to 62.8% in 2008, which mainly benefited from the richness of contents and style of network game products: on one hand, the diversity of the contents of network game products strengthened its expansion towards users of two age groups, old and young; on the other hand, as a newly emerging form of game, web page games developed rapidly in 2008, as they do not need to download client end and have convenient operation, they make it possible to play games during work time, while SNS website add web page game element, which further expand the transmission scope of network games.

Table 13 Breakdown of Users of Network Entertainment Applications 2007-2008

	End of 2007		End of 2008		Change	
	Use rate	Size of netizens (ten thousand)	Use rate	Size of netizens (ten thousand)	Volume of increase (ten thousand)	Increase rate

		thousand)		thousand)	thousand)	
Network games	59.3%	12,500	62.8%	18,700	6,200	49.6%
Network music	86.6%	18,200	83.7%	24,900	6,700	36.8%
Network video	76.9%	16,100	67.7%	20,200	4,100	25.5%

2. Network music

Network music is still the first application service of Chinese netizens. Though the proportion of netizens dropped from 86.6% in 2007 to 83.7% in 2008, the number of users still increased by 67 million. The high penetration rate of network music originates from its popular contents, convenience of use, low user entry threshold, which are also one of the major forces for promoting the popularization of the Internet.

3. Network video

There was only slight increase in network video users. Compared with the end of 2007, there was a net increase of over 40 million users, reaching 202 million. Users of network videos were mainly concentrated in young people under 30.

(VI) E-commerce

E-commerce is an important network application closely related to netizens' life. In the past one year, the growth trend of the network shopping market became obvious. The amount of users of online shopping at present reached 74 million, with an annual growth rate of 60%. Compared with the overseas development conditions, the proportion of online shopping users among South Korean netizens was 60.6%, and that in the United States was 71%, which were both higher than the use rate of online shopping in China.

Table 14 Breakdown of E-commerce Users 2007-2008

	End of 2007		End of 2008		Change	
	Use rate	Size of netizens (ten thousand)	Use rate	Size of netizens (ten thousand)	Volume of increase (ten thousand)	Increase rate
Online shopping	22.1%	4,600	24.8%	7,400	2,800	60.9%
Online selling	-	-	3.7%	1,100	-	-
Online	15.8%	3,300	17.6%	5,200	1,900	57.6%

payment						
Travel reservation	-	-	5.6%	1,700	-	-

Besides online shopping, online selling and travel reservation have already taken initial scale, and the number of online shopping netizens had reached 11 million, and the number netizens of travel reservation through network reached 17 million. What should be pointed out is that here online selling not only includes opening a shop online but also includes selling second-hand articles online.

The development of online payment closely related to online shopping is very rapid, and the size of netizens using online payment has reached 52 million, with an annual growth rate of 57.6%, which has forcefully promoted the development of online shopping.

(VII) Network Finance

1. Online banking

Online banking grew slowly in 2008, and the present use rate was 19.3%. The primary users of online banking are college students and white collars. College students have basically opened corresponding bank accounts when they enter college to facilitate the management of schools and financial management between students and parents. College students and white collars who have received higher education have better skills for Internet operation, and have very strong use demand of online banking. But they do not trust the security of online banking business at present, which affects the rise of the user proportion.

Table 15 Breakdown of Network Finance Users 2007-2008

	End of 2007		End of 2008		Change	
	Use rate	Size of netizens (ten thousand)	Use rate	Size of netizens (ten thousand)	Volume of increase (ten thousand)	Increase rate
Online banking	19.2%	4,000	19.3%	5,800	1,800	45.0%
Online stock speculation	18.2%	3,800	11.4%	3,400	-400	-10.5%

2. Online stock speculation

The primary user groups of online stock speculation are enterprise employees, professional

technicians and some college students. Online stock speculation is directly related to the changes in the stock market. Affected by the stock market/fund market in China, the proportion of online stock speculation application in China tended to fall, and the use rate of netizens in 2008 was only 11.4%, and the size of users also fell by 4 million.

(VIII) Online Education

The use rate of online education in 2008 was 16.5%, remaining basically the same with 2007. The primary application groups of online education are middle school and primary school students and ordinary employed personnel.

Table 16 Breakdown of Online Education Users 2007-2008

	End of 2007		End of 2008		Change	
	Use rate	Size of netizens (ten thousand)	Use rate	Size of netizens (ten thousand)	Volume of increase (ten thousand)	Increase rate
Online education	16.6%	3,500	16.5%	4,900	1,400	40.0%

The EISS Project has promoted the interchange of middle schools and primary schools and the construction of online platforms in China. Also, in recent years, classroom education of middle school and primary students cannot meet parents' expectations for children, and various online extracurricular classes and courses have started to become the contents for study by middle school and primary school students. With the increase of employment pressure, ordinary in-service staff pays more attention to the training of professional ability. Online education courses such as English and accounting have been praised highly by in-service staff. In the future few years, online education will have better space for development.

II. Network Application Behaviors of Key Groups

(I) Description of Several Key Groups

This section focuses on analyzing the Internet application behaviors of several key groups (middle school and primary school students, college students, office employees and rural migrant workers), which account for 74% of the total netizens. Their respective size is as shown in the following figure:

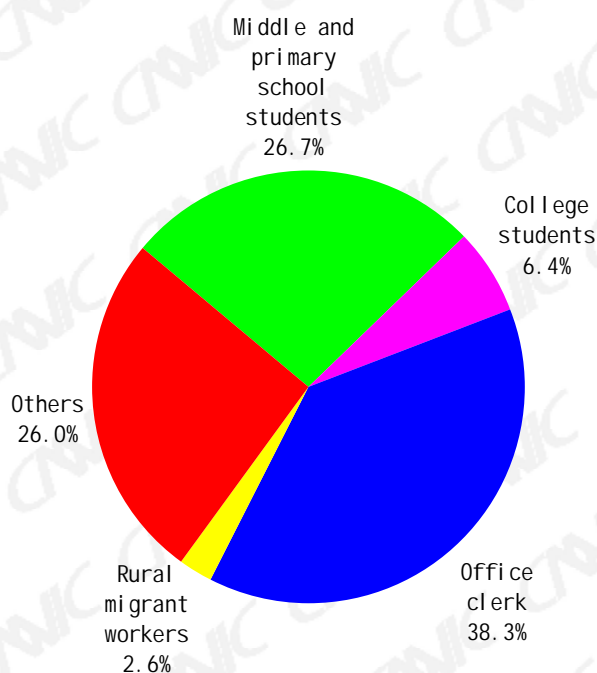


Figure 26 Sizes of Several Groups for Key Analysis

(II) Penetration Rates of Internet Application among Key Groups

Table 17 Penetration Rates of Various Internet Applications among Key Groups

		Middle school and primary school students	College students	Office employees	Rural migrant workers	Total
Network media	Network news	68.1%	89.9%	83.1%	73.4%	78.5%
Information search	Search engines	63.5%	84.4%	71.9%	56.6%	68.0%
	Online recruitment	8.9%	29.5%	23.0%	23.7%	18.6%
Network communication	Email	52.2%	81.4%	60.4%	38.9%	56.8%
	Instant messaging	77.5%	91.1%	75.0%	66.5%	75.3%
Network community	Having blogs	64.0%	81.4%	50.9%	43.1%	54.3%
	Forum/BBS	24.1%	55.5%	34.6%	17.2%	30.7%
	Friend-making websites	16.8%	26.0%	20.2%	18.2%	19.3%
Network entertainment	Network music	86.9%	94.0%	83.4%	78.2%	83.7%
	Network video	67.4%	84.4%	68.1%	57.3%	67.7%

	Network games	69.7%	64.2%	60.6%	55.5%	62.8%
E-commerce	Online shopping	16.2%	38.8%	29.4%	11.7%	24.8%
	Online selling	2.1%	5.2%	4.4%	0.8%	3.7%
	Online payment	9.6%	30.5%	22.4%	7.9%	17.6%
	Travel reservation	2.0%	6.8%	6.8%	2.5%	5.6%
Others	Online banking	7.7%	29.9%	25.5%	7.4%	19.3%
	Online stock speculation	4.7%	4.7%	15.5%	4.1%	11.4%
	Online education	16.2%	25.6%	17.3%	7.8%	16.5%

U Middle school and primary school students

The application depth of the Internet by middle school and primary school students is not deep, and the only applications whose penetration rates surpassed the overall penetration rates are instant messaging, blog, network music and network video, which can be basically positioned in two fields, entertainment and social intercourse, basically the same with the psychology of this age group characterized by fun seeking and curiosity. The penetration rate of online education is basically the same with the overall level. Besides school education, related course instruction through the Internet is an important application of theirs on the Internet.

U College students

College students are the most active group among the groups. Among the 18 applications measured, except for online stock speculation, their applications are all higher than the overall rates. Their leisure, curious and restless psychology characterized by young people and the limitless possibilities on the Internet are important reasons for their high enthusiasm for the Internet. Blogs and forums are fields in which they are very active, with the updating rate of blogs among college student users in half a year reaching 80.3%.

U Office employees

The active degree of office employees is only next to that of college students. Except the penetration rate of online stock speculation, their penetration rates of other applications are all lower than those of college students.

U Rural migrant workers

Rural migrant workers are one of the most inactive groups in several key groups, and their penetration rates in all applications are lower than the overall level, particularly in the applications of e-commerce and online finance.

(III) Activity of key groups on the Internet

The analysis of the amount of network applications and the time spent on the Internet by key

groups has found two very interesting “transposition”: the amount of Internet applications used by college students is the most but the time they spend on the Internet is less than that by office employees, only rank the second place; though the online behavior of rural migrant workers is the simplest, the time they spend on the Internet is still more than that by middle school and primary school students.

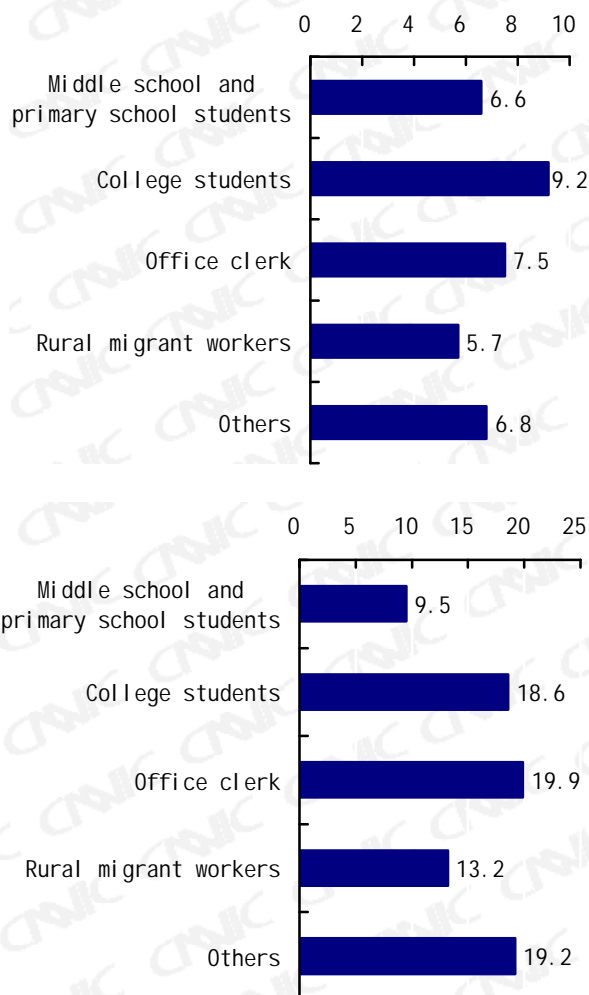


Figure 27 Amount of Network Applications Used by Key Groups (Nrs) Figure 28 Time Spent by Key Groups Every Week on Average (Hrs)

This activity pattern of netizens may be related to the following factors: college students are active and have strong curiosities, ready to attempt various applications, but are limited by school work, and have to spend most time in classrooms, so they have many network applications but spend less time online than office employees; many of the office employees can access the Internet during work time, and the Internet is even one of their indispensable work conditions, but their online behaviors are mature, basically fixed on several common applications.

Middle school and primary school students are still under the custody of parents and teachers, not able to surf the Internet for a long time, but their curiosities will make them attempt some Internet

applications; while the leisure time of rural migrant workers is basically not controlled by other people, so they can spend more time on the Internet.

Of course, the amount of leisure and the nature of work (study) determine that the time spent by middle school and primary school students and the amount of their network applications cannot surpass that of college students and the time spent by rural migrant workers and the amount of their network applications cannot surpass that of office employees.

III. Grouping of Netizen Network Application Behaviors

Birds of a feather come together. People's behaviors are one of the most effective way of grouping them. Netizens' network application behaviors are the effective way to group netizens. Study of netizens by groups through network applications can provide more accurate people positioning for Internet governance, network marketing and E-commerce.

This survey altogether measured 18 network applications. Through repeated testing, the grouping effect of network news, network music and network video is not obvious; online education and online recruitment have too big interference with the result of grouping; there is too much overlapping of online shopping, online banking and online payment, so only online shopping is selected in grouping analysis as a statistical variable; in this way, we acquired 11 grouping variables (see the following table). According to the 11 grouping variables, we classified Chinese netizens into 7 groups, whose scales and names are as follows:

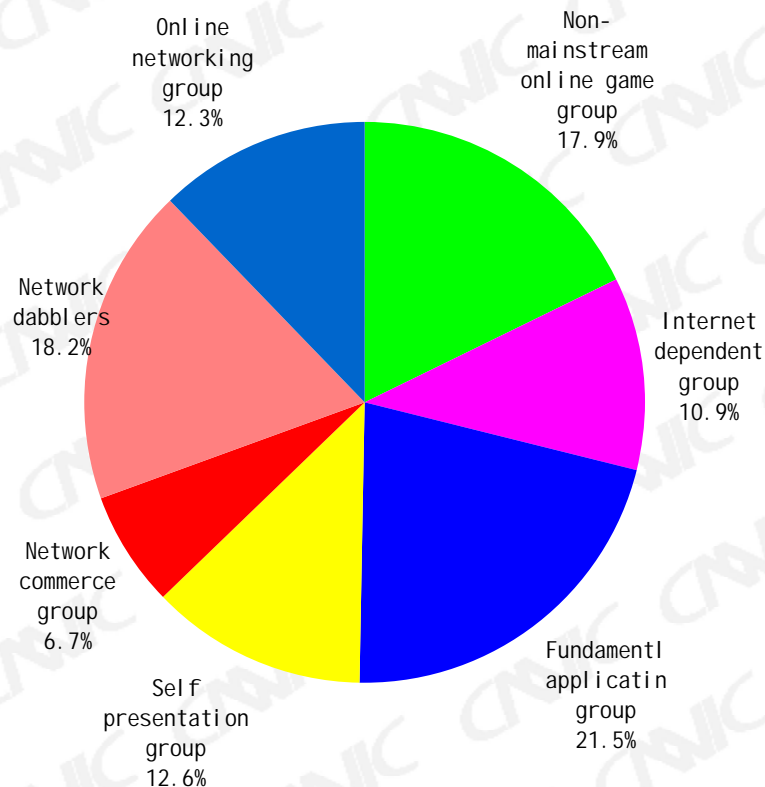


Figure 29 Names and Scales of Netizen Groups in China

The index of group characteristics refers to: the overall average level of intensity of a target group under analysis in measurement application is 100; if the group characteristic index of a certain group in one application is over 100, it means that this group has obvious characteristic in this application. The calculation formula of group characteristic index is as follows:

Group characteristic index = the use proportion of a certain application in this group ÷ the overall use proportion of this application × 100

The seven groups are defined according to group characteristic index.

Table 18 Group Characteristic Index of Seven Groups

	Non-mainstream online game group	Internet dependent group	Fundamental application group	Self presentation group	Network commerce group	Network dabblers	Online networking group	Overall average level
Search engine	66	136	134	44	114	87	127	100
Email	36	164	143	34	136	72	151	100
Instant messaging	68	126	130	79	115	75	123	100
Having blogs	0	144	166	184	106	1	149	100

Visiting forums/BBS	32	326	80	29	1	38	253	100
Friend-making websites	50	167	56	63	124	34	313	100
Network games	159	114	107	113	106	0	121	100
Online shopping	28	352	61	36	319	53	64	100
Online selling	21	467	42	38	249	26	89	100
Online stock speculation	67	237	60	33	256	77	114	100
Online travel reservation	43	331	57	40	239	42	131	100

In order to analyze various groups in more depth, we need to calculate the amount of their use of network applications and the time they spent on the Internet.

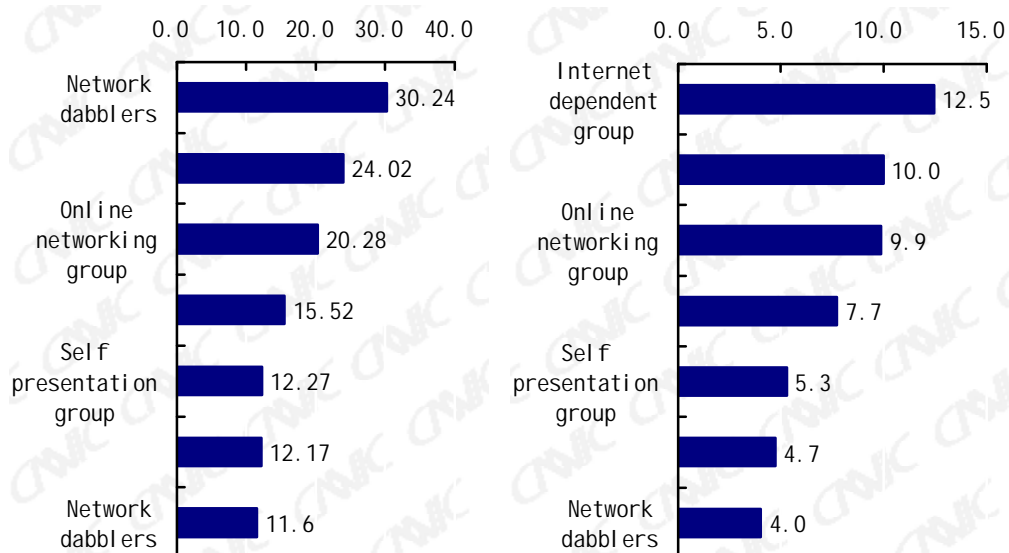


Figure 30 Time Spent by Various Groups Every Week Online on Average (Hrs) Figure 31 Amount of Network Applications Used by Various Groups (Nrs)

The average online time of Chinese netizens is 16.6 hours by week. Among 18 applications measured, the amount of applications used on average is 7.1. Analyzing the above two figures in combination, we can clearly classify netizens into three groups according to the degree of application:

Heavy user: including network dependent group, network commerce group and online networking group. Both the amount of network applications used and time spent online by heavy users are higher than netizens' overall average level.

Moderate users: basic application group. The amount of network applications and time spent online by moderate users are close to the overall level. Judging from the network applications used, they may be the transition group from light users to heavy users.

Light users: self presentation group, non-mainstream online game group and network dabblers. Their time spent online and amount of application are far lower than average level, and at the same time they are users with the shortest surfing length.

In the following, we analyze each group in detail in light of group characteristic index and the time spent by various groups and their amount of applications:

1. Heavy users

Internet dependent group: this group accounts for nearly 11% of total netizens. Their group characteristic value in various network applications is higher than overall average level. They use the most network applications and spent the longest time online every week. They are the most faithful users of the Internet.

Network commerce group: this group accounts for 6.7% of total netizens, and is the smallest group of netizens. This group is close to the Internet dependent group, but the time they spent online and their amount of network applications are far lower than the network dependent group. A major difference in application is that this group almost does not visit forums. Meanwhile, their characteristic of applying E-commerce, online stock speculation and travel reservation is obviously stronger than basic applications of search engines, instant messaging and email etc.

Online networking group: this group accounts for 12.3% of total netizens. The proportion of applications with social characteristics they use is obviously higher than that of other groups. Their penetration rates of community network applications such as instant messaging, blog, forum/BBS and friend-making websites are obviously on the high side.

2. Moderate users

Basic application group: this group accounts for 21.5% of total netizens, and is the largest group. The proportion of basic Internet applications such as search engines, Email and instant messaging used by this group is far higher than overall level, while their use rates of other applications are obviously on the low side.

3. Light users

Self presentation group: this group accounts for 12.6% of total netizens. 100% of users in this group have blogs, while the use rate of other applications is obviously lower than the overall level. This group uses 5.3 applications on average and weekly online time is 12.27 hrs.

Non-mainstream online game group: 100% of the netizens in this group play online games, accounting for nearly 18% of total netizens. Except for games, the indexes of other applications by this group are lower than overall level.

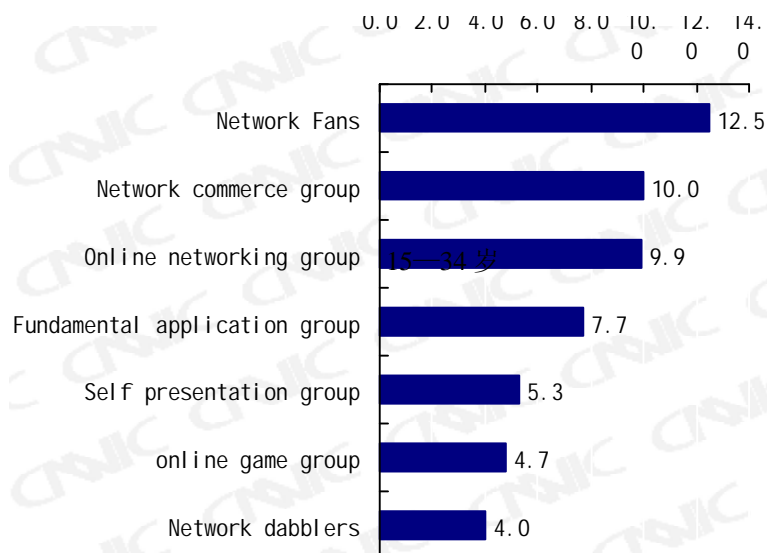


Figure 32 Non-mainstream Online Game Group

Compared with overall online game users, this group has obvious non-mainstream characteristic in terms of age. The age characteristic index of this group shows that they are closer to two ends in age; in network behaviors, their network behaviors are not diversified, and the amount of network applications used on average is only 4.7; in terms of time spent online, they surf the Internet for about 12 hours every week on average, lower than the time spent on the Internet by netizens on average, and even lower than the time spent on the Internet by ordinary online game users. However, in light of their characteristic of few network applications, we can initially judge that the absolute majority of their time on the Internet is spent on network games.

Network dabblers: this group accounts for 18.2% of total netizens, and is a group whose scale is only next to the basic application group. The group characteristics in each application are not outstanding. They spend the least time online, use the least amount of network applications, and are a group with the shortest surfing length. But they are a group of the oldest age, and the average age reaches 32. This group shows the expansion of the Internet to advanced age groups.

Chapter Six Research of Netizens' Network Life Style

I. Overall Analysis

Values and life attitude are important factors affecting people's behaviors, and people's behaviors also shapes their value and life attitude. In particular with some newly emerging things, as people's understanding of them is deficient, they gradually understand and grasp them in their contact with them. During this course, people's value and life attitude are often changed imperceptibly. As the Internet is an interactive media, information channel and life platform, its influence on people's value is particularly worth studying.

In this survey, researchers adopt the Richter scaling method to measure netizens' reflection of six values related to the Internet. The overall scores are as the following table.

Table 19 Netizens' Overall Acceptance of Sentences Expressing Life Style

Classification	Sentence	Acceptance
Life assistant	Without the Internet, I cannot work or study	39.0%
	Without the Internet, my entertainment life will be very monotonous	59.1%
	Handling business online save me a lot of trouble resulting from visiting a place in person	69.3%
Information channel	Generally I read major news first on the Internet	61.8%
	When encountering a problem, I will first go to the Internet to seek answers	64.6%
Socializing tool	I make many new friends on the Internet	65.4%
	The Internet strengthens my contact with friends	82.5%
Social isolation	In the age of the Internet, I feel more lonely	19.9%
	The Internet reduces my time spent with my family	29.0%
Network trust and security	The registration information I fill in on the Internet is true	47.5%
	It is safe to have transactions online	27.6%
Social participation	The Internet is my primary channel for airing my views	41.9%

	After having access to the Internet, I am more concerned with social events than before	76.9%
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On the whole, netizens' acceptance of the Internet as an information channel and socializing tool is high and the value of the Internet as a life assistant is also gradually emerging; however, their trust and sense of security with the Internet is low, which may be a primary reason why the network economy in China is small; with the gradual penetration of the Internet into people's life, the sense of distance (here referred to as "social isolation") is also gradually rising.

II. Comparison of Different Groups of Netizens in Life Style

Different groups of network applications express their different degree of acceptance of the sentences expressing life style:

The online networking group accepts more the value of the Internet as a socializing tool; the self presentation group accepts more social isolation and airing views via the Internet etc; the network dependent group and the network commerce group has more trust and acceptance of the security of the Internet, and the two groups are outstanding in applying E-commerce; the network dependent group has very high acceptance of the Internet as a life assistant and information channel etc.

Table 20 Acceptance of Sentences Expressing Life Style by Different Network Application Groups

Classification		Network dependent group	Network commerce group	Online networking group	Basic application group	Self presentation group	Non-mainstream online game group	Network dabblers
Life assistant	Without the Internet, I cannot work or study	51.6%	42.8%	42.9%	38.4%	39.6%	31.8%	34.4%
	Without the Internet, my entertainment life will be very monotonous	69.6%	68.4%	64.4%	61.9%	57.0%	52.6%	49.8%
	Handling business online save me a lot of trouble resulting from visiting a place in person	82.8%	77.6%	76.6%	68.9%	63.3%	64.3%	62.5%

Information channel	Generally I read major news first on the Internet	76.5%	68.1%	69.0%	58.5%	58.5%	56.3%	57.7%
	When encountering a problem, I will first go to the Internet to seek answers	79.6%	76.8%	68.8%	61.0%	59.7%	58.7%	62.1%
Socializing tool	I make many new friends on the Internet	63.1%	60.5%	73.3%	70.7%	71.5%	62.6%	55.6%
	The Internet strengthens my contact with friends	88.3%	84.8%	88.5%	87.3%	83.8%	75.8%	73.7%
Social isolation	In the age of the Internet, I feel more lonely	20.6%	19.6%	20.7%	17.8%	23.0%	19.4%	20.4%
	The Internet reduces my time spent with my family	32.5%	29.3%	28.4%	26.6%	30.2%	29.4%	29.4%
Network trust and security	The registration information I fill in on the Internet is true	60.4%	55.1%	54.0%	46.3%	43.0%	42.4%	42.0%
	It is safe to have transactions online	53.5%	47.6%	29.4%	22.0%	23.6%	20.6%	20.2%
Social participation	The Internet is my primary channel for airing my views	45.5%	42.8%	45.2%	38.7%	44.3%	39.9%	41.4%
	After having access to the Internet, I am more concerned with social events than before	77.2%	76.4%	80.6%	76.4%	77.0%	77.2%	74.9%

III. Comparison of Netizens of Different Groups of Application Depth in Life Style

The application depth of the Internet can be measured from different perspectives, for example, the time spent online, the amount of network applications used, surfing length and frequency of going online etc. Here we make analysis mainly according to the time spent online and the amount of network applications. On the whole, various aspects of life style reflect that with the deepening of the depth of Internet applications, the degree of acceptance is gradually improved. The two life styles, “trust and security” and “social isolation”, are widely concerned in the society. In the following, we give a special introduction to the recognition of the two life styles among netizens of different application depth.

In the above overall analysis, we have pointed out that netizens’ acceptance of “trust and security” is not high but with the deepening of the use of the Internet, netizens’ trust and sense of security with the Internet improve, mainly because netizens become more and more skilful with the use of the Internet and their ability to identify and keep away from the traps and

hidden troubles on the Internet becomes stronger and stronger. Skilled netizens can effectively prevent risk and insecure factors on the Internet, so their acceptance of the trust and security of the Internet is higher. Light netizens lack the ability to identify and keep away traps online, and their acceptance of network security is lower under the influence of the publicity of negative cases of the Internet.

Social isolation: with the deepening of the degree of network application, netizens' worry of social isolation that might result from the Internet also keeps growing. Take TV for example. From the 1980's, TV has entered into most Chinese's life, and the indulgence in TV has resulted in many negative social effect, for example, alienation of family relationships, reduction of time management and too high proportion of entertainment elements etc., which once urged some sociological experts to call on people to "turn off TVs". With the popularizing and deepening of Internet applications and the continuous emergence of indulgence in the Internet, the Internet will be very likely to become the next alienating thing troubling mankind.

Table 21 Acceptance of Sentences Expressing Life Style by Netizens with Different Surfing Lengths

		Below 2 hours	2-5 hours	5-10 hours	10-20 hours	20-40 hours	40 hours and above
Social isolation	In the age of the Internet, I feel more lonely	17.3%	19.6%	19.0%	20.2%	21.5%	20.8%
	The Internet reduces my time spent with my family	27.3%	24.3%	27.9%	29.3%	35.1%	33.9%
Network trust and security	The registration information I fill in on the Internet is true	41.0%	43.9%	47.0%	48.6%	52.6%	55.0%
	It is safe to have transactions online	22.2%	23.1%	26.8%	29.0%	33.8%	36.1%

Table 22 Acceptance of Sentences Expressing Life Style by Netizens of Different Amounts of Applications

		3 and below	4-6	7-9	10-12	12 and above
Social isolation	In the age of the Internet, I feel more lonely	24.3%	19.2%	19.0%	19.1%	22.4%
	The Internet reduces my time spent with my family	30.4%	27.5%	28.2%	30.3%	35.5%
Network trust and	The registration information I fill in on the Internet is true	40.5%	42.2%	48.2%	56.9%	59.2%
	It is safe to have transactions online	16.9%	21.2%	25.0%	42.3%	55.5%

security						
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Appendix 3 Addendums to Internet Fundamental Resources

Table 1: Number of IPv4 addresses in Various Regions in China

Region	Number of addresses	Equivalent
Mainland China	181,273,344	10A+206B+3C
Taiwan	24,004,864	1A+110B+73C
Hong Kong	7,917,312	120B+207C
Macao	163,072	2B+125C

Data source: APNIC, CNNIC

Table 2: IPv4 Address Assignment List

Names of Units	Number of addresses	Equivalent
Former China Telecom	65,490,944	3A+231B+80C
Former China Netcom	35,546,112	2A+30B+100C
Former China Mobile	14,319,616	218B+128C
CERNET	13,560,320	206B+234C
Former China Tietong Corporation	7,012,352	107B
State Information Center	4,194,304	64B
Former China Unicom	1,925,120	29B+96C
Beijing Education Information Network Service Center Co.,	1,572,864	24B
Beijing Telecom Engineering Co., Ltd	1,397,760	21B+84C
Oriental Cable Network Co., Ltd	1,138,688	17B+96C
Beijing Chengyi Times Network Technology Engineering Co., Ltd.	786,432	12B
Beijing Times Hongyuan Communications Technology Co., Ltd	786,432	12B
Beijing Broadband TeleCommunications Technology Co., Ltd	753,664	11B+128C
Beijing Bitong United Network Technology Service Co., Ltd	688,128	10B+128C

Great Wall Broadband Network Service Co., Ltd	655,360	10B
Beijing Weishi Chuangjie Technology Development Co., Ltd	655,360	10B
Beijing Qiliyou Data Co., Ltd	655,360	10B
Beijing New Billion Telecom Technology Co., Ltd	655,360	10B
Beijing China Great Wall Telecommunication Technology Development Center	524,288	8B
Beijing Kuancom Network Technology Co., Ltd	524,288	8B
CITIC Network Co., Ltd	524,288	8B
Huaxia Shilian Holding Co., Ltd	524,288	8B
Beijing T2CN Information Technology Co., Ltd	509,952	7B+200C
CECT-Chinacomm Communications Co., Ltd	487,424	7B+112C
Beijing Hichina Zhicheng Technology Co., Ltd	466,944	7B+32C
Beijing Huaxia Putian Technology Co., Ltd	458,752	7B
Beijing Shuxunda Communications Technology Co., Ltd.	446,464	6B+208C
China Science and Technology Network	428,032	6B+136C
Shenzhen Topway Video Communications Co., Ltd	425,984	6B+128C
Beijing Founder Broadband Network Technology Co., Ltd	401,408	6B+32C
China Cable TV Network Co., Ltd	401,408	6B+32C
SRIT Netech Co., Ltd	385,024	5B+224C
Shandong Sanlian Electronic Information Co., Ltd	327,680	5B
Jiangxi Broadcasting & TV Information Network Co., Ltd	327,680	5B
Guangzhou Broadcasting & TV Network Co., Ltd	327,680	5B
Daqing Zhongji Petroleum Communication Construction Co., Ltd	307,200	4B+176C
Information Center of North China Petroleum Communication Corporation	294,912	4B+128C
FIBRLINK Communications Co., Ltd	286,720	4B+96C
Beijing Gehua CATV Network Co., Ltd	278,528	4B+64C
Fushan Ruijiang Technology Co., Ltd	278,528	4B+64C
Jinan Guangdian Jiahe Digital TV Co., Ltd	270,336	4B+32C
Langfang Development Zone Huarui Xintong Network Technology Co., Ltd	262,144	4B

Shanghai Shanze Information Communication Technology Co., Ltd	262,144	4B
Shenzhen Yingda Communications Technology Co., Ltd	249,856	3B+208C
Guangzhou Henghui Network Communications Co., Ltd	233,472	3B+144C
Shanghai Aorong Information Technology Co., Ltd	229,376	3B+128C
263 Network Communications Co., Ltd	220,160	3B+92C
Guangdong Cable Radio & TV Network Co., Ltd	196,608	3B
Shenzhen Wotong Network Development Co., Ltd	196,608	3B
Guangdong Cable Radio & TV Network Co., Ltd	196,608	3B
Shenzhen Pingji Tongda Communications Technology Co., Ltd	196,608	3B
Beijing Kuanjiewang Communications Technology Co., Ltd	163,840	2B+128C
Digitalways Information and Culture Development Co., Ltd	147,456	2B+64C
Beijing Oriental Youchuang Network Technology Co., Ltd	131,072	2B
Shaanxi Guangdian Network Media Co., Ltd	131,072	2B
TianjinRuiding Digital Technology Co., Ltd	131,072	2B
Shanghai SVA Co., Ltd	131,072	2B
Beijing Hengchuan Jianye Technology Co., Ltd	126,976	1B+240C
Zhongqi Network Communications Technology Co., Ltd	98,304	1B+128C
Tianjin Broadcasting & TV Network Co., Ltd	77,824	1B+48C
Coca-Cola Enterprise Management (Shanghai) Co., Ltd	73,728	1B+32C
Shanghai Bailong Network Technology Co., Ltd	67,584	1B+8C
Beijing Xirang Media and Culture Co., Ltd	67,584	1B+8C
Epern Communications Co., Ltd	65,536	1B
Former China Netcom Chongqing	65,536	1B
China International e-Commerce Center	65,536	1B
Sichuan Broadcasting & TV Network Co., Ltd	65,536	1B
Airway Communications Co., Ltd	65,536	1B
Tianjin Xinbei Broadband Digital Network Co., Ltd	65,536	1B
Beijing Jadebird Communications Technology Co., Ltd	65,536	1B
Beijing Huandao Communications Co., Ltd	65,536	1B
Fushan Yinghui Online Network Co., Ltd	65,536	1B

Anhui Education Department	65,536	1B
China Digitport Technology Co., Ltd	65,536	1B
Beijing CNLink Network Technology Co., Ltd	65,536	1B
Beijing Caixuda Technology Co., Ltd	65,536	1B
Shanghai Chuanwang Communications Technology Co., Ltd	65,536	1B
Beijing Jinfeng Weiye Technology Co., Ltd	65,536	1B
Shanghai Hanping Network Technology Co., Ltd	65,536	1B
Beijing Netcom Optic Communications Technology Co., Ltd	65,536	1B
Guangzhou Gehua Network Technology Development Co., Ltd	65,536	1B
Beijing Aerospace Digital and Broadband Network Technology Co., Ltd	65,536	1B
Beijing Yanyang Century Technology Co., Ltd	65,536	1B
Shanghai T2CN Information Technology Co., Ltd	65,536	1B
Beijing Shouxin Wangchuang Network Information Service Co., Ltd	65,536	1B
Henan Shenghong Technology Co., Ltd	65,536	1B
Fujian People's Internet Communications Limited	65,536	1B
Beijing Zhiyang Huanya Technology Co., Ltd	65,536	1B
Beijing Central Business District Communications Technology Co., Ltd	65,536	1B
Guangdong Jinsheng Investment Development Co., Ltd	65,536	1B
Sub-total	166,362,624	9A+234B+126C
Other units	14,910,720	227B+133C
Total	181,273,344	10A+206B+3C

Data source: APNIC, CNNIC.

Notes: 1. As China's National Internet Registry (NIR) certified by APNIC and accredited by the Ministry of Information Industry, CNNIC calls together Chinese ISPs with certain scale and influence to form an IP address assignment union. Currently, CNNIC Assignment Union has 282 members all together, with a total of 48,824,320 IP addresses, equivalent to 2A+233C. Most that are listed in the above table are members of CNNIC Assignment Union;

2. Table 2. IPv4 Address Assignment List includes only the units with the number of IPv4 addresses being more than 1B.

Table 3: Numbers of IPv6 Addresses in Various Regions of China

Region	Number of IPv6 (/32)
Mainland China	57 块/32
Taiwan	2309 块/32
Hong Kong	19 块/32
Macao	2 块/32

Table 4: IPv6 Address Assignment in Mainland China

Names of Units Addresses	Number of IPv6 (/32)
Beijing Internet Institute	16
CERNET	11
Beijing China Great Wall Telecommunication Technology Development Center	8
Former China Telecom	2
Former China United Network Communications Co., Ltd	2
China Southern Power Grid Co., Ltd	2
China Internet Information Center	1
Former China Tietong Corporation	1
China International e-Commerce Center	1
CSTNET	1
Former China Mobile	1
Beijing Telecom Engineering Co., Ltd	1
Chongqing Broadband Networks Co., Ltd	1
Dongguan Bolu Telecom Technology Co., Ltd	1
Beijing Hichina Zhicheng Technology Co., Ltd	1
Beijing Software & Information Service Promotion Center	1
China CITIC Management Information Dept	1
Oriental Cable Network Co., Ltd	1
Beijing Guxiang Information Technology Co., Ltd	1
Great Wall Broadband Network Service Co., Ltd	1
Hangzhou Shidao Technology Co., Ltd	1
Information Communications Technology Development Company, Pingdingshan Coal Group	1

Data source: APNIC, CNNIC

Note: In IPv6 Address Assignment List, /32 is the expression of addresses of IPv6, with the corresponding number of addresses being $2^{(128-32)}=2^{96}$. Similarly, the corresponding number of addresses to /48 is $2^{(128-48)}=2^{80}$.

Table 5: Number of IPv4 Addressees by Provinces

Province	Ratio
Anhui	2.0%
Beijing	23.8%
Fujian	2.3%
Gansu	0.5%
Guangdong	11.2%
Guangxi	1.9%
Guizhou	0.6%
Hainan	0.8%
Hebei	3.1%
Henan	3.4%
Heilongjiang	2.0%
Hubei	2.6%
Hunan	2.2%
Jilin	1.7%
Jiangsu	6.2%
Jiangxi	1.6%
Liaoning	4.3%
Inner Mongolia	0.8%
Ningxia	0.2%
Qinghai	0.2%
Shandong	4.7%
Shanxi	1.1%
Shaanxi	2.5%
Shanghai	5.9%
Sichuan	2.6%
Tianjin	1.6%
Tibet	0.2%
Xinjiang	0.7%
Yunnan	0.9%
Zhejiang	6.9%
Chongqing	1.8%
Total	100%

Data source: APNIC and CNNIC

Table 6: Number of domain names and number of CN domain names by provinces

Province	Domain names		Including: CN domain names	
	Qty (Nrs)	Ratio of total	Qty (Nrs)	Ratio of total CN
Anhui	197,537	1.2%	150,406	1.1%
Beijing	3,600,797	21.4%	3,261,297	24.0%
Fujian	902,861	5.4%	580,093	4.3%
Gansu	41,037	0.2%	32,476	0.2%
Guangdong	1,895,269	11.3%	1,275,617	9.4%
Guangxi	155,304	0.9%	127,179	0.9%
Guizhou	90,123	0.5%	82,874	0.6%
Hainan	79,527	0.5%	66,213	0.5%
Hebei	261,328	1.6%	207,110	1.5%
Henan	324,970	1.9%	252,892	1.9%
Heilongjiang	176,414	1.0%	144,046	1.1%
Hubei	382,873	2.3%	320,641	2.4%
Hunan	508,352	3.0%	452,276	3.3%
Jilin	105,099	0.6%	83,942	0.6%
Jiangsu	737,334	4.4%	451,342	3.3%
Jiangxi	149,836	0.9%	126,247	0.9%
Liaoning	364,082	2.2%	266,039	2.0%
Inner Mongolia	68,194	0.4%	58,193	0.4%
Ningxia	27,510	0.2%	23,430	0.2%
Qinghai	14,832	0.1%	13,176	0.1%
Shandong	690,963	4.1%	559,996	4.1%
Shanxi	129,223	0.8%	88,457	0.7%
Shaanxi	154,027	0.9%	112,117	0.8%
Shanghai	1,088,825	6.5%	818,261	6.0%
Sichuan	529,211	3.1%	292,009	2.2%
Tianjin	127,684	0.8%	82,880	0.6%
Tibet	14,332	0.1%	13,371	0.1%
Xinjiang	60,422	0.4%	47,893	0.4%
Yunnan	93,273	0.6%	69,871	0.5%
Zhejiang	1,089,032	6.5%	813,178	6.0%
Chongqing	189,348	1.1%	149,545	1.1%
Others	2,573,138	15.3%	2,545,818	18.8%
Total	16,822,757	100.0%	13,568,885	100.0%

Table 7: Number of Websites by Provinces

	Qty of website (Nrs)	Rate of Total Websites
Anhui	33,117	1.2%
Beijing	370,148	12.9%
Fujian	128,949	4.5%
Gansu	7,508	0.3%
Guangdong	433,017	15.0%
Guangxi	35,972	1.2%
Guizhou	33,535	1.2%
Hainan	6,071	0.2%
Hebei	56,971	2.0%
Henan	68,880	2.4%
Heilongjiang	26,193	0.9%
Hubei	71,511	2.5%
Hunan	121,713	4.2%
Jilin	16,067	0.6%
Jiangsu	163,739	5.7%
Jiangxi	27,839	1.0%
Liaoning	65,016	2.3%
Inner Mongolia	11,518	0.4%
Ningxia	3,730	0.1%
Qinghai	1,585	0.1%
Shandong	149,829	5.2%
Shanxi	23,079	0.8%
Shaanxi	30,816	1.1%
Shanghai	178,762	6.2%
Sichuan	76,508	2.7%
Tianjin	26,039	0.9%
Tibet	1,331	0.0%
Xinjiang	8,607	0.3%
Yunnan	16,149	0.6%
Zhejiang	218,167	7.6%
Chongqing	26,259	0.9%
Others	439,428	15.3%
Total	2,878,053	100.0%

Note: the total of websites under CN excludes the website data under .EDU.CN.

Table 8: Number of Websites by type under .CN

	Qty	Rate of websites under .CN
.cn	1,358,581	61.3%
.com.cn	651,863	29.4%
.net.cn	97,534	4.4%
.org.cn	46,878	2.1%
.adm.cn	34,612	1.6%
.gov.cn	24,912	1.1%
.ac.cn	2,057	0.1%
Total:	2,216,437	100.0%

Note: the total of websites under CN excludes the website data under .EDU.CN.

Table 9: Status of Web Pages by Code

Codes of web page	Rate
Simplified Chinese	98.3%
Complex Chinese	0.6%
English	0.7%
Others	0.4%

Table 10: Status of Web Pages by Suffix

Form of web page suffix	Rate
/	1.9%
Asp	14.3%
Aspx	4.7%
Cfm	0.1%
Cgi	0.5%
Dll	0.1%
Do	0.4%
Htm	5.5%
Html	19.4%
Jhtml	0.1%
Jsp	1.1%
Nsf	0.0%
Php	24.4%
php3	0.0%
Phtml	0.0%
Pl	0.0%
Shtml	7.5%
Txt	0.0%
Xml	0.0%
Other suffixes	19.9%

Table 11: Status of Web Pages by Updating Period

Updating period of web pages	Rate
One week	12.5%
One month	24.1%
Three months	29.1%
Six months	14.4%
Above six months	20.0%

Table 12: Status Quo of Web Pages by Multi-media

Multi-media forms of web	Percentage (in the multi-media web pages)
jpg	31.0%
gif	22.1%
zip	0.1%
swf	0.1%
doc	0.1%
pdf	0.3%
rm	0.0%
mid	0.0%
ram	0.0%
mp3	0.1%
ppt	0.0%
mpg	0.0%
Others	46.4%

Table 13: Number of Web Pages by Province

	Total	Static	Dynamic	Ratio of Static & Dynamic
Anhui	278,050,097	94,322,187	183,727,910	0.51:1
Beijing	4,021,927,610	2,153,640,158	1,868,287,452	1.15:1
Fujian	798,744,042	367,672,233	431,071,809	0.85:1
Gansu	31,229,656	10,383,412	20,846,244	0.50:1
Guangdong	1,847,348,489	866,038,217	981,310,272	0.88:1
Guangxi	163,359,299	77,091,390	86,267,909	0.89:1
Guizhou	27,807,971	9,180,946	18,627,025	0.49:1
Hainan	75,172,443	14,449,323	60,723,120	0.24:1
Hebei	328,969,336	194,554,720	134,414,616	1.45:1
Henan	356,299,696	157,865,508	198,434,188	0.80:1
Heilongjiang	95,146,446	39,337,786	55,808,660	0.70:1
Hubei	317,475,961	140,310,915	177,165,046	0.79:1
Hunan	152,509,575	59,784,991	92,724,584	0.64:1
Jilin	43,932,952	15,290,352	28,642,600	0.53:1
Jiangsu	1,115,347,545	486,462,649	628,884,896	0.77:1
Jiangxi	301,993,801	134,173,771	167,820,030	0.80:1
Liaoning	189,779,455	80,257,275	109,522,180	0.73:1
Inner Mongolia	17,944,771	6,019,061	11,925,710	0.50:1
Ningxia	17,432,103	8,553,729	8,878,374	0.96:1
Qinghai	2,126,295	1,085,645	1,040,650	1.04:1
Shandong	587,622,167	273,354,574	314,267,593	0.87:1
Shanxi	36,978,019	12,102,205	24,875,814	0.49:1
Shaanxi	130,433,675	54,196,851	76,236,824	0.71:1
Shanghai	2,101,844,127	1,074,576,069	1,027,268,058	1.05:1
Sichuan	504,160,055	208,203,542	295,956,513	0.70:1
Tianjin	532,766,393	335,003,911	197,762,482	1.69:1
Tibet	898,267	399,721	498,546	0.80:1
Xinjiang	31,240,081	10,387,469	20,852,612	0.50:1
Yunnan	52,525,382	21,289,940	31,235,442	0.68:1
Zhejiang	1,747,933,549	913,212,503	834,721,046	1.09:1
Chongqing	177,370,975	72,187,219	105,183,756	0.69:1
The whole country (not including Hong Kong, Macao and Taiwan)	16,086,370,233	7,891,388,272	8,194,981,961	0.96:1

Table 14: Web Page Bytes by Province

	Table A15 Web Page Bytes by Province	Average bytes per web page (KB)
Anhui	7,132,411,321	25.7
Beijing	122,505,008,530	30.5
Fujian	20,125,081,582	25.2
Gansu	756,443,885	24.2
Guangdong	52,124,669,514	28.2
Guangxi	4,835,213,519	29.6
Guizhou	682,744,347	24.6
Hainan	2,505,953,408	33.3
Hebei	9,545,877,347	29
Henan	9,276,989,821	26
Heilongjiang	2,594,959,517	27.3
Hubei	8,288,528,469	26.1
Hunan	4,000,227,879	26.2
Jilin	1,099,148,832	25
Jiangsu	30,544,511,397	27.4
Jiangxi	7,600,313,980	25.2
Liaoning	5,738,332,102	30.2
Inner Mongolia	507,043,195	28.3
Ningxia	490,856,878	28.2
Qinghai	55,907,553	26.3
Shandong	15,439,405,184	26.3
Shanxi	933,390,586	25.2
Shaanxi	4,535,661,654	34.8
Shanghai	60,164,405,529	28.6
Sichuan	12,471,634,749	24.7
Tianjin	16,291,356,370	30.6
Tibet	20,253,012	22.5
Xinjiang	856,753,144	27.4
Yunnan	1,381,659,163	26.3
Zhejiang	53,044,201,447	30.3
Chongqing	4,668,442,185	26.3
The whole country (not including Hong Kong, Macao and Taiwan)	460,217,386,099	28.6

Table 15: Percentage of web pages in Terms of the Updating Period by Province

	One week	One month	Three months	Six months	Above six months
Anhui	11.7%	26.0%	30.0%	11.9%	20.4%
Beijing	12.8%	22.6%	28.6%	15.9%	20.1%
Fujian	11.5%	24.3%	30.8%	13.3%	20.1%
Gansu	8.3%	23.1%	28.0%	15.4%	25.2%
Guangdong	11.6%	24.1%	29.4%	14.3%	20.5%
Guangxi	12.6%	25.2%	28.7%	12.8%	20.6%
Guizhou	10.7%	25.3%	30.8%	13.6%	19.7%
Hainan	11.1%	20.7%	23.4%	19.9%	24.9%
Hebei	13.6%	23.2%	28.6%	14.8%	19.9%
Henan	12.3%	25.8%	29.6%	12.4%	19.9%
Heilongjiang	11.0%	24.4%	31.0%	12.0%	21.6%
Hubei	11.7%	25.0%	29.6%	13.6%	20.2%
Hunan	11.3%	25.5%	30.4%	12.7%	20.2%
Jilin	11.5%	24.9%	29.4%	12.7%	21.6%
Jiangsu	12.2%	25.3%	30.1%	12.6%	19.9%
Jiangxi	12.9%	26.5%	30.2%	10.8%	19.7%
Liaoning	12.0%	24.6%	29.4%	13.1%	21.0%
Inner Mongolia	9.6%	23.0%	29.1%	13.8%	24.5%
Ningxia	15.5%	30.8%	29.2%	8.4%	16.1%
Qinghai	7.9%	18.2%	32.1%	12.4%	29.4%
Shandong	11.2%	24.3%	27.8%	15.2%	21.6%
Shanxi	10.2%	25.7%	31.8%	12.4%	19.8%
Shaanxi	13.1%	24.0%	28.9%	14.6%	19.5%
Shanghai	13.6%	24.6%	28.9%	14.1%	18.8%
Sichuan	11.4%	25.4%	29.3%	12.8%	21.1%
Tianjin	13.4%	21.4%	24.6%	17.9%	22.7%
Tibet	6.3%	20.2%	25.0%	13.5%	35.2%
Xinjiang	10.6%	25.1%	30.7%	11.5%	22.2%
Yunnan	13.0%	25.2%	32.9%	12.3%	16.7%
Zhejiang	13.3%	25.0%	29.9%	13.9%	17.9%
Chongqing	11.3%	24.1%	29.5%	14.2%	20.9%
The whole country (not including Hong Kong, Macao and Taiwan)	12.5%	24.1%	29.1%	14.4%	20.0%

Table 16: Rate of Web Pages In Terms of the Codes by Province

	Simplified Chinese	Complex Chinese	English	Others
Anhui	98.8%	0.4%	0.6%	0.2%
Beijing	98.2%	0.8%	0.7%	0.3%
Fujian	97.0%	0.9%	1.6%	0.5%
Gansu	97.7%	1.3%	0.6%	0.4%
Guangdong	97.2%	1.0%	0.9%	0.9%
Guangxi	99.0%	0.2%	0.5%	0.3%
Guizhou	98.1%	0.7%	0.5%	0.7%
Hainan	98.7%	0.8%	0.3%	0.3%
Hebei	99.0%	0.4%	0.3%	0.2%
Henan	98.9%	0.1%	0.7%	0.3%
Heilongjiang	97.5%	1.2%	0.5%	0.7%
Hubei	98.7%	0.5%	0.6%	0.3%
Hunan	98.3%	0.3%	1.1%	0.3%
Jilin	98.3%	0.6%	0.7%	0.5%
Jiangsu	98.5%	0.4%	0.8%	0.3%
Jiangxi	98.4%	0.7%	0.6%	0.3%
Liaoning	98.8%	0.2%	0.6%	0.4%
Inner Mongolia	99.2%	0.1%	0.4%	0.3%
Ningxia	99.3%	0.0%	0.6%	0.1%
Qinghai	88.0%	0.3%	7.4%	4.3%
Shandong	98.6%	0.5%	0.6%	0.4%
Shanxi	98.9%	0.4%	0.4%	0.4%
Shaanxi	98.3%	0.8%	0.7%	0.3%
Shanghai	98.6%	0.5%	0.7%	0.3%
Sichuan	98.5%	0.3%	0.8%	0.5%
Tianjin	98.4%	0.6%	0.6%	0.4%
Tibet	98.0%	1.7%	0.0%	0.3%
Xinjiang	98.5%	0.7%	0.4%	0.4%
Yunnan	99.1%	0.1%	0.4%	0.4%
Zhejiang	98.6%	0.3%	0.7%	0.3%
Chongqing	98.5%	0.5%	0.6%	0.4%
The whole country (not including Hong Kong, Macao and Taiwan)	98.3%	0.6%	0.7%	0.4%

Appendix 4 Supporting Units of Survey

(I) Assisting Websites of Survey (in random sequence)

people.com.cn	xinhua.org	cctv.com
gb.cri.cn	Chinadaily.com.cn	gmw.cn
eastday.com		

(II) Portal websites of survey (according to the order of websites posting a survey link)

Sina.com.cn	263.com	39.net
Skype	Gz13.cn	Jsinfo.net
163.com	Sznews.com	Jlonline.com
Tudou.com	Money.hexun.com	He-nan.com
PPStream	Youku.com	Hl.cninfo.net

(III) Supporting units for broadband survey

Beijing Communication Company IDC

(IV) Assisting Units of Survey (in random sequence)

Yodao

Former China Netcom

Former China Telecom

Former China Unicom

Former China Mobile

CERNET

China Science & Technology Network Center

China Satcom

China Tietong Corporation

China International e-Commerce Center

China Great Wall Internet Center

East.net (China) Co., Ltd

Beijing Hichina Zhicheng Technology Co., Ltd

Beijing Inonets Co., Ltd

China Enterprise APS Ltd

Beijing Xin Net Co., Ltd

Beijing Xin Net Corp

Beijing Zhongke SFN Network Technology Co., Ltd

Chongqing Zhijia Information Technology Co., Ltd (cqhot.cn)

China Enterprise APS Ltd

Guangdong Times Internet Technology Co., Ltd

Xiamen Bizcn Computer & Network Co., Ltd

Xiamen 35 Internet Technology Co., Ltd

Xiamen Chinasource Internet Service Co., Ltd

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